

01

★

CALIFORNIA

fc 630.5
R/
20

R.Y.

0 2007 1256367 1
California State Library

N^o 52566

Extract from the Political Code.

SECTION 2296. Books may be taken from the Library by the MEMBERS OF THE LEGISLATURE, DURING THE SESSIONS THEREOF, and by other State officers at any time.

SEC. 2298. The Controller, if notified by the Librarian that any officer has failed to return books taken by him within the time prescribed by the Rules, and after demand made, must not draw his warrant for the salary of such officer until the return is made, or three times the value of the books, or of any injuries thereto, has been paid to the Librarian.

SEC. 2299. Every person who injures or fails to return any book taken is liable to the Librarian in three times the value thereof.

No person shall take or detain from the General Library more than two volumes at any one time, or for a longer period than two weeks. BOOKS OF REFERENCE SHALL NOT BE TAKEN FROM THE LIBRARY AT ANY TIME. —[Extract from the Rules.]

400 The Foregoing Regulations will be strictly enforced. 600

١١١١١١



PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, JULY 3, 1880.

Number 1

Horticultural Exhibits at the Mechanics Fair.

The managers of the fifteenth industrial exhibition of the Mechanics' Institute have placed the Horticultural Department of the exhibition under the charge of the California State Horticultural Society. At the meeting of June 25th the Horticultural Society formally accepted the trust and unanimously adopted a resolution, pledging the members to earnest efforts to make the exhibition worthy of our State, and, so far as possible, representative of our grand horticultural interests.

The society invites every plant and fruit grower in the State to prepare at once to transmit the best specimens of flowering and foliage plants and fruits for exhibition at the fair, which will open in the spacious pavilion of the Mechanics' Institute, in this city, August 10th, and continue for five weeks.

The competition for the liberal premiums named upon page 12 of this issue of the PRESS will be offered to growers only, and each producer is invited to compete, whether it be for a single award or for several. The aim of the society is to draw out the very best that the State can produce in the articles named. The popular interest is now turning strongly toward development of our horticultural resources, and all exhibitors of choice growths will not only do themselves credit, but will make known the possibilities of their regions, and of the State in general.

The exhibition will be wholly in charge of the Horticultural Society, and the appointment of judges will be made with reference to their especial fitness for examination of exhibits entrusted to them. The premiums will be awarded by the Mechanics' Institute upon the recommendation of the society's committees. The greatest care will be taken in the arrangement of specimens, that their excellence may be recognized.

All professional and amateur horticulturists in the State are invited to do what they can towards making this year's exhibit comprehensive and representative. Great care should be taken in selecting, plucking, wrapping and packing choice specimens, and all varieties must be correctly named. As the fair will be open for five weeks, each sample should be sent just as it approaches its best estate, and thus all varieties may be shown in their prime and all parts of the State, both early and late, can be represented by the fruits which mature during the progress of the fair.

Special attention will be given to the proper display of new fruits, both California seedlings or those lately secured by importation, so that the progress made in these directions may be generally understood.

All exhibits should be shipped to "Horticultural Exhibit," Mechanics' Fair, San Francisco, Cal. All intending exhibitors are requested to announce at once what exhibits they expect to make to the Secretary, E. J. Wickson, 414 Clay street, San Francisco.

CEREALS AND THE CENSUS.—We had the pleasure the other day of a brief chat with Prof. W. H. Brewer, of the Sheffield School of Yale College, who comes to this coast as special agent of the census office for the collection of valuable information concerning the production of cereal grains. Prof. Brewer is widely known in this State through his work on the Whitney survey and other public services. He is eminently qualified to prepare a monograph on the cereals, which will be permanently valuable. Prof. Brewer will make a tour of the grain-growing regions of this State, and will then go to Oregon. He has prepared a schedule of questions calculated to draw out practical information on the different points in wheat culture, and we hope all who receive the blanks will take pains to fill them out fully and accurately, so far as their knowledge and experience goes. Prof. Brewer is now in the southern counties or in the San Joaquin valley.

Scenes in the Yosemite Valley.

Our engraving gives a faint impression of some of the majestic objects in the Yosemite valley. The scene is in the canyon of the Merced river, which branches out an angle from the Yosemite valley proper. In the foreground is seen the trail leading up the Merced canyon, and which brings the visitor ere long to a near view of the wonders which are peculiar to this branch of the Yosemite. The trail rises rapidly and follows the course of the Merced river. So sharp is the ascent that in two miles an eleva-

roaring stream from Vernal fall the trail leads up to the base of the fall from which the visitor may ascend by ladders. At the summit of the fall the view down the canyon, as well as in the opposite direction, is extremely fine. The system of ladders by which this summit is reached, in the winter time is covered by masses of icicles wonderful to behold. We are now engraving a winter view of the ladders, which will appear ere long.

Aloft in the sky, above the center of the engraving, is the "cap of liberty," a most notable object. It is a mass of rock, isolated, and nearly perpendicular on all sides, rising perhaps 2,000 ft. above its base. The cap of liberty



VIEW IN THE CANYON OF THE MERCED—YOSEMITE VALLEY.

tion is attained 2,000 ft. higher than the entrance to the canyon. In reaching the lower level the Merced river plunges over numerous cascades and makes two grand falls, which are among the greater attractions of the Yosemite, according to Whitney, not only on account of their height and the large body of water in the river during most of the season, but also on account of the stupendous scenery in the midst of which they are placed.

The first of these two grand cataracts is Vernal fall, which is shown in the center of the engraving. Whitney places the height of this fall, at the average stage of the water in June and July, at 400 ft. The rock behind the fall is a perfectly square cut mass of granite extending across the canyon. The rock near the bottom of the fall is steeply inclined, so that a precise definition of the place, when the perpendicular part ceases, is very difficult amid the blinding spray and foam. Alongside of the headlong

has a striking resemblance to the object its name indicates. It is so marked that it is often recognized as it is viewed from various elevated points about the valley. It is an embodiment of grandeur, and its impress is firmly fixed upon the mind of the beholder.

The visitor who ascends the canyon of the Merced above Vernal fall meets something grand and impressive every time the view changes. About a mile from Vernal fall, but hidden from view by the lofty bluff in the engraving, is Nevada fall, which is pronounced by Whitney as in every respect one of the grandest waterfalls in the world, whether we consider its vertical height, the purity and volume of the river which forms it, or the stupendous scenery by which it is environed.

THE experiment of raising cranberries has been successful in Susanville. The plants were imported from Maine.

The Fourth of July in San Francisco.

The arrangements for the celebration of the Fourth in this city are on a grand scale. The preparations being made by the different committees having the matter in charge, augur well for its success. The principal event of the day will of course be the procession, and this year there will be several new features added. During the march there will be a series of *tableaux vivants* representing scenes in the country's history, such as the discovery of America, the landing of the Pilgrims, scenes of the Revolutionary wars, etc. Decorated arches will be constructed at the intersection of the main thoroughfares. The one at the corner of Market and Kearny is already assuming magnificent proportions, and when finished will no doubt be a credit to the designer. The Grand Army of the Republic and several other organizations have signified their intention to participate in the celebration. The Executive Committee has decided to have a public display of fire-works on the evening of the fifth, in some portion of the Western Addition. This is the first time in several years that there has been such a display. It is a fitting close to what, we have no doubt, will prove a day to be remembered by all. The Hon. John H. Dickinson is President of the Day, and Col. J. Henley Smith Grand Marshal. The literary exercises will take place at the Grand Opera House, and from the well-known ability of the different citizens who have been selected to carry out the programme a rare treat is promised. The selection of Dr. Shorb as orator is very fortunate, as he is one of San Francisco's best and most polished speakers.

People who desire to get away from the noise and bustle incident to the celebration in this city, will have an opportunity, as there are several excursions advertised to different points of interest. The San Francisco Yacht Club will celebrate the Fourth of July by a trip covering five days. As we go to press the fleet is preparing for a run to Vallejo, under command of Commodore Harrison. The morning of Friday will be spent at Mare Island. In the afternoon the boats will go up to Napa on the flood tide. A ball tendered to the club by the citizens of Napa, at the New Opera House, will occupy the evening. Saturday will be occupied by boat races, social visiting among the yachts and other pastimes, and a concert will be given in the evening. Sunday will be devoted to attendance at divine service, and on Monday morning at eight o'clock the fleet will be arranged in two columns, one under the command of the Commodore, and the other of the Vice-Commodore, and will be towed to Vallejo. There the tugs will drop the yachts, which will then proceed to a contest of speed to the Club House at Sancelito.

Thus it will be seen that the day will be fully honored in this city. This is as it should be, for the day upon which our forefathers sent out that noble document—the Declaration of Independence—to an oppressed people, should forever be green in the hearts of all Americans.

JUST ENOUGH FOR PRESENT USE.—The London *Farmer* alludes to the fact that there will be none too much old wheat, in this manner: "Accurately as may be estimated, the measure of corn that is required by the U. K. and the Continent between this date and the end of August is just filled up by the existing available supplies—the strike has been passed across the bushel, and there is measure, but none over. Probably there will remain in America a not unimportant accumulation of old wheat that may be available after August, but speaking of a stated term, the balance of supply and demand stands even—between May 24th and August 24th there is not in sight either surplus or deficiency. To make up for the short deliveries of our farmers, the big steamers and sailing ships from America, Australia, Chile, India, Egypt, and Russia must come full freighted every week to satisfy consumption without sparing a cargo for speculation."

So far this year New Orleans has received 1,450,000 bales of cotton, and already shipped, foreign and coastwise, 1,515,000 bales, and the total exports will probably exceed 1,700,000 bales, valued at \$90,000,000.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Ed

Notes on Tulare and Kern Counties.

EDITORS PRESS:—The late business trip of your correspondent has led him through southern Tulare and northern Kern to Bakersfield. The route lay through Farmersville, and then down Outside creek, the most southerly of a half a dozen branches into which the Kaweah river divides after leaving the Sierra Nevada; thence along Tule river, its well-irrigated lands and fine grain fields to Tipton. Next up the south side of Tule river to Woodville, then across to Portersville, recrossing to the south side at Plano. After a ride across an uncultivated region and among the irrigated regions of Deer creek around Noradell P. O., my horse-back ride was continued to Fountain springs, White River P. O., and among the few good foothill ranches near them, not slighting the new mines that are being developed. From the pleasant mountain ranch of Pascal Rutledge, a rapid ride was made over 35 dreary miles among the most desolate and uninviting foothills of Kern county to Bakersfield, surrounded by its 50,000 acres of well-irrigated and cultivated lands. The return to Tulare city and Hanford was made by rail. Besides pleasant hours spent at Mr. Rutledge's, the friendly hospitality of the following readers of the RURAL was enjoyed on their excellent ranches: T. W. Maples, near Tulare; Judge Cutler, near Visalia; Daniel Woods, and W. G. Pennebaker, at Farmersville.

A Few Notes by the Way

Will be given your readers. On 650 acres of first-class grain on the ranch of Uhlhorn & Maples the important truth was well illustrated that the irrigation of one year will materially improve the crop of the next season. Wherever, on their ranch, the land was irrigated last year, wheat and barley, with the best of heads, was standing four and five ft. high and forming a distinct wall, as it were, around patches of grain scarcely half as high, where last year's irrigation did not wet the soil.

In the middle of May, the large grain fields of B. F. Moore, near Tulare city, promised to average 20 or 25 bushels per acre, but on my return in the middle of June, the blasting north winds had evidently cut down the yield considerably, just as it has in Fresno, Merced and Stanislaus counties, to the extent of from one-third to one-half the crop.

Though I saw on Mr. Woods' place some of the very finest wheat in all this valley, his attention has been devoted chiefly, and with unusual success, to berries. No one in all this region raises such fine strawberries as he does, in the greatest abundance. He has several acres of them and of blackberries. His place being about six miles from Visalia, is a favorite resort for lovers of these luscious fruits. Strawberry parties and picnics are a specialty there. His delicious berries are deservedly known far and wide. He has thoroughly learned, from personal experience, how to cultivate them with best results in this valley.

How to Can Strawberries

So as to retain their color, form and flavor, is quite an important household problem, as many of our lady friends know. In a former letter your readers were told of the great number of fine strawberries raised on Dr. Bradley's place near Grangeville. Mrs. Bradley has kindly given me her recipe for canning strawberries to secure the above-named objects. It is well worth recording for the many lady readers of the RURAL, and is as follows:

Pick over the berries the day before canning. Then to three pounds of berries add about one pound of sugar, and let them stand over night, or long enough to draw the juice. Drain off the juice and bring it to a boil. To this add the berries, and let them remain just long enough to scald through. Then can immediately, sealing tightly. Be careful to use no water, except to wash them quickly, and drain.

In the Foothills of the Sierras,

On the ranch of A. J. Maltby, a few miles south of White River P. O., is one of the best young mountain orchards your correspondent saw in all that region. It is irrigated by well and windmill. His grain-hay was very tall and rank. He was cutting it the last week in May, and it was thick enough to average three or four tons per acre of cured hay.

On the well-improved ranch of Mr. Rutledge, four miles farther southeast, at a point 10 miles west of Glenview, 30 east of Delano, and 30 north of Bakersfield—in direct lines—is something not often met with so low down in the Sierras, his altitude being scarcely more than 1,500 feet above the level of Tulare lake. This is

A Very Valuable Sulphur Spring

Of remarkably clear water. That is, its temperature instead of being above 100° Fahr. as are most of the sulphur springs of this coast, is not far from 70°, or about the same as most of the artesian water of San Joaquin valley. Mr. Rutledge has secured the water of this fine spring against all impurities in an unusual way. He

constructed for it himself a tin cone about 10 ft. high. Its diameter at base is 4½ ft. It gradually tapers to an inch in diameter on top. Excavating 9 ft. to bedrock a hole large enough to receive this cone with its larger end down, he placed it so as to cover completely all the "boilers" or sources of this spring. He then replaced the earth around the cone, leaving only about a foot of it above ground. From the upper end an elbow of tin conducts the water in a stream about an inch in diameter to a trough. From this he takes the water to an oblong reservoir or pond in his orchard and garden. Here he has lately placed some catfish taken from Kern river, and they are doing well, the water, after standing, losing much of its sulphurous quality. He estimates the yield of this spring at about 5,000 gallons every 24 hours. His fruit trees and vines are doing well, showing that rapid growth and early maturity, peculiar to all well wet soil of California, not too much impregnated with alkali.

Insects having troubled his vegetables lately, he has tried "Mlico's Insect Powder" with entire success. Near his mountain home

Wild Gooseberries

Grow around trees and projecting rocks in greatest abundance. They make the best of jelly, as proved at his hospitable table. About the middle of May, he and a friend gathered 23 gallons in six or eight hours. As the bushes are very thorny, this fruit is gathered easily and rapidly by placing a pan or bucket under the bunches, and giving the limb on which they hang a smart quick blow with a light stick. Mrs. Rutledge informs me that to make the jelly requires about the same weight of sugar as berries. One has to keep a sharp lookout for rattlesnakes while gathering this excellent fruit. The bushes and rocks where they grow are a favorite resort for these dangerous reptiles.

J. W. A. W.

Hanford, June 19, 1880.

HORTICULTURE.

Apricot Growing in California.

At the last meeting of the State Horticultural Society the following paper was read by W. W. Smith, of Vacaville, Solano county:

The apricot, according to Downing and other writers, is a native of Armenia, Arabia, and the upper portions of Asia. Some writers claim that it is not a natural fruit, but a cross between the peach and the plum. But we incline to the opinion that it is a natural fruit, and give as our reasons for it, first, that it reproduces itself so surely and readily when propagated from seed. Our improved or cultivated varieties will not reproduce themselves from seed, of course, but if we plant seeds from them we get apricots and not something else. Then again, we see no disposition in it to sport. What we mean by sporting is a disposition in some of our fruits to produce, when propagated from seed, something that is not precisely like the parent, but partakes of the nature and also has the appearance of some other fruit of the same species. This we have never yet seen in the apricot; neither have we ever heard of it from any reliable source. In fact, one writer says that "the mountains west of the city of Peking, in China, are covered with a natural growth of the apricot." Its habits of growth and reproduction seem to be constant and fixed, which is pretty sure evidence that it is a natural fruit.

Conditions Adapted to the Apricot.

The apricot is considered among our hardy fruit trees, and may be cultivated as an open standard tree anywhere south of the 42° of latitude in the U. S. The great drawback to its successful cultivation, however, is that it is so liable to the attacks of the curculio or plum weevil, its smooth, soft skin making it peculiarly subject to destruction by that insect; but fortunately so far here in California we are not troubled with that little Turk yet. Still we do not know how soon we may be. It, therefore, stands all fruit growers in hand to be strictly on their guard and ready to meet and destroy not only this, but any insect pest that may threaten our interests. The soil best suited to the growth of the apricot is a deep, rich loam, having a good admixture of sand; in fact any soil that will grow the peach tree well will grow the apricot tree well. But there are some localities in our State where the trees grow well, appear thrifty and healthy, and yet they bear but little or no fruit. This, however, is the case with nearly all of our fruit trees, a circumstance that is hard to account for, except that it is owing to the great diversity of soil and climate that we have in this State. We incline to the opinion, and our opinion is founded on pretty close observation, that it will set its fruit better on a rather heavy than light soil; that is, too much sand in the soil has, we think, a tendency to make it cast its fruit while young. We would, therefore, prefer a tolerably heavy soil, with just sufficient sand in it to make it work freely and easily. Where such a soil can be obtained on a hill, or at least considerably elevated, it would still be preferable, as being more exempt from the late spring frosts that prevail throughout our State, and should in all cases be guarded

against as much as possible. Let no one console himself with the belief that he is in the frostless belt. I am satisfied that there is no such place. Our late damaging frosts go in streaks, as it were, striking at one place this year and at another the next, and *vice versa*; but that no part of our State is entirely exempt from frosts we are perfectly satisfied. Some localities are more so than others, of course. The soil on which a young apricot orchard is to be set should be cultivated in some hoed crop the year previous to planting the trees; corn or beans are preferable to any other crop we can recommend. The cultivation given them leaves the land in the best possible condition to receive the young trees. Soil that holds stagnant moisture should never be planted in apricot trees. Such a soil should be thoroughly underdrained before the trees are set, or rejected altogether. The apricot will do well on a heavier soil than the peach.

Grafting and Planting Out.

The stock on which to propagate the apricot is of no little importance. The peach, the plum, the bitter almond and the apricot are all used as stocks on which to bud or graft the apricot. We prefer the peach for all our free soils, and the plum for heavy or adobe soils. We reject the apricot itself, from the fact that the gophers work heavily upon it, and we reject the bitter almond, because the apricot will not take well on it—they will not form a perfect union. They may grow and do pretty well for a few years, but as soon as they get a little top to them, they are almost sure to blow out. It unites well with the peach, and the peach does not sprout like the plum. The plum, unless we could obtain a variety that does not sprout, should not be used for a stock on which to propagate anything, because of its sprouting so badly; the land becoming filled with the sprouts will annoy the life out of any man of taste. Some will object to the peach as a stock on account of it being short-lived, but we find it as long-lived as either the almond or apricot. The plum, were it not for the sprouting just referred to, would be better than either of the others, because it is longer lived. The apricot is propagated either by budding or grafting, but budding is most generally preferred by our leading nurserymen. Apricot trees should be one year old when transplanted to the orchard; dormant buds are preferable to two-year-old trees.

Cultivation.

The land should be kept thoroughly cultivated among the young trees. Some cultivated or hoed crop may be raised between the rows of young trees up to about the third year; then after that they should have the land entirely to themselves. By thus cultivating some other crop on the land, it is kept in a loose, friable condition and free from weeds. Trees thus treated are almost sure to make a good growth the first year after being transplanted, and herein lies the secret of success in the cultivation of all trees, to-wit: get all the growth on them possible the first year after they are transplanted.

Diseases of the Apricot.

The apricot tree is subject to as few diseases as any fruit tree with which we are acquainted. The borers will attack it as they will any other tree that is making a slow growth, or in anywise rendered unhealthy.

The "gum" is the worst disease to which it is subject. The remedy for this is, cut away all the diseased part to the perfectly healthy wood; scrape the wound entirely dry, and then coat the whole over with a solution of gum shellac, dissolved in alcohol to about the consistency of paint. This is the best preparation we have ever tried for covering the large wound made in all trees by pruning or otherwise. It can be applied with a brush in the same manner as paint; it soon hardens and becomes impervious to wind and water; it forms, as it were, a scab, and as the young growth is laid on it is lifted up and finally drops off. The foliage of the apricot tree appears to be almost entirely exempt from disease, there being no insect with which we are acquainted that seems to be fond of eating it. The hares (our California jack-rabbit) will nibble the bark and foliage both from young trees, but they do not seem to trouble them after they have been one year set in the orchard. No kind of stock is fond of the foliage, unless it is sheep. The fruit itself is free from disease and insects while it is green, but when it gets ripe is attacked by birds (the linnets), and also by the striped squash bug. There has of late years appeared on the fruit a kind of rust analogous to the rust on wheat, worse in the vicinity of Santa Rosa than any other portion of our State. Some complaint has been made of late of parts of the trees dying while the remainder of the tree would appear to be healthy. This, we think, is all caused by the gum. Apply the above-named remedy in time, and a cure will be pretty apt to follow.

The greatest drawback to apricot culture is the liability of the trees to the loss of branches by a blight somewhat similar to that which destroys the pear tree. The earliest history of apricot culture makes mention of this malady. Branches will suddenly wither and die without any apparent cause, and so fatal does this become that orchards of considerable extent rapidly become extinct from this fatality, for which no efficient remedy has yet been discovered.

Mode of Bearing and Pruning.

The apricot is somewhat peculiar in its mode of bearing fruit, and therefore requires some special rules to be given in regard to pruning.

Like the peach it bears its fruit on wood of last year's growth, and like the plum it also bears its fruit on small fruit spurs of two or more years' growth. Then again, it is very peculiar in its manner of growth; each summer's growth is furnished nearly throughout its entire length with small side shoots or laterals. This is different from almost all other fruit trees.

In pruning we recommend the annual shortening-in system, that is, this winter cut away one-half or two-thirds (according to the amount of growth the trees make) of last summer's growth. But after the branches have been cut off there will still remain a number of laterals or small side branches, these should also be cut back, say from two to four inches long. They will be thus converted into fruit spurs, and a saving of one or two years is gained. The crop on the one-year-old wood, stated above, cannot be relied on. The main crop must be depended on from those fruit spurs on the interior of the tree; hence, the necessity of the shortening-in system, it keeps those fruit spurs in a vigorous, healthy condition. Trees trained as recommended by us at the February meeting, in the form of a vase or goblet, so as to let in an abundance of air and light, and cut back every winter, will remain in a healthy, vigorous bearing condition, for a long time producing the best of fruit of its kind, and giving the cultivator satisfaction as well as remuneration.

Gathering and Marketing the Fruit.

There is just at this time as much interest manifested in the cultivation of the apricot in our State as any other fruit, unless it is the grape, and we are not sure but that the interest is increasing more rapidly in it than in the grape. In view of the financial importance attached to this matter, it is well for us to consider the subject carefully. It is now estimated by good judges that sales of apricots in our State this year will amount to about \$200,000—no small amount to be placed in the hands of our farmers in one season. The bulk of the crop will of course go into the hands of the canners and then be shipped out of the country, at least out of this State. We see no help for this season, and probably not for years to come; but such should not be the case. Every community where this fruit is grown to any considerable extent should have its own canning establishment and can its surplus at home, thus putting up an article superior to that of the present day, and also saving to the producers the profits that go to the canners. There is no doubt at all but that we could produce a better article of canned goods if our fruit were put up or canned on the farm, thus avoiding the damage done to the fruit by rough handling in transportation. Besides that, there would be a great saving in transportation itself. But let this be as it may, we should, in gathering, handling and marketing our fruits, take all possible pains to gather it at the proper time, handle it without bruising, pack it carefully, and endeavor to have it arrive in the market in the best possible order. However, is that always done? This a novice at the business cannot do, nothing but long experience, with at least a moderate degree of intelligence, can accomplish it. Hence, if beginners do not realize as much for their fruit as old experienced men do, they should not complain, but labor patiently and study hard to become successful in their chosen occupation.

Again, no one who does not love the business so as to become really enthusiastic in it, need ever expect to become eminently successful. This of course applies not only to the cultivation of the apricot, but to all fruits.

Canning at Home.

I have no war to wage against the canners—they have come to the relief of the fruit growers at a good time. But I insist upon it that farmers should can their own fruit. If our canned fruits are to hold their own and win their way in the world's markets, we must not use inferior or stale fruit, only the best, ripest specimens of the choicest varieties will answer our purpose. There can be no doubt on this point. Canners who buy out farmers' whole crops and can it as soon as it arrives in the city, will always put up a better article than those who wait until the last of the week and then gobble up all the stale stuff in the market, because it is cheap. The canned fruits which are to make men's reputation as honest dealers must be selected and put up with the same care and nicety that characterizes the prudent housewife who cans for her own use, selecting the choicest and most perfectly developed specimens in their unbruised, prime and luscious juiciness. But

The Question of Profits

Arising from apricot culture is what more directly concerns us here in California than any other. Is it likely to continue to be profitable is the question. We all know what it has been; but what will it be in the future? Of course, no one but a prophet could answer these questions definitely. But we will venture an opinion at least. Were we asked what fruit tree to plant for the most profit, we would unhesitatingly say, "the apricot." Our reasons for saying so are these: According to the history of apricot culture in the United States, as given by the Agricultural Department at Washington, all efforts have proven a failure except in California. There are three reasons given for these failures, to-wit: First, the extremely excitable nature of the tree, rendering the crop so easily cut off by frost; second, the ravages of the curculio; and third, a kind of blight, similar to the pear blight, that destroys the trees themselves. Now here in California the apricot is, we might say as yet, entirely exempt from all

these maladies. Then again, with the exception of the Azore islands, and they are of too small extent to ever affect the world's market, California is the only place, not only in America, but in Europe also, where it can be, or at least, where it is produced in any very great quantity as a market product. Then again, there are only a few places in California where the fruit does well and where it can be successfully raised. Then in view of the rapidly increasing demand and the fact that new markets are opening up all over the world, as it were, we repeat it with emphasis that our opinion is that in those portions of our State where the apricot does well, there is no tree that fruit growers can plant, that is likely to return a more handsome profit for the labor and capital invested than the apricot.

The Leading Varieties,

Naming them in the order in which they ripen, are the Pringle, Royal, Golden Hemskirke and Moorpark. All of these most of our leading nurserymen keep. There are a few others, such as Breda, St. Ambrose, Boman and Peach, but none appear to be so profitable to the cultivator as the Royal. It yields enormously, and has the additional good quality of ripening up its fruit pretty much all over at the same time. It is early and a good shipper, and we also understand that it is a great favorite with the canners. In conclusion, we would say that the apricot, in its perfection, is one of the most delicious fruits that the earth produces. To be able to stand under one's own tree on a warm June day, and pluck and eat a luscious Moorpark is certainly the height of luxury; it is luxury itself. Ripening its fruit at a season of the year when it does, just after the cherry and before the peach and plum, it fills a vacancy in the market that no other fruit can fill.

The Growth of Cherry Trees.

Leonard Coates, of Yountville, wrote the following letter to the Secretary of the State Horticultural Society, and it was read at the last meeting of that organization: I believe *too much cultivation* to be, in most cases, the cause of the gumming, and rapid and premature decay of our cherry trees. This I regard as the most frequent source of evil, but, also, the very general use of the Mahaleb stock by nurserymen a number of years ago, and a "miscellaneous" stock, so-called from its being raised from the seed of any kind of cherries, a small portion of which being good, but the greater part inferior. The true Mazzard has thus far shown to be the best stock. Gumming appears to be the result entirely of a superabundance of sap, it being more prevalent in trees grown in a rich, heavy soil, and so diminishing as the soil becomes lighter and of less depth.

Cherry trees in Napa, where grown in a wet soil retentive of moisture (and this applies, it would seem, to almost all parts of the State), are rapidly dying out, but, upon closer observation, I find that trees, even in young orchards, in a well-drained, sandy, though deep and rich soil, are becoming diseased in the same way. This latter soil is easily cultivated and pulverized, consequently the moisture is retained nearer to the surface than in a soil more inclined to adobe, and the trees make a remarkably vigorous growth. In an orchard of this description—about 9 or 10 years old—I have found that the trees whose roots are partially gnawed by gophers are wholly exempt from disease, while those making a very rank growth, and to the casual passer-by, which seem particularly healthy, have large quantities of gum streaming down the outside of the main limbs, and rapidly decaying the inner bark. These trees, I should say, have not more than six inches to a foot of trunk proper, being allowed to branch out near the ground.

The gopher, unfortunately, prunes the roots a little too industriously, the trees usually dying about three years after he commences to operate upon them.

The varieties in this orchard are Royal Ann, or Napoleon Bigarreau, Black Tartarian and Arch Duke, the latter being the most hardy—this year, however, gumming for the first time—and the former the least so.

I know of several cherry trees, of great size and perfectly healthy, growing in yards in Napa valley, which are said to have never been cultivated. I have seen, also, some that were set out four years ago on the border of a croquet ground—never being plowed—and which have not the least vestige of gum upon them, making about a foot of new wood in a season, instead of the unnatural increase of three and even five ft. often to be met with in thoroughly tilled orchards.

It seems at present as if the more easy it is to cultivate our orchards—the richer and deeper the soil—the more thorough the tillage, while I think exactly the reverse should be the case.

SETTING OUT FRUIT TREES ON HARD-PAN LANDS.—*Record-Union*: The red lands south-east of Sacramento are becoming noted as good fruit lands, both for large and small fruits. The strawberries raised in this vicinity are of good size, firm flesh and highly flavored, excellent for home consumption or shipping. The blackberries are also fine, and the grapes, for table use, for wine or raisins, are not excelled in the State. While the larger fruits are also good, the trees have not always given satisfaction. They have seemed to lack in vigor and have many indications of a tendency to die early. Those interested in orchard culture in the vicinity have never been quite satisfied as to the cause

of this difficulty, and have consequently been experimenting and observing with a view to detect the difficulty. It is now being pretty generally realized that the mode of planting has not been the best adapted to the peculiarity of the formation of the soil and its underlying bed-rock or hard-pan. The bedrock, which is a porous soft rock of a marly composition, averages from two to six ft. in depth below the surface. Lying immediately on this bedrock is a layer of fine clay, which holds water about as well in its present form as it would if made up into earthen vessels. The result is that there is a defection in drainage—the roots of trees standing as it were in a stagnant pool of water. Some, in their experiments in planting trees and vines, have taken pains to dig down to this bed-rock and perforate it with holes by boring through it, and have noticed great changes for the better in their orchards so planted. Those who have been going to this trouble to penetrate the bedrock have been acting on the theory that the bedrock is impenetrable to water, and that to let the water settle or drain down it must be broken through. Since it has been discovered that this rock is quite porous, and that the clay above it is the water-tight material the labor of setting out trees properly is materially lessened. Now the soil is removed down to the clay, and this is removed and its place filled with surface soil, and the drainage is perfect. Trees thus planted are thrifty, while those planted over the clay stratum are stunted and defective in constitution and life. With this discovery understood and appreciated, it is believed the vicinity referred to will become one of the very best orchard sections in the State for all kinds of fruit. No better conditions and formation could be found for the growth and successful fruiting of the orange. This tree has a net-work of roots which seems to delight in creeping along and adhering to an under surface of the character of the bedrock described—at once a check to the too deep penetration of the roots and a sieve to pass the surface water just below their extremities. With this new method of planting this section ought to become a most excellent location for peaches and other kinds of stone fruit, the cultivation of which is becoming impossible of late years on the river bottoms on account of the rise in the river-beds causing impossible drainage.

THE VINEYARD.

Note from Mr. Blowers on Raisins.

R. B. Blowers, of Woodland, the well-known leader in raisin culture, writes the following note to the *Sonoma Index*: The requisites are a climate sufficiently warm to thoroughly mature the grape from which it is desirable to make raisins, as the grape must have a sufficient quantity of sugar to unite with the acid to make a complete jelly, for that is what a raisin should be, a jelly so completely made that it will keep in its natural sack, the skin. I find the best condition for drying is plenty of air, heated to a temperature of from 100° to 130°, never more than the latter heat. A less is not hurtful, except to retard drying. A moist air is to be avoided, and rain, during the process of drying, is positively injurious, even if it should dry without mildew, as it injures the bloom, aroma and flavor. My experience leads me to prefer a tray or platform 2x3 ft. in size, made from light lumber. The tray is solid, that is, not perforated, and is cleated across the ends. We pick directly into the tray, putting about 20 lbs. of ripe grapes on each, then expose them to the heat of the sun with an inclination towards the south. When half dry, they are turned by two men taking an empty tray, placing it upon a full one and giving them a quick turn. The grapes are thus transferred bottom upwards onto the other tray, turning them very fast. This is done in the morning when the stems are soft. Then, if the drying is completed in the field, when the grapes are sufficiently cured they are slid from the trays into large wet boxes, and stored for two weeks or more, when they are packed in small boxes for market. This is the first time the raisins are touched by the hand after picking. They are handled on the tray, thus preserving the bloom and not breaking up the stems.

If the season is advanced, and it is desirable to hasten the drying, the raisins are moved to the drier, on wagons, while still in position upon the trays, and placed in drying rooms, where they are exposed to a strong current of warm, dry air, which, being continuously drying at the proper heat, and not being retarded by the cold and dews of night, completes the process in about one-third of the time required in out-door drying if the weather is favorable. Last year I used an exhaust fan to give me a greater amount of air than is otherwise possible, with very gratifying results, making a better raisin than those cured entirely in the open air. Three pounds of mature grapes make one of cured raisins. The drier I use cost about \$2,000, including house and packing rooms, but not including the trays; trays cost 10 or 11 cents each. For a full description of drier, please find enclosed a circular, which you can use at your option. You can see that raisins can be successfully made wherever grapes can be fully ripened.

RAISIN BOXES.—*Press*, June 19: At the meeting of the Riverside Fruit Growers' Association, the size of the raisin boxes for the coming season was fixed at 9 by 18½ inches inside

measurement, with a depth of 4½ inches for whole boxes, 2½ inches for half boxes and 1½ inches for quarter boxes. The manufacturers of boxes were instructed not to chamfer the corners of the top and bottom of the box, but to leave them square to be chamfered by the packer when the boxes are put together. The ends of the side pieces of the box are to be chamfered as heretofore. No boxes were to be purchased except that they be made of clear lumber entirely free from knots. It was reported that the manufacturers of raisin boxes had combined to put up the price to the following figures: Whole boxes 11 cents, half boxes 9 cents and quarter boxes 8 cents—an advance of 1 cent per box over last year's prices. The subject of labels and paper for the raisin boxes was discussed at length, the general opinion being that the labels and papers used last year should be continued in use until such a time as the Association should adopt a trademark and get their own labels engraved and printed in connection with that trademark.

THE WINE INTEREST.—A dispatch from Washington says that for some time past the Agricultural Department has been investigating the subject of viticulture and wine manufacture in Europe and America. Dr. McMurtrie, one of the chemists of that Department, recently spent several months in the wine-producing countries of Europe, and made personal inquiries in regard to the subject. He has collected a vast amount of information and statistics, which he is now formulating in a report. To get the information required in the United States, the Department has sent out over 10,000 circular letters, containing exhaustive inquiries, to which satisfactory replies are constantly being received. Dr. McMurtrie says that it will be impossible for France, at the present rate of consumption, to export any quantity of wine this year, owing to the wet and cool weather and the invasions of the phylloxera, a root destroying insect which infests the best wine-producing sections of France, and which continue to increase, in spite of the most rigid quarantine regulations and in the face of every scientific prohibition. He predicts that the wine production in France this year will only be about one-half of that of last year, which will be inadequate to supply the demands of France alone; on the other hand he says the prospects in this country are very promising. The phylloxera insect exists only sporadically in a few counties in California; but no apprehension is felt that they will spread. The indications are that the wine productions of the United States this year will be 50% greater than last year. The vineyards, he says, are all thriving, and east of the Rocky mountains there are no phylloxera whatever. He thinks that American wines will supply the entire domestic market this year. [We hardly see what is meant by saying there is no phylloxera east of the Rocky mountains. It is well known that there are plenty of the insects in the Eastern States, but the vines do not generally succumb to their attacks. Probably it is meant that there is no injury from phylloxera, which would probably be true.—EDS. PRESS.]

ARBORICULTURE.

Some Experiments in Forestry.

EDITORS PRESS:—Now that the orange orchards are "between hay and grass," *i. e.*, neither in blossom nor fruit, it does not seem so much a heresy to say, that even their beauty is a weariness if unrelieved by other planting, especially around one's home. Had nothing else been available, we would have striven for contentment with the help of blue gums and pepper trees, but thanks to our generous friend Williamson, of Sacramento, to Bro. West, of Stockton, and Eastern botanists with whom we have made exchanges for many years, our experiments took a wider range.

In March, '77, the ground was broken upon the rough and treeless sight which now gives abundant promise of seclusion and rest; a drive was laid out in order to secure a belt of varied forest planting just where the refreshments would be most needed, and trees of the following kinds set: Ten Monterey pines; 2 American white elms; 4 English hawthorns; 2 *Liriodendron* or tulip trees; 2 trees of *Tilia Americana* or bass wood; 2 cut-leaved birches; 2 Sulfur mock willows; 2 soft maples; 2 American butternuts; 2 American and 2 Spanish chestnuts; two cork elms and 2 imported elms marked "French elms," the nomenclature of which is doubtful; 1 Chinese mulberry; a single tiny deodar cedar; do, cedar of Lebanon; 1 *Araucaria Excelsa* and 1 *Sequoia gigantea*. The three last named were in pots so small that we brought them here in our lunch basket. Other trees we had, but they were considered too small for permanent planting, and went into a nursery. All the above named trees were planted with great care and heavily mulched with rotten straw for a considerable distance around each tree. Out of the lot we lost only one, an American elm, which was girdled by our worst enemy, the gopher. The 10 Monterey pines are now 5 years old, 25 ft. high, their average circumference at the base is 29 inches. Every one of these is a fine specimen tree. The Sequoia, nearly 6 years old from seed, is 6 ft. high and 11 inches at base, a perfect pyramid. Deodar, about the same height and circumference, affords a lovely contrast from its pale glaucous green

color and drooping habit. The cedar of Lebanon grows out instead of up, always, and ours hugs the earth persistently. Its rate of growth, viz, one foot per year, is about the same as in Eastern nurseries. The American elms grow here as luxuriantly as they do in Sacramento; one of ours is 30 ft. high and the trunk 20 inches in circumference, another more stocky, has a fine canopied head covering an area of 25 ft. The Chinese mulberry is 30 inches around at the butt, about 30 ft. high, and has made more solid clean wood than any tree on the premises, not excepting eucalyptus.

And here let me compare the growth of eucalypts set at the same, now four years old, with American conifers, and some of the hard wooded, deciduous trees of the same age. A row of red gum (*E. rostrata*) was planted 12 feet apart, in March, 1877. They were well cultivated and watered some six times during the season, and have lately been cut for stakes; they averaged 19 inches around and 30 ft. in height. *E. globulus* permanently planted in a circular clump, eight ft. apart (to form the pillars of a summer house), are now 35 ft. high, and average 17 inches in girth. The closer setting of the eucalypts, probably accounts for the fact that the American trees have apparently made as many pounds of wood annually. No American tree that I know of would stand the crowding which the Australian's endure, but on the contrary the soil under our maples and elms is rich and moist, while the robber eucalypt drains it completely. To test this exhaustive quality of the eucalypts we have some lines of millet radiating from the above mentioned clump. In the diminished size of the grass, one may trace the ramification of the eucalypt roots, almost as perfectly as if they were uncovered.

If I were going to plant a few acres of moist, sandy lowland for timber, say for stakes or posts, I should plant the pine with as much certainty of a quick return as the eucalypt would give; the condition of the land after the crop was off would enter into this calculation.

A group of three trees of the same age, and under the same treatment, affords us much entertainment in the comparison of their forms, rate of growth, etc. These are the pepper mint gum, the catalpa and the Pawlonia imperialis. These three, one an Australian, one a Japanese, and one an American tree, are pretty nearly uniform in girth and height; but nothing could be more unlike than their ways. The pawlonia seems to pride itself on its great soft leaves; the peppermint, with a mere fringe of leaves, is full of its wreath-like fragrant flowers. The catalpa, now blooming, will soon send down its long seed-pods.

A visitor walking among our younglings, the rows of native forest trees which will be planted out another year, said he "would vote us a wooden medal for growing our own tamarack, gum, beach-nuts and sassafras." Tiny seedling trees of these species are thriving with us, and of some 35 species received from the University this spring, we have lost only Parkinsonia and some very small Japanese maples. Our American maples and hickories are growing finely. The Pacific coast conifers are nearly all represented in our collection, though some are yet under covers, and marked as doubtful. The desiccating winds and blazing sunshine are very trying to the infant stages of conifer life, and of all eastern trees, the hemlock is the hardest to cultivate here. The eastern *arbor vitae* does well.

We enjoy the development of our young wild cherries, apples and plums. The wild crab in blossom is one of the loveliest things in nature. And we have many wild shrubs also, both eastern and native, with which to make copes and coverts. The ampelopsis or woodbine, moonseed and frost grapes from New England are settling gracefully into their new conditions.

We are satisfied that almost any of the noble forest growths of the Atlantic States may be grown successfully with the cultivation ordinarily given to orchard trees and with generous mulching for the first two years. Thus far there is no appreciable difference in the rate of growth between ours and eastern nurseries. Our Tree Register, now numbering 120 species, will enable us to determine many interesting facts in acclimatization. In another paper we will "nothing extenuate" as to losses and failures of extra tropical trees, such as Cherimoyas, the Jacaranda, etc.

In a small way, and with a very moderate outlay, we have been developing an instructive forest station, and there is nothing we crave more than its enlargement. Even now our young trees are so pleasant to look at that we find ourselves saying with Prince Puckler: "He who sees into my park sees into my heart."

JEANNE C. CARR.

Pasadena, June 20, 1880.

POSTMASTERS' SALARIES.—The increase and reduction of the salaries of postmasters in Nevada and Oregon, at the offices specified, are as follows: Nevada—Austin, \$2,000, an increase of \$200; Carson City, \$2,600, an increase of \$200; Elko, \$1,600; Eureka, \$2,500, a reduction of \$200; Gold Hill, \$2,500, a reduction of \$200; Hamilton, \$1,600, an increase of \$100; Pioche, \$1,600, a reduction of \$200; Reno, \$2,100, a reduction of \$100; Tuscarora, \$2,100; Virginia, \$2,800; Winnemucca, \$1,500, an increase of \$200. Oregon—Albany, \$2,000, an increase of \$300; Astoria, \$1,800; Baker City, \$1,100; Corvallis, \$1,200, an increase of \$100; Eugene City, \$1,300, an increase of \$100; Oregon City, \$1,500, an increase of \$100; Portland, \$3,000, an increase of \$400; Salem, \$2,600, the Dalles, \$1,800, an increase of \$300.

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

W. M. Bro. Spilman at Stockton Grange.

The Stockton *Independent* gives an outline of the remarks by the W. M. of the State Grange, Bro. B. R. Spilman, at a union meeting held with Stockton Grange last week. We quote from the *Independent* as follows:

After some vocal exercises Master Spilman delivered an address. He congratulated the Stockton Grange upon the interest evinced in the matters of agriculture and husbandry. He said that the Grange Order was established for many purposes, the main purpose being to increase the value of the productions of the soil, and to educate the members of the Grange in scientific agriculture. Nothing tends more to promote the interests of the country than the spread of education and right principles among those engaged in the cultivation of the soil. It had been remarked that the Order was a failure, but such was not the case. It had accomplished a great work. It behooved every Granger, however, to faithfully discharge every duty incumbent upon him. He was satisfied that the principles of the Grange if properly carried out would promote the interests of the country. I know it is said that our organization is selfish, but those who made the statement knew nothing about it. The Order is founded upon the eternal principles of justice and right, and the Grange would never cease working until it obtained the rights justly belonging to the tillers of the soil. But if they were to ever accomplish anything the members of the Grange must stand together as a unit. The Grange was a class organization made up of agriculturists. Hence the discussions were upon agricultural matters, and did not infringe upon the rights or feelings of any other Order or set of people in the community. The sisters of the Grange found work there, and had accomplished a great deal of good. The agricultural interest was the basis of all the prosperity in the United States. To accomplish any good results it was necessary that the agriculturists should make their power felt. Our law givers should be given to understand that members of the Grange did not intend stopping until they obtained all their rights. The National Grange had been demanding that the Commissioner of Agriculture should be a cabinet officer. Gen. Le Due, the present Commissioner and his chemist, were friends of the Grange. Prof. Collyer had shown the farmers how they could manufacture their own sugar from millet, corn stalks and sorghum. Yet this great Government don't give that man sufficient room in which to make his experiments. His work has been entirely ignored by the law makers. Bro. Aiken, of South Carolina, and Bro. Forsyth, Master of the State Grange of Illinois, had both told him that for two years the Committees on Agriculture of the two Houses of Congress had not had a meeting. Mr. Spilman asked if such treatment was right and just to the great industry of the country? But a Congressional Committee had recommended that a salary of \$3,000 be allowed the Commissioner of Agriculture, and that he be made a subordinate officer of the Government. But this was not satisfactory to the agriculturists. They had too long been hewers of wood and drawers of water, and they now intend to demand their just and equitable rights. Ours is not an aggressive Order, but they simply demand justice. I don't care whether a man is a Republican, Democrat or a Greenbacker, if he will represent and protect my interest, and I am going to vote for him. Mr. Spilman entered at length into the advantages of the Order, and the benefits and enjoyments to be obtained from the social gatherings connected with it. After some few remarks to the young people present, Mr. Spilman resumed his seat amid general applause.

ASSESSMENT OF G. B. A. STOCK.—I am in receipt of a letter from Bro. I. C. Steele, in which he says the Assessor of San Mateo county insists on assessing his shares in the G. B. Association, and asks for information on the subject. To this I reply that some three months ago I delivered to the Assessor of San Francisco a memorandum of the number of shares outstanding, their par as well as their market value, together with the amount of assessment on real estate owned by the Association. This statement was submitted to the State Board of Equalization for their action. I was subsequently informed by the Assessor of San Francisco, that inasmuch as the assessed value of the real estate and improvements in San Francisco on which the Association paid taxes exceeded in value between \$5,000 and \$6,000, the market value of all the shares of the G. B. A. now outstanding, the said stock could not be assessed according to law, and that he would notify the various County Assessors to that effect. But on visiting the Assessor's office to-day, I found they had, from some unexplained cause, neglected to send out the notice, but promised they would attend to it immediately. It will then be the duty of the County Assessors to strike from their lists all assessments of stock in the Grangers' Business Association.—AMOS ADAMS, Sec. Grangers' Business Ass'n.

Grand Island Grange Picnic.

The Grangers' picnic that was held at Grimes' landing was very largely attended, and the probabilities are there would have been more had it not been for the heavy north wind. Those that were not posted supposed that it would be like other picnic grounds, dusty and disagreeable; but it was not, for we have one of the best picnic grounds in the county. It is bounded on the north and west by a thick growth of large oaks, so that it is utterly impossible for the north wind to have any effect. The speaker that was to have delivered the oration failed to appear, sickness preventing, I believe. J. J. Hickok was called upon, and responded with a brief but very interesting speech. The Colusa brass band furnished music for the occasion, and the band would be a credit to any "town."

Cyrus Gleason won a very fine bridle in the riding tournament. Miss Hattie Corbire received the bridle that was to be given to the most graceful lady rider. Johnny Shields received the prize in the young men's foot race; it was amusing to see them trying to get started. They were to start by a bandkerchief being dropped by L. Gilmour, and every move he would make they were off like they were shot out of a gun; after making half a dozen false starts they got off, with some advantage in the start of Shields, but as the other end of the track decided the race, Johnny made it a point to get there a few feet ahead. No one will dispute but that the young men who ran against the Island racer ran well, but they must remember that the Island boys are hard to get away with—in fact, the Island has but one failure, and that is the *San* correspondent. Albert Mahais, another Island boy, got away with the high jump, jumping something less than 15 ft. high. Everything went off nicely. Everybody seemed happy and contented. Mr. Jones, of Colusa, was Marshal of the day, and made a first-class officer. A large number of the company remained for the dance. The music was furnished by Callendine Bros. string band, assisted by a cornet player of the brass band. The music was good. The supper was given by Mrs. J. C. Stettler, and was one of the best that was ever gotten up for a ball at this place.—*Cor. Colusa Sun.*

A STALWART INVALID.—Mrs. W. D. Ashley, of Stockton, in a report of the Grangers' reunion at Lodi, writing to the *RURAL PRESS*, winds up with the following:

"Regrettably we sped away from the rural town nestled on the lap of a flat sandy loam, with its thousand people, supporting a weekly and daily paper, edited by Mrs. Cliff, who, with her invalid husband, cultivates five acres. She has three children, and is a member of our Order, too. Long may this intelligent and hospitable community thrive."

In reply we would say that our daily was an impromptu affair, got up for the occasion, and in regard to our husband being an invalid, why, goodness gracious, he weighs 225 lbs., and never knew a sick day. He is one of the firm of Cluff & Smith, prosperous agricultural merchants of this place, and is called upon each Saturday night for a 10 or 20, that the *Valley Review* may live and flourish.—*Lodi Review.*

TEMESCAL GRANGE.—EDITORS PRESS: The next meeting of Temescal Grange will be held at the Humboldt House, Temescal, Saturday evening, July 17th. The regular meeting was postponed on account of the meeting of Eden Grange at their hall in Haywards next Saturday, and to which all Grangers are cordially invited to meet the Master of the State Grange. By order of the Master of Temescal Grange.—NELLIE G. BARCOCK, Sec'y, June 27, 1880.

BUHACH.—One of the handsomest trade pamphlets we have ever seen is one lately issued by the Buhach producing and manufacturing company of Stockton, Cal. It contains an interesting account of the efforts of Mr. Milco, which resulted in the introduction of the true Persian insect powder plant to this State. It fairly bristles with testimonials from scientific and practical men as to the efficacy of the powder in insect destruction. We understand that the Buhach company is vigorously pushing its enterprise both in plantation and manufacture, and there seems reason to believe that the California product will rule the country ere long. J. D. Peters, the well-known grain dealer of Stockton, is Secretary of the Buhach company, and the main office is 154 Levee, Stockton, Cal.

A GARDEN SCENE.—The Royal Horticultural Society of England is holding exhibitions by aid of the electric light. We read: "Round the tall globes of the electric light in the gardens moths and other night-flying insects fluttered in myriads and did not singe their wings. The ducks woke up and swam about the ponds. The bright dresses of the ladies were reflected in the water, and there was a special illumination, after the style in vogue at the Giessbach Cataract, of the waterfall under Prince Albert's statue. From time to time, at a signal given by loud rockets, the trees were illuminated by lights changing rapidly from white to green and dying away in a glare of red."

THERE are 200 cases of small-pox in the hospitals in Dublin.

AGRICULTURAL NOTES.

CALIFORNIA.

CALAVERAS.

HARVEST.—*Cor. Chronicle*, June 26: The haying season is drawing to a close, and headers and reapers are now in demand, the heading of barley having commenced in this vicinity last week. The crop in this vicinity, especially late sown wheat, is much better than was anticipated three weeks ago. Your correspondent had a conversation with a neighbor a few days ago, who had purchased a ranch here last fall and consequently this was his first crop. Our conversation naturally turned to that subject and as he had previously expressed an unfavorable opinion regarding his wheat I inquired regarding it, prefacing my inquiries with the remark that an adjoining neighbor's crop looking much better than one would have expected. "Yes," was his reply, "crops in the chaparral do beat all creation on the home stretch." And that is nothing more or less than the truth happily expressed. About the time the land down below is dried out our crops begin to grow finely and as the weather is then quite warm they do indeed "beat all creation on the home stretch." I see several ranchers have set out fruit trees, grapevines, etc., which shows that they are here to stay, though it is a curious fact that some ranchers who have lived here from five to ten years have neither orchard nor vineyard on the place and must necessarily purchase all from the peddlers at an enormous high price. Fruit and grapes both do well in this section of country.

CONTRA COSTA.

GOOD WEATHER FOR GRAIN.—*Gazette*, June 26: The cool weather of the past three weeks has been as favorable as could be desired to promote the healthy growth and gradual maturing of the grain; and if the crops of our section do not turn out full weight and plump wheat, it will be from some other cause than unfavorable conditions of the weather; for little or none of the wheat in the district suffered materially from the hot weather and north winds during the latter half of May.

HUMBOLDT.

FERDALE.—EDITORS PRESS:—As I have seen nothing in the *Press* from our county lately, I thought I would drop you a few lines. We have had a very wet, cold spring, and must be satisfied with half a crop of grain. As soon as the rain was over, a cold north wind set in, baking and blighting nearly everything. We are a month later than usual on our clay bottoms, and some we have had to resow. We will have no fruit to speak of; the fruit trees are blighted very badly. This is a bad season for our dairymen. These north winds are shortening the feed very fast.—JAMES SMITH. [We shall be pleased to hear from our Humboldt county readers much more often.—EDS. PRESS.]

INYO.

THE BISHOP CREEK COUNTRY.—*Bodie Free Press*, June 9: Whatever business depression the mining communities of Inyo are suffering from, the fact does not appear to effect in the least the general prosperity of the farming country to the north of Independence. The productive lands, with abundance of water for irrigation, make Big Pine, Bishop and Round valley veritable oases in the vast desert of mining districts which surround. As a natural sequence, land is steadily increasing in value, and cannot help continuing to do so. During the present year many new farms have been placed under cultivation and much new land belonging to the older places broken up. At a safe calculation, in the three settlements named there are now at least 2,000 acres of growing grain in soil heretofore lying idle and unproductive. Good crops are considered almost infallible, and prices invariably high as compared with other localities in the State. Yet there never has been a season but that the market demanded more than was produced. Last year's crop has been cleaned out for some time by sales and seeding, and a leading merchant is importing wagon loads of grain from Los Angeles. The revival at Mammoth now seems a settled fact, thus for the present at least giving Round valley a splendid market, and at any event the products of our whole valley will not suffice to supply the demands of Benton, Bellville, Candelaria, Marietta, Columbus, Silver Peak, Palmetto, Lida or Deep Spring, not to consider any settlements liable to spring up in the mines at any time. Enterprising farmers are availing themselves of the Forest Culture and Desert Land acts in adding to their acreage of arable soil. Through the pluck and enterprise of the leading Big Piners, in all probability the coming fall and winter will witness the completion of the 24-mile ditch, which will add some 5,000 acres to the available land next year. On the west side of the river the two new ditches are already yielding handsome returns on the investment of labor and money.

KERN.

SMALL RANCHERS.—*Californian*, June 15: All the small farmers in the valley who have staid with their farms, worked perseveringly and repressed that desire for change, the roving disposition that is the ruin of so many in this State, are doing well. Some of them are evidently growing rich. Among these we might mention Messrs. Clark, Ellis, Barker, Hoke, Canfield, Stockton, Watson, and 50 others if space permitted. The farms of all these gentlemen are growing more beautiful and valuable

every year. Kern valley, taken as a whole, is now probably the loveliest portion of the State, and it is improving constantly in a most astonishing manner.

LOS ANGELES.

MUSTARD CROP.—Five hundred acres of English mustard were planted the past season at the new settlement of Forster City, on the Santa Margarita ranch, and produced a fine crop, having been sold on the ground at \$2.50 per hundred. This is a profitable crop which it would be well to introduce generally here.

WALNUTS.—*Commercial*, June 19: English walnut trees have not generally been considered very profitable here, owing to their light bearing, but it is to be hoped that 1880 marks the beginning of a new era in the cultivation of this tree. The trees in and around the city are now so loaded with fruit that branches are breaking under the weight. In some orchards, a crop of more than 10 times greater than last year is expected.

MENDOCINO.

WOOL TALK.—*Ukiah Press*, June 26: The interest in wool in this section reached its high last Saturday. The town was very animated. Buyers and sellers were numerous, and the wool receipts were quite heavy. The bulk of the clip in the region tributary has been disposed of, with the exception of Round valley's crop. The price ranged from 27 to 28½ cents, exceptional lots bringing 28½; one man claims to have received 29½ on Sunday. The aggregate sales are estimated at 100,000 lbs, and A. Marks and C. Hofman were the largest purchasers. On Tuesday and Wednesday the interest was transferred to Cloverdale. We are informed the average price there was 28½, with 27 to 30 as extremes. The buyer's combination had the advantage, and kept it. Wool has brought a good price; but growers have not realized their expectations, not what the demands of manufacture will justify.

MERCED.

EDITORS PRESS:—Grain is all fully ripe. Headers all round are trying to get through cutting, but much is over ripe and yet out of reach for weeks. Several combined headers and threshers also helping through. In harvesting every hand around is engaged—none idle who want to work. We have cool weather, occasionally light winds. Some grain is falling it is so ripe. Too much land occasions no small loss in trying to get at it.—M. J. O'B., Merced, June 23d.

MONTEREY.

SALINAS VALLEY CROPS.—*Index* June 24: During the past week, H. S. Ball, L. H. Garigus, S. M. Shearer and other buyers have been out among the grain fields of the Salinas valley, taking a look at the crop prospect; and they differ materially in their estimates of the damage done by the recent hot spell of weather and desiccating north winds. As yet it is only a matter of conjecture; but from the opinions of the experts, combined with the estimates of the farmers themselves, we do not believe that the wheat and barley crop of our valley will average more than half what it promised six weeks ago. Indeed if it does that, we may consider ourselves very fortunate. Some say that blight is the cause of the damage, while others maintain that it is lack of moisture in the soil; we are inclined to the latter opinion. In the southern portion of Monterey county—Indian Valley, Peach Tree, Cholame, San Antonio, etc.—the grain crop is splendid, better than has been known for many years past. Taken all in all, however, there will be plenty of grain raised in the Salinas valley this year and plenty throughout the State.

NAPA.

ST. HELENA NOTES.—*Cor. Register*, June 26: The vineyards continue to look well; grapes are now fairly set in most places and the prospects for a good crop remain unchanged and no fears are now entertained of any failure. Hay-making is almost completed, and the crop is good and large. Prospects are that hay will be quite cheap this fall. Grain is looking well and threshers are preparing for the summer campaign. The Winegrowers' picnic of last Saturday is the main topic of conversation, everyone expressing themselves as well pleased with it. The committee find that the receipts were enough to cover expenses and are congratulating themselves on the success of the venture which has given their business such a notoriety and impetus, and engendered so neighborly a feeling between all classes of our community.

NEVADA.

MAMMOTH STRAWBERRIES.—*Herald*, June 22: Felix Gillet presented this office yesterday with strawberries of his own raising, and from varieties introduced by him lately in California, that beat anything in that line we ever saw either in this State or elsewhere. Those strawberries were of the following varieties: Gloire de Zuidwyk (from Holland,) Rubis and Flora (from France). Their wonderful size, bright scarlet color and fine flavor make such varieties, we should think, quite desirable for market, as well as family use. Mr. Gillet, who has been experimenting on more than 60 varieties both from Europe and America, has acquired a name through this State as a successful strawberry grower, and for introducing and propagating on this coast such superior and beautiful kinds as those presented to this office.

PLACER.

LUMBERING.—*Nevada Transcript*: Mr. Voss, at You Bet, commenced sawing on the 3d of June. He has 30 men employed. The season

will be short, but he will make the most of it while it lasts. He will complete the new mill which he commenced last year on the south fork of Greenhorn creek, and remove the extra set of machinery which he has at the old mill thither. Before sawing much at the new mill he will be obliged to build a new road down via Red Dog to furnish an outlet for the lumber. This road will be several miles in length, and will cost \$3,000 or more to construct it. The grade will, however, be an easy one, and the splendid body of timber which it will open up will amply justify these expenditures.

SAN BENITO.

BITTERWATER.—Cor. Hollister *Enterprise*, June 18: Farmers are well satisfied with the crops in this valley. We had heavy frosts about the last of May that bit the crops and made them look like they were going to dry up, but they have taken a second growth, and from present appearances will average about eighteen sacks to the acre. Crops are about ripe, and heading has begun in the lower end of the valley. The hay crop has been heavy and the haying season is about over.

SAN DIEGO.

GRAIN AND HONEY.—*Union*, June 24: Yesterday we were shown by Mr. R. L. Wright some samples of wheat from Bernardo, which for weight and length of head exceed any before exhibited at this office. The "Propo" variety is truly a magnificent grain; the sample shown is said to be a fair average on 60 acres, which it is claimed will yield fully 40 bushels to the acre. Mr. Wright has recently returned from an extended trip through Poway, Bernardo, San Pasqual and Bear valley, and speaks in glowing terms of the prospects in that portion of our county. Harvesting is well under way, and farmers, without any exception, as far as seen and heard from, are jubilant at the outlook. Continued reports, even from this favored portion of our "back country," indicate a much lighter honey crop than was anticipated. Hardly one-half the yield of 1878 is now looked for, although the quality cannot be excelled.

SANTA CLARA.

CARP CULTURE.—*San Jose Mercury*, June 26: Capt. Fieldsted, who resides about 4 miles east of San Jose, in the foothills, is experimenting in carp culture, and with excellent success. He has a pond 40 by 80 ft. in extent, and 8 ft. deep, fed by a living spring. Last July he procured, at a cost of about \$50, 10 carp, then 4 months old, and weighing about 2 lbs. each. These fish have now grown to from 6 to 8 lbs. in weight, and his pond is thoroughly stocked with young fish. He intends to construct another pond about an acre in extent, and give the fish a chance to spread themselves. The beauty of the carp, for marketable purposes, is the rapidity with which it matures—a few months only being required to bring it into use, while the trout is of but little account before the second year. In all our hill ranges, where living springs and streams abound, fish culture for food purposes could no doubt be made profitable.

SANTA CRUZ.

WHEAT SAMPLES.—**EDITORS PRESS:** I send you a few wheat heads, to show you the condition of the growing wheat of Santa Cruz county. You will see by counting that these heads contain from 50 to 60 grains of plump wheat to the head. They are not ripe yet, but out of danger from rust, or the north winds, that are such a scourge to other counties. We are never troubled with them to any extent, and there is nothing to hinder our farmers from growing just such wheat here every year, only their own indolence. I plucked these heads from a field by the roadside that has been under cultivation for the last 30 years, continuously, and nearly every year in wheat. I do not think these heads much above an average among good farmers (if our best may be termed such), and no better than has been grown in this vicinity every year for the last seven years—the time that I have been acquainted with this county.—M. P. OWEN, Soquel, June 26th.—[The specimens are very good, indeed.—EDS. PRESS.]

SONOMA.

LOSS OF SHEEP.—*Healdsburg Enterprise*, June 24: Since stock men commenced shearing this spring we have heard considerable complaint about missing sheep. In some instances the percentage of loss has been large, and several have sought to account for it upon the hypothesis that their sheep have been stolen. It seems improbable that this should be the case, as no one could successfully run off bands of sheep from ranches all over the county without detection. Last spring Monroe Jeter remarked to us that the cold weather was killing many more sheep than ranchers had any knowledge of, or would admit; he said he found carcasses in the most out-of-the-way places, the sheep being driven into the chemical to pick for a living, owing to the snow on the open ground. It begins to look like Mr. Jeter's views were sound. W. H. Gordon says that from a flock of 630 he lost 260, and yet has not been able to find more than 100 carcasses on his ranch.

SHEEP ROT.—*Flag*, June 24: Young Bros. & Cagwin, extensive farmers and sheep raisers in Alexander valley, seem to be peculiarly unfortunate with their flocks. Mr. Michael Young, who came in the other day for a lot of copperas to give to the sheep in their feed, informed us that they had lost 60 head since shearing, and that the mortality was hourly continuing. There was no apparent suffering, the animal first drooping a little and then dropping suddenly dead. Upon examination it was found that the

lights, liver and gall were infested with what is here called the leach—a worm resembling the regular water leach (or blood-sucker), ranging in size from infinitely small to six inches in length. The disease affected Ira Proctor's sheep last year; but milk weed was supposed to have carried off the Young sheep same season. The presence of the leach is attributed to the wet bottom land, on which the sheep have been ranging. We are curious to know about the effects of the copperas.

THRESHERS' COOK-HOUSE.—*Santa Rosa Republican*, June 24: The threshers' cook-house, which is being built across the way on wheels, to accompany a party to the plains, we think would be commodious for a camping expedition. There is ample room in it for beds, chairs, tables, books and all the paraphernalia required for a large party. Like Mrs. Jarley's wax-work shows, it will perambulate the country over, stopping by the way long enough to set up the big thresher and winnow the grain from huge ricks, while the hungry men will dine in the grateful shade of its canvas, and sleep in the straw piles.

HOW MUSTARD CAME IN.—*Flag*, June 17: Sixteen years ago when Martin Hooten broke the sod on what is now Healds Addition, there was not a blade of mustard anywhere to be seen. Some years after, a large band of sheep was allowed to pasture there, when several of them were killed by dogs. The carcasses were allowed to decay where they had fallen, and the next spring those spots were found covered with mustard. No steps were taken to eradicate it, and, as a result, the fields in that neighborhood are almost eaten up with it.

SECOND CROP GRAPES.—*Cor. Sonoma Index*: One ton of second crop Zinfandel grapes makes as much wine as a like quantity of first; and the wine makers almost invariably mix them together, thus receiving as much for one as the other, when the wine is sold. It has recently been discovered by wine experts in San Francisco that second crop Zinfandel wine, properly manipulated for two years, acquires a bouquet which is far superior to any other claret which we have as yet produced in California.

SOLANO.

FLAX.—*Republican*, June 25: L. Provost has about 300 acres of flax planted out on the plains. The prospect is favorable for a fine crop. We understand that he has a contract to sell all the flax he can raise for the next five years. Mr. Provost is one of the large farmers of the plains. He is pushing, energetic, and successfully handles considerable harvesting machinery besides.

THE SUNNY SIDE FARM.—S. S. Drake has his new half-mile track on the Sunny Side Farm, near Vallejo, completed and in prime order. He is the owner of the thoroughbred horse "Admiral" and is exercising a number of his colts on the track, preparing them for the two-year-old stakes this fall. He also has a three-year-old stallion by "Irwin Davis" out of an inbred Patchen, which moves grandly and promises to be a speedy trotter. The Sunny Side Farm is one of the model farms of this county, and has the finest stud of horses. It is all under the highest state of cultivation. Mr. Drake is raising the Snowflake, the white Genesee and the Danish varieties of wheat which promise well. The Danish wheat is a late variety which he has never experimented with before, but it is coming out all right. It does one good to examine his stock, and note the convenience of this model farm.

STANISLAUS.

WORKERS AND NON-WORKERS.—*News*, June 18: The harvest season has brought to our town a great number of honest, transient laboring men, seeking employment. Among the influx, as is naturally to be expected, is a large per cent. of the dissolute and vagrant classes, who follow the crowd of honest workmen, and in disguise seek to pilfer and steal their living. We are pleased to note, however, that our officers have a happy faculty of separating the good from the evil disposed, and will give no rest to the wicked. Among the other remedies the Sheriff is pushing, is the recommendation to the Board of Supervisors for a chain-gang. Every good citizen should aid the officials in efforts to curb the wickedly inclined that will flock to our county during the rush of a heavy harvest.

HARVESTING.—*News*, June 26: It may be said that the harvest season pretty fairly opened in this section the present week. The West Side farmers as is usual, however, began work some two weeks ahead of this locality. As a rule their grain ripens that much in advance of this locality.

YOLO.

HARVEST WAGES.—*Democrat*, June 26: The standard price in the county for heading and threshing is \$2 per day and board. Except in a few instances where the work is exceptionally hard, this is the maximum price paid anywhere in this county. We are informed on good authority that in Sacramento county \$1.50 per day is the established rate this year for header hands, and plenty of men can be secured at that price. Two dollars a day, and steady work, is all that can be reasonably expected, and it certainly is all the farmers can afford to pay.

GRAIN.—W. B. Gibson's grain, on the Faris and Wilcoxson ranch, about five miles west of Woodland and running back from the road to Cache creek, embracing a good many hundred acres, promises a splendid yield. A sample of club wheat from the north side now in this office is worth seeing—as plump and nice as we have ever seen.

GARDENING.—The farmers and vegetable growers on the Sacramento river in this county have labored under great disadvantages this season on account of back water from the tules and seepage water from the river direct. What crops the vegetables will yield will come in so late that the market will be glutted with similar produce from other portions of the State.

NEVADA.

A HAIRLESS HORSE.—*Reno Gazette*, June 15: One of the natural peculiarities of this country is an alkali grass which takes all the hair off of an animal. It is found on some places on Steamboat creek south of Mrs. Gates' ranch. A horse or cow that runs there a month or so loses every bit of its coat. An old horse that has been running there has haunted the Virginia road in the vicinity of Brown's station a week or so. He is not quite naked yet, but soon will be. A little hair sticks on the side of his neck, a few stragglers around the root of his tail, half a dozen in one ear, and a few other spots remain. His stumpy tail is as bare as a billiard ball, and looks like the butt end of a leather whip. The mane is all gone and the heavy skin stands up a corrugated ridge. The skin is brown and looks like that of an elephant. A hairless horse is a funny looking beast.

Grading Wheat.

EDITORS PRESS:—Your last issue contains a communication over the letter "F," censuring the thresherman with the use of self-feeding threshers and the derrick forks as the whole cause of foul wheat in the market. If you will allow me space in your valuable paper, I will say a few words in defense of the thresherman and his modes of working.

The derrick fork, properly used, will save more clean grain from the stack bottom than can possibly be saved with hand forks, scoop shovel and hand rake. This is its chief merit, and this was claimed by the farmer in its early introduction, because it would not thresh out the grain in passing it to the tablemen, as hand pitchers would in passing it from one to the other; and if loose grain was thrown into the stack from the header beds (as a majority of farmers do), the derrick fork would take it clean to the tablemen. So there would be no more loose grain on the ground at the bottom of the stack than was there before the stack was made. When the farmer takes any care in preparing his stacking floor, there need be no dirt nor gravel taken up by the derrick forks.

I make the broad assertion, and I believe that the majority of intelligent farmers and threshermen will bear me out in it, that, notwithstanding the derrick fork is a great labor-saving implement, the main reason for its universal use is the fact that more clean grain can be saved from the threshing floor. I do not deem it necessary to offer argument in support of the above, as the majority of your readers to whom it will be of interest know and will judge for themselves. I would suggest, however, to "F," another method for keeping the 5 lbs. to 20 lbs. of dirt out of each fork load. Instead of stopping the derrick fork and taking up the bottom of the stack with hand forks, prepare a smooth floor for stacking and threshing, carefully removing all lumps of dirt, sticks, gravel and rocks. If practicable do this in winter, making it as smooth and hard as possible; keep the vegetation from growing upon it, or shave it smooth with a sharp shovel or other implement, and sweep it very clean before depositing his valuable harvest. I would further suggest that he use a derrick fork and make his stack high, not spreading his crop over so much of his poorly plowed ground, stubble and sometimes uncut wheat. If he will do this he need not watch the threshermen at all, but will have more time to see that the mangers are well filled with hay, that the cook has suitable provisions prepared on time, that the men are taken to and from their meals, and the thresher supplied with sacks, thus avoiding delay. While he is doing this he will not hear those "booms" in the cylinder, caused, he says, by the self-feeder; he will be in better humor and treat his threshermen with proper respect. The thresherman in turn will exercise his best skill and vigilance to do good work for him.

The self-feeder, undoubtedly, can feed more than a threshing machine can properly separate, but it can be as easily regulated to the proper and even supply as can be done by hand, provided the same quantity of grain is to be handled, and will do equally good work.

It is well understood that any machine, to give satisfaction at all times, must be regulated somewhat below its greatest capacity, and be capable of a certain range of quantity either above or below the average; the average should be that quantity that will give the best result.

I think it but justice to the leading importers of agricultural implements, and the home manufacturer, improvers and inventors, to say that they have spared no pains nor expense in bringing the threshing machine, as well as the feeder and its regulator, to the highest state of the art. No American manufacturer to my knowledge, has made any effort to produce a thresher and separator combined that will grade the grain, except in a very limited way. Several grain separators, manufactured in this State, and run as attachments to threshing machines, I am informed, give satisfaction where they have been tried.

It would be an easy matter for a competent

manufacturer with sufficient capital to combine these machines to not only separate the wheat from the straw and chaff, but to separate the oats and barley or other foul seed from the wheat, even the straw from the chaff, and the large berries from the smaller and shrunken ones, as is done by some of the English machines. But it is most unreasonable to expect the wheat to be graded by the threshing machines now in use, either with or without derrick forks and self-feeder. They were not intended to do that kind of separating, neither were the derrick forks.

In my opinion the grain dealer and warehouse men are proper ones to inaugurate this reform. Let them do away with the sacking system; handle the grain in bulk, build warehouses with elevators and suitable grading machinery, and employ skilled men to do the grading. Grain can then be graded as exact as the demands of the trade require.

THRESHERMAN'S FRIEND.

News in Brief.

A MACHINE for making pies has lately been patented.

ST. LOUIS finds from the census that her population is only 375,000.

It is thought the census will give four more Congressmen to Nebraska.

THE census just taken of Boston shows the population to be about 351,000.

THE annual conference of the Mormons will begin at Salt Lake city July 3d.

THE census of Chicago indicates that the population of that city is about 475,000.

THE work of repairing the old Mission of Carmelo, Monterey, is to be commenced.

RUSSIA is thinking of making the duty on iron so high as to be practically prohibitory.

ROME spends \$200,000 on its public schools, of which 10 years ago it had none at all.

LARGE quantities of wild strawberries are being brought into Olympia, W. T., by Indians.

THE North Palouse river of Washington Territory is capable of furnishing an unlimited water-power for manufacturing purposes.

THE German Bundesrath refused to entertain a petition for the reintroduction of silver currency.

ONCE again the British House of Lords has rejected the bill to legalize marriage with a deceased wife's sister.

ONE of the Indians lately killed in Grant county, New Mexico, had over \$400 in greenbacks on his body.

OF the 599,986,000 acres of land in our Territories, exclusive of Alaska, 489,538,000 have never been surveyed.

THE Duke of Bedford's remissions to his agricultural tenants during the last 18 months amount to over £100,000.

THE central shaft of the Hoosac tunnel has caved. It is estimated that two days will be required to clear the wreck.

THE deficit in the Postoffice Department for the fiscal year of 1879 was \$3,407,916, which is less than any year since 1866.

THE Supreme Court of Nevada has decided that stock-owners are not responsible for the damage done on unfenced lands.

SHAD are being found in larger quantities near the mouth of the Columbia each year, and will no doubt become a staple article.

THE officials of the Agricultural Department say that the prospects are good this year for a large consumption of American wines.

AT Port Wine, Sierra county, June 2d, the snow was eight ft. deep on a level, and in the ravines and canyons it was much deeper.

AT Arivaca, Arizona, a rattlesnake was recently killed which measured 7½ ft. in length, 13 inches in circumference and had 29 rattles.

A LARGE buck was recently killed on Sonoma mountain. He weighed 700 lbs. when dressed, and his horns have seven points each.

RECENTLY the Russian floating battery *Krem-lin* came in collision with a Danish steamer in the Gulf of Finland, and was seriously damaged.

AT the beginning of the present century there were 3,000,000 copies of the Bible in existence; since then 116,000,000 more have been printed.

It is mentioned that the value of the diamonds exported from the Cape last year amounted to over three and a half millions sterling.

A MAN who firmly believes that a second flood will come next November to cover the whole face of the earth is building an ark at Helena, Texas.

THE accounts of last year's vintage in France are very bad. In the claret district no vintage in this century is remembered to have yielded so little.

A REVENUE posse, in attempting to capture moonshiners near Red Oak, Ga., were resisted. One moonshiner was killed and one mortally wounded.

A HORSE was driven upstairs into a drawing-room at Milton, England, but refused to come down again, and a part of the wall had to be taken out and the horse lowered by a steam crane.

THE steamer *City of New York*, of Alexander's Havana line, caught fire while lying at Brooklyn dock, June 24th, and burned to the water's edge.

AN inventor has patented a car that runs on skates instead of wheels, and is especially intended for elevated railroads. It runs on grooved rails.

A NEW society, "The Confraternity of the Holy Trinity," has been founded by the Spanish Jesuits for the express purpose of opposing the influence of Freemasonry.



How the Bell Rang.

July 4, 1776.

There was tumult in the city,
In the quaint old Quaker town,
And the streets were black with people,
Facing restless up and down;
People gathering in corners,
Where they whispered each to each,
And the sweat stood on their temples,
With the earnestness of speech.

As the black Atlantic currents
Lash the wild Newfoundland shore,
So they beat against the State House,
So they surged against its door;
And the mingling of their voices
Made a harmony profound,
Till the quiet street of Chestnut
Was all turbulent with sound.

"Will they do it?" "Dare they do it?"
"Who is speaking?" "What the news?"
"What of Adams?" "What of Carroll?"
"Oh! God grant they won't refuse!"
"Make some way there!" "Let me nearer!"
"I am stifling!" "Stifle then!"
When a Nation's life's at hazard
We've no time to think of men!"

So they beat against the portal,
Man and woman, maid and child;
And the July sun in heaven
On the crowd looked down and smiled.
The same sun that saw the Spartan
Shed his patriot blood in vain,
Now beheld the Soul of Freedom,
All unconquered, rise again!

So they beat against the portal,
While all solemnly inside
The delegates of Congress,
With but reason for their guide,
O'er a simple scroll debated,
Which, though simple it might be,
Should shake the cliffs of England,
With the thunders of the Free!

At the portal of the State House,
Like some heacon in the storm,
Round which waves are wildly beating,
Stood a slender, boyish form,
With his eyes fixed on the steeple,
And his ears agape with greed
To catch the first announcement
Of the signing of the deed.

Aloft in that high steeple
Sat the bellman, old and gray;
He was sick of British power,
He was sick of British pay;
So he sat with lean hand ready
On the clapper of the bell,
When signaled from the portal,
The happy news to tell.

See, see! the black crowd shivers
Through all its lengthy line,
As the boy upon the portal
Looks up and gives the sign;
And straightway at the signal
The old bellman lifts his hand,
And sends the good news waking
Iron music through the land!

How they shouted! what rejoicing!
How the old bell shook the air,
Till the clang of Freedom ruffed
The calm gliding Delaware!
How the boufies and torches
Illumed the night's repose!
And from the flames, like Phoenix,
Slaughtered Liberty arose!

The old bell now is silent,
And hushed its iron tongue,
But the spirit it awakened
Still lives forever young;
And while we breathe the sunlight
On the Fourth of July,
Let us not forget the bellman,
Who, betwixt the earth and sky,
Rang out our Independence,
Which, please God, shall never die!

Farm House Chat.

[For the RURAL PRESS by MARY MOUNTAIN.]

"Our Campers"—a party of friends from the city—have come and gone, and we have all had a most delightful visit. Some of them were seasoned veterans, well taught and toughened by many a camping raid among the gloomy gorges of the Coast Range from summit to seashore, and whose adventures among the wilds of Bolinas, and the rocks of the wind-swept Farallones will help to fill a mighty volume whenever they get ready to tell the whole story of it, and, like Mrs. Brasscy, give the world a hook.

They were five days coming from San Francisco, resting the third day in camp, and by the time their tent was pitched at the head of our pretty ravine, the rawest recruit was well up in the duties and pleasures of camp life, foraging, eating and sleeping as heartily as any young Modoc. The getting ready was pretty good fun, and at first they thought an old milk wagon would do for the journey, but it had no top, and everybody knows that a camping wagon must have a top.

So Uncle Haunibal as he went back and forth to his business kept an anxious eye out for umbrellas, and when he found the biggest one in the city he bought it and took it home. How they all laughed and declared it would be a splendid top and a splendid tent, and the girls all wished they could go, for it was going to be a great deal jollier than "The Bodleys on Wheels."

But cousin Dave, whose business takes him all over the city, was also keeping an eye out, and he soon discovered that the great Pacific Tea Co. had a nice winter wagon stored away in summer quarters with nothing to do. It was built for strength, and the top was ornamented on each side with immense letters so that the whole world could read and understand the business of the wagon.

There is nothing that cousin Dave has a sharper eye for than a wagon, unless it is the horses that are hitched to it; and as soon as he thought of his veteran Grant, and the young colt Blaine, he knew they were just the team for it, and so he hired it for the trip, and that is the way the girls got the big umbrella for a garden house.

It was a terrible thing to do, but at first they concluded not to take any of the children.

The wagon and the men were very heavy to begin with—but the men could walk up the hills. And there was the tent, the hedding, the groceries, the women, the camp kettles, the great baskets of cooked food, an immense bag of oats for Grant, and a full sack of barley for Blaine that alone weighed as much as two or three children.

I hate to think how these children must have felt, but they are in capital training and never made a fuss as long as they were served alike. Just at the last it was found that there was a little space on top of the luggage, and word was given out that the boys might go; for, as Aunt Carrie said, they could hold on like monkeys and walk up all the mountains; and then, with the boys to help, they would soon eat up the load and have plenty of room.

You can well believe that those boys were just as ready as though they had been fixing a month; but it is not nearly as handy with girls, especially after they are in their teens and full of worries about hat trimmings, dresses and hair ribbons, to say nothing of ulsters and the right sort of veil to travel in.

And the very best of girls can hardly rejoice to be left in a lonesome big house, while fathers, mothers and boys go camping in all the glory of a "Great Pacific Tea Co.," and little Lottie F. lifted up her voice and cried as though her heart would break.

But in a few minutes she choked down her tears, and remembering what she wanted most, said that if mamma would give her money enough to buy a parasol and 10 cents for candy to eat with Della Bangs, she would go right over to Della's house and not see them start for fear she would cry again.

So this young philosopher took her sorrow out of the way, and all was serene as the G. P. T. rolled out of Tyler St., and away to Grove to take in the rest of its load and passengers, then merrily down the hay and among the hills to Crystal springs for the first night in camp.

Eleven years ago when we were looking for a farm to buy, we went to Crystal springs, and found it a pretty, lonesome spot, subject to sudden swoopings of dark, cold fog that would chase the warm sunshine out of the brightest noonday and lash the little valley with chilling gloom. So we did not buy it and our campers say it remains to-day just the same; a wild, pretty, neglected spot. Of the following days and nights I heard many scraps of description, all more or less jolly but decidedly mixed.

There was the Half Moon Bay region and so along down, with oats growing all up the sides, potatoes flourishing on top, and great, beautiful fields of flax that made a glorious effect in the landscape, and little Sothersides could only cry out, "Well, I should say! Isn't this better than N. England, mamma?" Somewhere along the way is the house of the Portuguese where the census taker found one of our camping ladies sitting at ease upon the door step, and with brisk, official zeal proceeded to put her in his books as the wife of the astonished proprietor of that thriving potato patch.

At Strawberry beach they were just in time to find plenty of the ripe, wild fruit and gathered quarts of it, bringing some along, so that we had the pleasure of seeing for the first time some of those very qucer strawberries that flourish on the sandy beach. In complexion and flavor they are quite different from our garden fruit or the wild berries of the field.

Sunday night found our friends on Laguna creek at the foot of Ben Lomond; and led by delusive reports of a "short cut," and a "new road with a good grade," they scaled those breezy summits and came dropping down to Felton, in the bed of an ancient creek that had never dreamed of a grade, but just hurried along on the go-as-you-please plan; and those gallant roadsters, Grant and Blaine, had a chance to show their good horse-pluck and wonderful courage.

At Felton they had the pleasant surprise of meeting familiar faces from the city among the campers there, but the boys, fresh from their rough trip, looked scornfully upon that luxurious style of camp life. "Why auntie, they have spring beds and chairs and a Chinese cook, and I don't think that's much camping." It was only the first night, when they arrived too late to pitch their tent, that they would accept a prosy bed in a house as a poor substitute for the fragrant wide bed of hay with plenty of blankets and only the tent cloth between them and "all out of doors." After a week of such jolly neighbors we are heartily sorry to see them driving off, and hope this will not be the last time our city cousins will come camping to Springvale Farm.

I have heard that the city visitors this year are stopping among the hills and valleys more

than ever before, and that fashion does not set so strongly toward the sea beaches and bath houses. Very likely the cool weather accounts for this, and July and August will bring the usual rush for the sea.

Camp Capitola, at Soquel beach, is very nicely fitted up to accommodate camping parties and for hoarding such plain people as do not care for luxurious surroundings. Whole wagon loads of farmers come there with wives and children to rest after harvesting, and have the benefit of change and sea bathing, and it costs very little more than to live at home. There are several other sea-side camps where health-seekers from the interior can hardly fail of finding pleasant company and free access to all the good cheer of sensible people who bring their old clothes, leave dull care behind, and, "with no nonsense about them," just go in for a jolly good time.

The Farmer's Life.

EDITORS PRESS:—With all the blighting influences of the season, plenty for man and beast will be found to exist throughout the State, and there will be a surplus for hungry Europe and starving Ireland. If we are visited now and again with blighting winds, we have escaped the "cyclone" which has devastated many portions of other less favored States. Terrible, indeed, must be their power and destructiveness. Our soil and climate are so varied that it is almost impossible for a universal harvest catastrophe to occur. The foothills are at their best in dry seasons, when the great plains have to suffer. In wet seasons, such as we have passed through, the foothills, in the higher regions, are at their poorest. Change and chance seem written on all earthly endeavor: Health and wealth to-day—poverty and sickness to-morrow—teaching us a lesson of humility and contentment with whatever lot fortune may decree.

The farmer has much to be thankful for, and also much to give anxiety. A permanent home, with the means of producing and procuring home comforts, is something beyond the mere inheritance of wealth. The wealth of health and a mind free from the aches of business chances, is something which cannot be purchased by money, or adulation from political preferment. The concentration of family endeavor is a daily pleasure. The simple strength-giving viands renders life enjoyable. The growing herds, the waving grain, the crowing of the rooster, the bleating of the lambs and the affection of the pet horse, are all daily reminders of duty; companions in the daily round of ministering to life's necessities, and an ever-present reminder of obligation and enjoyment.

The cup of bliss is running over when harvest is ending, the barns full, hills all settled, winter well provided for and the family carriage well filled as it wends its way to the school-house and church.

Can you witness such peaceful pastoral scenes without thanking nature's God for agricultural life, with its attendant blessings? Grand in its productive results, virtuous in its healthful tendency, pure in its workings with nature and nature's God, free from the temptations and snares which surround the man of business. No widows weep for their oppression, but many bless them for bread. The product of God's acres is ever a joy to producer and consumer, and well would it be for humanity if more were numbered amongst the producers, and fewer drones in nature's hive, as now.

JOHN TAYLOR.

Mt. Pleasant, June 21st.

CARE OF THE HANDS.—A writer for an Eastern exchange says: It does not follow that hands which look the worst do the most work; but it may prove that the hands have been treated carelessly, and I might say, cruelly. For instance, when a woman plunges her hands into hot water till they look like holed lobsters, or taking hold the handles of hot kettles, or flat-irons, causing them to become like some people's conscience, "seared as with a hot iron." How it looks to see a well-dressed lady, with hands all scratches, burns, or scars! I have wondered if they did not almost wish they could take them off and leave them at home whenever they went in company. Have plenty of soft, thick holders near the stove to take hold of the handles of kettles or pans. Keep a pair of gloves near your sun-bonnet to bring in wood, work in the garden, or to put on when you sweep, that your hands may not become callous. If they are liable to chap, use plenty of glycerine, or wash them in vinegar, and when you sit down to your sewing, and your hands feel like a nutmeg grater, rub them with camphor, and it will make them feel so soft and pliable that you will be enabled to handle the finest of fabric without its adhering to your fingers. If you are troubled with salt rheum, use juniper tar soap, which is an almost infallible remedy. Keep a bottle with a few cents' worth of oxalic acid dissolved in it, and marked poison, somewhere handy, and when there are fruit stains, or you have been coloring carpet rags or old garments, use a few drops on the stained parts and they will soon disappear. If you are in the habit of scraping the pans or kettles with your finger nails, don't do it—never again; but keep an old knife for that purpose. Sisters, take good care of your hands for your husband's sake, for your own sake, for your comfort and your convenience.

What We May Come To.

Proctor, writing in his latest volume—"The Flowers of the Sky"—remarks: It is no longer a mere fancy that each star is a sun—science has made this an assured fact, which no astronomer thinks of doubting. We know that in certain general respects each star resembles our sun.

Each is glowing like our sun with an intense heat. We know that in each star processes resembling in violence those taking place in our own sun must be continually in progress, and that such processes must be accompanied by a noise and tumult, compared with which all the forms of uproar known upon our earth are as absolute silence. The crash of the thunderbolt, the bellowing of the volcano, the awful groaning of the earthquake, the roar of the hurricane, the reverberating peals of loudest thunder, any of these, or all combined, are as nothing compared with the tumult raging over every square mile, every square yard of the surface of each one among the stars.

He proceeds to describe, with considerable circumstantiality, the two appearances witnessed in the heavens within the last few years—that in 1866 when a tenth magnitude star in the constellation of the Northern Crown suddenly shone as a second magnitude, afterward rapidly diminishing in luster; and that in 1876 when a new star became visible in the constellation Cygnus, subsequently fading again so as to be only perceptible by means of a telescope.

After noting the conclusions deduced from the application of the most improved instruments to these observations, he remarks:

A change in our own sun, such as affected the star of Cygnus, or that other star in the Northern Crown, would unquestionably destroy every living creature on the face of this earth; nor could any even escape which may exist on the other planets of the solar system. The star in the Northern Crown shone out with more than 800 times its former luster; the star in Cygnus with from 500 to many thousand times its former luster, even if we take the highest possible estimate of its brightness before the catastrophe, or consider that it may have been very much brighter. Now if our sun were to increase tenfold in brightness, all the higher forms of animal life, and nearly all forms of vegetable life, would inevitably be destroyed on this earth.

A KITCHEN PHOENIX.—Last Tuesday morning Mrs. J. Karmenlenski of Tehama lit a fire in the kitchen stove to prepare breakfast. The stove containing nothing but paper and kindling, she stepped to the back porch to get some heavier stove wood, and returning, raised one of the lids to place the wood in the stove, but as soon as the lid was removed, a Robin Red-breast flew out of the flames into her face. The fact of a bird rising suddenly from the flames startled the lady so that for a moment she was perfectly dumfounded. After recovering her presence of mind, she looked around to see whether the mysterious visitor was a myth or a creature of the imagination; but sure enough there the little fellow was flying rapidly around the room, apparently uninjured by his confinement to the flames. The lady did not know but what, like the Phoenix of Grecian mythology, it had arisen from its own ashes. The little warbler was finally let out and flew away to rejoin his companions. How the bird got in there is not known. There had not been a fire in the stove for over 15 hours. It is possible that it came down the stovepipe during the previous afternoon or evening.—Tocsin.

BISMARCK.—The Chancellor of the German empire is unquestionably the most astute politician of our time. But he differs in one important particular from the current type of the European diplomatist. The Metternichs, Gortschakoffs, Beusts, et id omne genus, with all their imitators big and little, look on diplomacy as a sort of legerdemain, or, perhaps we should better say, as a game of cards, where the player must under no circumstances "show his hand." The diplomat must use language to conceal his thoughts, and he must never commit himself to anything. But Prince Bismarck has repeatedly proclaimed his purposes in advance with the greatest candor. As for his fellow diplomatists of other governments, they have never yet grown accustomed to the great Chancellor's frankness, and still persist in reading only between the lines of his manifestoes. The reader who is curious to obtain an inside view of Prince Bismarck's character as the genius of Statcraft, will find much to interest him in a paper contributed to the *North American Review* for July, by the great Chancellor's Boswell, Moritz Busch, entitled "Bismarck as a Friend of America and as a Statesman."

OUR GREAT WANT in social life is a deep and wide sympathy. This it is which enables us to see with another's vision and to appreciate another's instinct. Without merging a particle of our own individuality, we may so fairly put ourselves in the place of our friend as to feel how natural it is for him to speak or to act as he does. Sympathy like this is the only true preventive of those clashes and discords which mar the happiness and sully the purity of friendship.

Young Folks' Column.

Grandpa's Barn.

Oh, a jolly old place is grandpa's barn,
Where the doors stand open throughout the day,
And the cooling doves fly in and out,
And the air is sweet with the fragrant hay;

Where the grain lies over the slippery floor,
And the hens are busily looking around,
And the sunbeams flicker, now here, now there,
And the breeze blows through with a merry sound.

The swallows twitter and chirp all day
With fluttering wings, in the old brown eaves.
And the robins sing in the trees which lean
To brush the roof with their rustling leaves.

O, for the glad vacation time,
When grandpa's barn will echo the shout
Of merry children, who romp and play
In the new-born freedom of "school let out."

Such scaring of doves from their cosy nests,
Such hunting for eggs in the lofts so high,
Till the frightened hens, with a cackle shrill,
From their hidden treasures are fain to fly.

Oh, the dear old barn, so cool, so wide!
Its doors will open again ere long
To the summer sunshine, the new mown hay,
And the merry ring of vacation song.

For grandpa's barn is the jolliest place
For frolic and fun on a summer's day;
And e'en old Time, as the years slip by,
Its memory can never steal away.

—Harper's Young People.

The Ragamuffins and General Washington

In the month of October, 1789, Gen. George Washington, who was then President of the United States, and residing in New York City, made a tour, attended by his secretaries, Messrs. Lear and Johnson, to the States of Connecticut, Massachusetts and New Hampshire.

History tells us how in every part of the country through which he passed the citizens embraced the opportunity, then offered to testify their respect, and even veneration for this man, in whose character whatever was great and good, whatever dignified and adorned human nature, was so bappily blended.

Whenever he approached a town or village the roads were lined with the inhabitants who had turned out to bid him welcome; and, in many instances, was escorted by local companies of militia from point to point.

The whole community was now wrought up to the biggest pitch of excitement in regard to the presence of the distinguished visitor, and hardly anything else was talked of in the towns and villages through which he was to pass.

Esquire Samuel Dunton came home from a trip to Norwich to Willington, a little township nestled among and almost hidden by the hills of eastern Connecticut, and set all the men, women and children into a blaze of enthusiasm with the news that the Presidential party were to pass over the Hartford and Providence "turnpike," and would arrive at a point in the south part of Willington, near Mansfield, at about 11 o'clock the next forenoon.

The Willington folks immediately set about organizing a company to go down and join the Mansfield people in giving Gen. Washington a suitable reception.

Of course there were plenty of wide awake girls and boys who wanted to go with the older people and get a glimpse of the great man; but in those days children were taught that they were "to be seen and not heard," and on all important occasions were kept rather in the background.

The October morning opened bright and beautiful, and the Preston family at the tannery were early astir, and with their neighbors, the Holts, the Westons, the Allens, the Pearls and the Duntons started in the early rosy morn, in holiday array, down the woody Mansfield road.

A group of eager, active, bright-faced boys were gathered on the bridge to see them off. They watched the cavalcade, men and women all on horseback, each horse carrying a man with a woman behind him on a "pillion," until it disappeared in the gray mist rising over Fenton river.

There were a few moments of silence and the lugubrious faces of the boys were growing longer and longer over their disappointment, when Timothy Pearl, the oldest and most darling of the group, said:

"I'll tell you what it is, boys, if Gen. Washington is to pass so near to us to-day, I intend to get a sight of him. Esquire Dunton said he'd likely be along down on the cross-roads about 11 o'clock. I'm going to run away down to the turnpike. How many of you will go with me? If we go 'cross lots and run down all the hills, and step pretty spry the rest of the way, there's no doubt that we can get there in time to see him."

Half a dozen of the boys caught off their hats and, swinging them high in the air, gave three rousing cheers for General and President Washington. Little eight-year-old Amos Preston jumped up and down, swinging his tasselled hat and shouting as enthusiastically as his older comrades. When, with a "one, two, three!" start, they were off with a leap-frog jump, they found him bringing up the rear.

"Amos, you can't go!" Zebadiah Marcy shouted back at the little fellow; "your legs are too short!"

"Try me and see," said Amos, stoutly. "I think it's too bad if Gen. Washington is to come so near and I not see him, as well as the rest of you. I want to see him just as much as if my legs were longer!"

"Let him go," said David Glazier, who was only a little older than Amos, but very much taller. "He's a pleasant little fellow, and never complains nor whimpers when he is tired. We big boys can give him a lift if he tuckers." And reaching out he took Amos by the hand and the boys started once more.

Away they went, striking out across the fields and woods gay with the variegated leaves, not stopping to disturb the squirrels laying in their store of nuts, nor taking time to pause in the shadowy orchards to fill their wide pockets with the fragrant fruit that lay thickly strewn on the turf. First one and then another of the boys took Amos by the hand for a run, or to help him jump over the huge fallen trees or the brooks that intercepted their way.

Just before the boys came upon the turnpike, they paused under a group of maples to take breath.

"How like ragamuffins we do look with our old clothes on, and they all so torn and muddy!" said Zebulon Crocker. "What will the General think of us if he should happen to spy us?"

"Let's trim ourselves up," said little Amos. "Here's lots of bright leaves; and there's a thorn bush with plenty of thorns to fasten them on with."

"Sure enough, and well thought of," said Elijah Elbridge. "Amos knows a thing or two if his legs are so short."

When the boys again resumed their running march, decked out from head to foot with the golden and scarlet leaves, they presented a fantastic sight, indeed.

"O see, see! hurrah, hurrah, HURRAH!" shouted Jeduthun Rice, as the tired company of boys reached the crest of a hill that overlooked a wide expanse of the section that embraced portions of the towns of Ashford, Willington and Mansfield. And away in the distance, coming down the Ashford hills, the excited group saw a long line of vehicles, among them two large coaches-and-fours, preceded by a company of militia, their muskets glistening in the sun, occasionally a strain of martial music reaching the erect ears of the Willington boys.

Soon they emerged into the highway; and when they came to the turnpike which intersected it and made what was known to the "Cross-roads," they found the Presidential party had alighted and were resting under the shadow of an immense oak tree near by.

There was quite a crowd of people gathered about Gen. Washington and his party, and at first our rather venturesome boys thought it would be impossible for them to get a sight of the great man, but they perseveringly edged their way along, and at last reaching the large coach in which the General rode, and upon the box of which sat the liveried and pompous negro driver, boy-like they edged in under it and found themselves in the immediate vicinity of Gen. Washington.

The slight movement that the coach horses made as the boys ensconced themselves beneath the vehicle, caused the General to look around for the cause of the disturbance, and presently he was looking into the sweaty, dusty faces of these fantastically garlanded boys.

A quiet smile lighted up the President's countenance as he pleasantly said:

"Come out, boys, and let us see what you are."

The boys scrambled out and with admirable presence of mind arranged themselves in a line along the side of the coach and removed their hats, while the General stood in front of them, evidently amused at the very queer appearance they made, at the same time pleased with their respectful attitude.

"Well, well, my boys, you must have been running quite hard in order to see me, and bave, I suppose, bedecked yourselves with those beautiful autumn leaves in my honor. I bid you a very good morning."

"O dear me!" cried little Amos, impulsively, "you are nothing but a man after all, sir!"

"You are quite right, my fine little fellow," said the General, laughing, and doubtless touched by the entire boyish tribute; and stepping forward and patting little Amos' head, he continued: "You are right, and, if I mistake not your character, I am no more of a man than you will be some day. That is something for you all to remember. You who are boys now are soon to be the men upon whom our country must depend."

The boys bowed, and, dodging again under the great coach, made place for a party of country magnates who were approaching.

The Willington folks were horrified when they beheld the fantastic array of the runaway boys; and the oldest grandfather of them all, who had not known of the little passage between them and General Washington, shook his long cane at them, and, in a trembling voice, said:

"We will settle you, you young rascals, when you get home."

"If you horsewhip us to death, sir," said Timothy Pearl in reply, "you can't help it that we've seen General Washington. Besides, sir, our parents didn't say we shouldn't come. They only thought we wouldn't dare think of coming down here, we are so young."

The boys went back into the woods and across lots, as bappy as any little party of boys could be; and, twisting a triumphant litter of slender saplings, they gaily bore little Amos on their shoulders back to the quiet Willington valley, proud of him as being the only boy they knew of who had been patted on the head by General Washington.

This little Amos, who was my husband's grandfather, took great pride in this incident

to the day of his death, and often related it to his grandchildren. Many of them, as well as some of his own children now living, will vouch for the truth of this story; and that old oak tree is yet standing in the locality described.—*July Wide Awake.*

GOOD HEALTH.

Checking Perspiration.

A Boston merchant, in "lending a hand" on board of one of his ships on a windy day, found himself at the end of an hour and a half pretty well exhausted and perspiring freely. He sat down to rest. The cool wind from the sea was delightful, and, engaging in conversation, time passed faster than he was aware of. In attempting to rise, he found he was unable to do so without assistance. He was taken home and put to bed, where he remained two years; and for a long time afterwards, could only bobble about with the aid of a crutch. Less exposures than this have, in constitutions not so vigorous, resulted in inflammation of the lungs, "pneumonia," ending in death in less than a week, or causing tedious rheumatisms, to be a source of torture for a lifetime. Multitudes of lives would be saved every year, and an incalculable amount of human suffering would be prevented, if parents would begin to explain to their children, at the age of three or four years, the danger which attends cooling off too quickly after exercise, and the importance of not standing still after exercise, or work, or play, or of remaining exposed to a wind, or of sitting at open window or door, or of pulling off any garment, even the hat or bonnet, while in a heat. It should be remembered by all, that a cold never comes without a cause, and that in four times out of five, it is the result of leaving off exercise too suddenly or of remaining still in the wind, or in a cooler atmosphere than that in which the exercise has been taken.

The colder the weather the more need is there, in coming into the house, to keep on all the clothing, except india-rubber or damp shoes, for several minutes afterwards. Very few rooms are heated higher than 65° when the thermometer is within 20° of zero, while the temperature of the body is always at 98°, in health; so that if a man comes into a room which is 30° colder than his body, he will rapidly cool off, too much so often, even if the external clothing is not removed.

It is not necessary that the perspiration be visible; any exercise which excites the circulation beyond what is natural, causes a proportional increase of perspiration, the sudden checking of which induces dangerous diseases and certain death every day.—*Hall's Journal of Health.*

LONDON WATER.—In the *Macmillan Magazine*, Mr. Torrens, M. P., in treating of the water supply of London, describes the actual condition of an out-of-doors cistern in a locality near the Seven Dials. "A poor woman who had known better days, at a vigorous age and strong constitution, sickened and died; and the tank which supplied her only beverage was found to contain two inches of mud, the decomposing bodies of 14 rats, a bar of soap, two candles and many dead beetles." Even in the Mansion House itself, as an instance of what occurs in in-door cisterns in the houses of the wealthy, the civic cistern "was found to contain three-quarters of an inch of fungi-scrub at the top, and three-eighths of an inch of mud at the bottom;" while, "in a bottle of water on the Lord Mayor's table could be seen hundreds of nematoid worms." From cisterns thus situated, adds the *Building News*, probably nearly one-third of the inhabitants of London obtain their only stock of drinking water; and when we reflect on the liability of water to absorb germs and ferments without actual contact, and to become putrid under certain conditions in a few hours; when we remember also the untimely fate of the old lady in Mr. Torrens' story, we can hardly escape a shudder.

IMPORTANCE OF SANITARY ENGINEERING.—The authorities of one of the largest hospitals in London lately took measures to ventilate all the drains and sewers in connection with their institution. Up to the time these alterations were made, pyæmia and erysipelas had almost driven the medical staff to despair. When the whole of the ventilation was completed, and as soon as the pressure was removed from the traps of the closets and lavatories, no fresh cases were found to occur. For months the hospital wards were free from both erysipelas and pyæmia. Suddenly, however, there was a fresh outbreak of these diseases, but it was noticed that the epidemic was confined to one of the surgical wards built apart from the main building, on the pavilion plan, and having only one story. Close investigation proved that the ventilation pipe in this wing had been stopped up by a careless workman. When this was remedied all traces of the epidemic disappeared.

MORTALITY OF MEN AND WOMEN.—In a report on the statistics of English mortality, Mr. Welton states that for the last 30 years more women have survived to the high age of 75 to 80 than men. The latter suffer more from diseases of the lungs, heart and kidneys, and the lung diseases have latterly increased in England.

DOMESTIC ECONOMY.

What to do With the Blackberries.

As the blackberry season is at hand, the following recipes, which we clip from an exchange, may be of some value:

Blackberry Cordial.—To one quart of blackberry juice add one pound of white sugar, one tablespoonful of cloves, one of allspice, one of cinnamon and one of nutmeg. Boil all together 15 minutes, add a wine-glassful of brandy or whisky; bottle while hot, cork and seal. This is useful in bowel complaints.

Blackberry Mush.—Look over and wash two quarts of ripe berries; add two-thirds of a quart of boiling water and cook ten minutes; sweeten to taste and then stir in a scant pint of sifted flour; hold until the flour is thoroughly cooked; have a mold nicely buttered, pour in the mush and let it cool; serve with hard and wine sauce.

Blackberry Pudding.—Three pints of milk, five well beaten eggs, three pints of blackberries, which have been previously stewed, with a little sugar, flour, salt, and two teaspoonfuls of yeast-powder. The batter should be stiff enough to drop from the spoon. The pudding is nice, either boiled or baked, and may be eaten with a wine sauce flavored with nutmeg.

Blackberry Jelly.—Place the fruit in a porcelain kettle with just water enough to keep from burning; stir often, and let stand over a slow fire until thoroughly scalded; then drain through a jelly bag two or three times, if necessary to make it clear; measure, and allow as much sugar as juice; boil the juice briskly for 10 minutes, add the sugar and boil for 10 minutes longer. To test the jelly drop a little into a glass of very cold water, and if it goes to the bottom at once it is done.

Blackberry Wine.—Press the juice from sufficient quantity of fruit to make two gallons, wash the pomace in two gallons of water; strain, dissolve 10 lbs. of white sugar in this, and add the strained, clear juice. Fill a clean cask perfectly full, and cover the bung-hole with a piece of cloth; let stand, filling up with some of the mixture, reserved for the purpose until fermentation ceases; fill up again, drive in the bung tightly, and let it stand in a cool place for six months. Then draw off without shaking the cask, put into bottles, cork tightly and seal.

SNOW CAKE.—The following is an excellent recipe for the above:—One pound of arrowroot, half pound of pounded white sugar, half pound of butter, the whites of six eggs, flavoring to taste of essence of almonds, vanilla or lemon; beat the butter to a cream, stir in the sugar and arrowroot gradually, at the same time beating the mixture; whisk the whites of the eggs to a stiff froth, and add them to the other ingredients, beating them all for 20 minutes; put in the flavoring, pour the cake into a buttered mold, and bake it in a moderate oven from 1 to 1½ hours. Half the quantity of everything makes a nice little cake.

PRESERVED CHERRIES.—To every pound of cherries allow 1½ lbs. sugar, 1 gill water. Select ripe cherries, pick off the stalks, and reject all that have any hemishes. Boil the sugar and water together for 5 minutes; put in the cherries and boil them for 10 minutes, removing the scum as it rises. Then turn the fruit, etc., into a pan, and let it remain until the next day, when boil it all over again for another 10 minutes, and, if necessary, skim well. Put the cherries into small pots, pour over them the syrup, and when cold fasten down tightly.

RASPBERRY AND CURRANT SPONGE.—One pound loaf sugar, 5 eggs, pint of raspberries, 2 ounces gelatine, 1 pint currants. Boil the gelatine until perfectly dissolved in half a pint of water. Bruise the fruit and stand it over the fire, with a very little water and sugar until it is sufficiently cooked to squeeze through a jelly-bag. Strain through the bag into a large basin. Strain the gelatine through a sieve. When both are cool, mix them together, and add the whites only of the eggs well beaten. Whisk all together half an hour, and stand on ice to cool. Eat with cream.

LEMON MARMALADE.—Pare the lemons, boil the peels in water till soft, then take out pith and pound the remainder in a mortar till quite fine, mixing with them a little of the juice; pass it all, with the remainder of the juice, through a sieve into a preserving-pan. To every pound of the pulp add three-quarters of a pound of loaf sugar; boil it for half an hour or more till it sets, when cold, into a jelly; it may then be poured into jelly pots for future use.

CORN-MEAL PUDDING.—Stir three tablespoonfuls of corn-meal, previously moistened with a little cold milk, into a quart of boiling milk; add a pinch of salt. Keep stirring until the meal is well-cooked, then remove from the stove. After it is quite cool, stir in four well-beaten eggs, and sweeten to taste. Bake in a custard tin. If the corn is properly cooked it will not settle, and the pudding will be beautifully light. Eat with or without cream.

GOOSEBERRY FOOL.—Put green gooseberries into a jar with two tablespoonfuls of water, and a little moist sugar; place the jar in boiling water, and let it boil until the fruit is soft enough to mash, then beat it to a pulp; stir to every pint of pulp one pint of milk, and add plenty of sugar. Serve either in glasses or glass dishes.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES.	1 week.	1 month.	3 mos.	12 mos.
Per line.....	.25	.80	\$2.00	\$5.00
One inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	40.00

The Scientific Press Patent Agency.

DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, July 3, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Horticultural Exhibits at the Mechanics Fair; Cereals and the Census; Scenes in the Yosemite; The Fourth of July in San Francisco, 1. The Week; Farming as a Business; A Grand World's Fair in New York, 8. A National Monument; Meeting of the State Horticultural Society, 9.

ILLUSTRATIONS.—View in the Canyon of the Merced—Yosemite Valley, 1. Ideal Sketch of a National Washington Monument, 9.

ENTOMOLOGICAL.—Grasshopper Ravages; The Phylloxera; Larvæ of Chafers, 8.

QUERIES AND REPLIES.—Poultry Diseases; Reading or Redding; Golden Wax Beans, 9.

CORRESPONDENCE.—Notes on Tulare and Kern Counties, 2. Grading Wheat, 5.

HORTICULTURE.—Apricot Growing in California; The Growth of Cherry Trees, 2-3.

THE VINEYARD.—Note from Mr. Blowers on Raisins; Raisin Boxes; The Wine Interest, 3.

ARBORICULTURE.—Some Experiments in Forestry, 3.

PATRONS OF HUSBANDRY.—W. M. Bro. Spilman at Stockton Grange; Assessment of G. B. A. Stock; Grand Island Grange Picnic; A Stalwart Invalid; Temescal Grange, 4.

AGRICULTURAL NOTES from the various counties of California and Nevada, 4-5.

NEWS IN BRIEF, on page 5 and other pages.

HOME CIRCLE.—How the Bell Rang (poetry); Farm House Chat; The Farmer's Life; Care of the Hands; What We May Come To; A Kitchen Phoenix; Bismarck, 6.

YOUNG FOLKS' COLUMN.—Grandpa's Barn; The Ragmuffins and Gen. Washington, 7.

GOOD HEALTH.—Checking Perspiration; London Water; Importance of Sanitary Engineering, 7.

DOMESTIC ECONOMY.—What to do with Blackberries; Snow Cake; Preserved Cherries; Raspberry and Currant Sponge; Lemon Marmalade; Corn-Meal Pudding; Gooseberry Fool, 7.

MISCELLANEOUS.—Mechanics' Institute; Fossil Butter; The Ocean Depths; Railroad Building in Arizona; Oregon Swamp Land Commission, 10.

Business Announcements.

Giant Ridding Saw Machine—Baker & Hamilton, S. F.
Washington Irrigated Colony, Fresno Co., Cal.
Angora Goats—D. F. Newson, Arroyo Grande, Cal.
Organs—Mason & Hamlin, N. Y., Boston and Chicago.
Boarding and Day School—Mrs. Colgate Baker, S. F.
Dairy Farm for Sale—Frank Larkin, Watsonville, Cal.
Nursery for Sale—James Waters, Watsonville, Cal.
Seminary—E. C. Poston, Oakland, Cal.
Jersey Bull for Sale—F. J. Barretto, Downey, Cal.
Zimmerman Fruit Dryer Co., Cincinnati, Ohio.
Dividend Notice—San Francisco Savings Union.

The Week.

The seasons of all seasons is now upon the farmers of the State. Harvesting is now in progress in the great valleys, and there will be a race between the season and the harvesters, for the beginning is late, the areas are large and the laborers are fewer than usual. There has, however, been considerable progress in labor-saving machinery, and this will be on the side of the producer. The weather is quite cool and evaporation reduced by the heavy mornings and dull days. This will prove a boon to all grain which is now maturing, and will atone much for the dry winds of May. The orchard hurry is also beginning and there is a prospect of good prices, because of the reduced yield of many districts and the activity of the canners agents who have been scouring the State to make contracts for the kinds they prefer. Their offers of 4½ cents per lb. for apricots, taking all the trees produce, is certainly a price fit to gild the outlook for this desirable fruit. In this connection the interesting essay on the apricot in this issue of the PRESS will be timely.

The coming week will include the national holiday. As the Fourth falls upon Sunday, the following day will be generally observed as the time to celebrate. In this city, as intimated in another column, there will be unusual preparations for a festival of sounds and sights, and those who delight in such ebullitions of patriotism will doubtless be gratified. In other parts of the State, there will be celebrations of various kinds, and the day will give a chance to rest the hands for a fresh and a prolonged pull upon the summer's work.

A FARMER in Dearborn county, Ind., had a roof 14 ft. square came crashing down into his orchard during a tornado, four weeks ago, and has not yet been able to ascertain where it came from.

Farming as a Business.

Shrinkage of grain, partial losses of fruit crops and the unforeseen results generally of this eccentric year, naturally lead one's thoughts to the nature of farming as a business operation. It is coming to be a fact generally recognized that a successful farmer is a man of no mean business talents, although his methods may be crude and his manner unpolished. The problem which presents itself in farming is, in one respect, quite different from that in most other productive enterprises, and this one point of difference is the rock upon which many men, who have put their funds into lands and tools and animals, have been broken. They have figured out on paper great profits in farming. They have it all down in black and white: the interest on the cost of land; the average cost of plowing and seeding an acre; the average cost of reaping an acre, etc. But though the figures may be accurate for these items, they may finally prove but reminders of money lost, because there is absolutely no way of foretelling what the crop will be. In manufacturing it is different. If a man puts his capital into leather and tools and wages he will have ere long a certain number of pairs of shoes. If he figured correctly they cost him just what he expected, and he has but to dispose of them at a little above cost to be prosperous. Opposed to this certainty of results in manufacturing is the uncertainty of results in a business where everything is spread abroad outdoors, subject to the capricious influence of the elements, and the destroying work of an army of pests and parasites.

It is this absolute uncertainty of results which makes farming on a large scale more dangerous than more modest and moderate systems of husbandry. Generally, in manufacturing, the larger the works, the more perfect the machinery, and the larger the contract, the cheaper can each article be produced and the greater the manager's profits. Uniformity of product, with its possible division of labor, reduces cost of production to a minimum. This would be true also in agriculture if the outcome in marketable material could be surely predicated. But it cannot; and, as in order to cheapen production there must be a uniformity in product, so there is the single resource, and destroying influences work havoc with the whole at once. This is evidently the weak point in what is called large farming, and here creeps in its uncertainty and danger. The great grain growers, for example, may be millionaires or bankrupts by the turn of a single season. Often those who have succeeded in the large style in other industries, essay the large in agriculture, and fail utterly because it is impossible to count upon sacks of wheat or boxes of fruit with the same certainty as one figures upon the outturn of so many kegs of nails or cases of brogans.

These remarks are trite, but they are worth the making for the benefit of those who think they can leap at once from success in the counting house or the factory office to a wider success in agriculture. But though large ventures, especially in the hands of the inexperienced in agricultural arts, are dangerous, there is still a base ground of certainty in general agriculture, wisely practiced, which is the surety of the world's food and shelter from the inclement air. The industry has its compensations as well as its dangers, and the former increase and the latter decrease in proportion to the diversity of practical wisdom in the man and the diversity of the crops which he handles intelligently and well.

The two sides of the farmer's industry are well set forth in the following paragraph which we take from a paper recently read before an English farmer's club: "The life of a farmer has many attractions. A country life, personal ease, and independence; a comfortable home, where most of the necessities of life are obtained at producer's prices, and a freedom from that need to study the feelings and prejudices of customers to which most professions and trades are exposed. A farmer is master of his position. He has a certain weight in his neighborhood, is looked up to by the people in his employment. Looking at this bright picture, men of all trades and professions take to farming as naturally as a duck takes to water, but I am afraid only too often to find that farming successfully does not come so naturally to them as swimming does to the duck. Many men in middle life not trained for farming have been, doubtless, attracted by something like the bright picture I have drawn, and to compete against those the trained farmer had to pay the rent or allow his opponent to get in. I have given you some of the attractions of a farmer's life; allow me to paint the dark side of the picture. Farming is the most speculative investment, considering the small margin allowed for profit, that any one can put capital into. He can plow and sow, but he has no certainty he will reap a profit. The crops are at the mercy of the weather up to the very day they are secured in autumn. His live stock are at the risk of disease and accident. And some of the luxuries we farmers have been having for some years are bad seasons, with prices beneath the cost of production; a rapidly diminishing capital; harassed late and early to get the two ends to meet; and—it has happened only too often—an entire loss of capital; and then the bankruptcy court."

Some of the conditions hinted at by the English farmer we have quoted, fortunately do not

exist in this favored land, but there are enough hardships in agriculture the world over to dispel the idea that it is a business that any one can succeed at. Success in agriculture is the reward of practical skill, sound sense and untiring industry, and when attained it is admirable.

ENTOMOLOGICAL.

Grasshopper Ravages.

Our exchanges at Reno, Nevada, bring extended accounts of the destruction of crops by grasshoppers in the region around Reno and Sierra valley, California, where they have laid waste the country for the last three or four years. In Sierra valley the insects began hatching out at the north end, and last week the district was well nigh stripped of everything green. In the south end of the valley the insects did not appear till later, and farmers were in hopes they might harvest their crops before the hoppers became large enough to do great injury.

Around Reno the chief damage done by hoppers up to last week was in fields of timothy and alfalfa. The insects seem to have developed a special liking for alfalfa this year, and the growers find their green fields turning black or dark brown because of the myriads of the insects perching upon the alfalfa stems. The alfalfa is hardly ripe enough for hay, but some is cut before the blossoming to save it from destruction. The grain fields near by alfalfa are but little invaded, and growers are somewhat in hope that the grain may ripen enough to cut before the alfalfa gives out. There seems to be nothing done in the way of battling or baffling the insect, except to turn stock into the threatened grain and thus secure fat cattle as a small equivalent for the value of the grain.

The Phylloxera.

We learn from the Napa Register that a critical examination of the vineyards of Napa county, by Dr. Bleasdale, Secretary of the California Vinicultural Society, has satisfied him that as yet Napa valley is free from the phylloxera. The ravages of this insect have become apparent from about six and one-half miles above Sonoma to the lower part of the valley, a length of 10 or 12 miles. Within these limits large tracts of vineyard have been completely destroyed, and the vines have been uprooted and grain sown in their stead. The total area of vineyard that has thus disappeared numbers hundreds of acres. The Mission vine, naturalized for over a century in California, is as badly attacked as the Reising, Zinfandel, or any other variety grown. Extensive inquiries have satisfied Mr. Bleasdale that the pest exists in this State only in Sonoma valley and in Fresno county, where it was introduced with cuttings of choice grapes from Europe. The exemption of Napa valley from phylloxera, notwithstanding its nearness to Sonoma, is due to the fact that the winged form of the insect is not produced in California.

Larvæ of Chafers.

EDITORS PRESS:—I send you by this mail some specimens of grub or insect, dug up by Mr. Roberts on the Sweetwater. He says he found many of them about the roots of his fruit trees. They are new to him and to me. If you know any good or harm of them please report.—G. H. PARSONS, National City.

The grubs are whitish, fat and a little less than one inch in length. Many are enclosed in an earthen cocoon. They are the larvæ of some beetle of the class generally called "chafers." These larvæ are usually very injurious, being vigorous eaters of the roots of grass and cereal crops. These beetles are also destructive of plants, being leaf-eaters of sharp appetite. There was considerable damage done by chafers in Los Angeles county last year, and we hear that they are reappearing.

QUERIES AND REPLIES.

Poultry Diseases.

EDITORS PRESS:—Our chickens are afflicted by a disease which causes a great degree of mortality amongst them. Out of 50, 10 of them have died within the last two days. It seems to attack them during the night, and in the morning the sick ones are unable to fly from the roost, but fall to the floor, where they remain from two to six hours, when death puts an end to their sufferings. On examination the interior of the fowl presents its usual appearance, with the exception of the lungs being considerably inflamed, which may have been caused by the pain preceding death. Their feeding ground is the common farm premises situated on a creek overgrown with willows; wheat fields adjoining the barn. Two years ago last winter they were attacked by a similar scourge, when 20 hens died in four days. Could you or any of the readers of your valuable journal, name the ailment, and state a remedy? It would no doubt materially aid other chicken raisers in our vicinity besides ourselves in the prevention of death in the poultry yard.—S. SIZEMOON, Salinas, June 17th, 1880.

EDITORS PRESS:—It is impossible to tell from this description, unless I saw the fowl and their surroundings, what is the disease. I can only guess at it. It may be that they are "shooting the red;" at that time they often die of seeming weakness. They should be fed stimulating food—some meat and red pepper in their food—onion tops cut up and mixed with meat and meal and well peppered with Cayenne pepper. The old hens may have died from apoplexy. If I saw the fowls and could have the questions, which would naturally suggest themselves if I were on the ground, answered, I could tell disease and cure. I can now only recommend careful perusal of my pamphlet and to follow its

directions as to feed, etc.—M. EYRE, Napa, Cal.

If any other reader can speak from experience concerning this matter, we should like to hear.

Reading and Redding.

EDITORS PRESS:—Please tell me the proper pronunciation of the word Reading, as applied to the name of the town and ranch of "Reading" in Shasta county; some pronounce it Redding.—LORE.

The name of the town is Redding, so named at the time the California & Oregon railroad was constructed; and the town was laid out by the railroad authorities and J. B. Haggin (the latter owning the grant upon which the town is situated). It was named, we understand, in honor of Hon. B. B. Redding, ex-Sec'y of State. The Reading grant—about 20 miles in length by from two to three in width, containing some 26,000 acres—was confirmed by Major Pearson B. Reading, and consequently bears his name. Major Reading was an early settler and chose this tract as the choicest bottom land of the Upper Sacramento valley, it being above the flood and drouth-devastating region. As a portion of the community applied his name to the town and another portion applied the name Redding, an act was passed by the last Legislature legalizing the name of Redding to the town. There is a Government reservation on the opposite side of the Sacramento river called Fort Reading, so named by the U. S. military authorities, and to prevent confusion the U. S. postal authorities have also adopted Redding as the name of the town at the present terminus of the C. & O. railroad. We say this much in order to put the facts on record and make the matter fully understood. With regard to the pronunciation of the two names, we would count them the same with either spelling, as Reading, the large Pennsylvania town, is called Redding by those who live there.

Golden Wax Beans.

EDITORS PRESS:—I send the product of three Golden Wax beans for a meal-time test. The branch is one of six, nearly equal from one seed.—W. A. SANDERS, Sanders, Cal.

The beans were very good, and the sample made the bean section of a dinner for seven persons. The flavor was good, but doubtless not so fine as it would have been if the kettle had been nearer to the vines.

A Grand World's Fair in New York.

For two years a constant agitation has been kept up in New York for the holding of an international exhibition in this country in 1883. The dwellers in towns remote have, during this period, heard but little of the labors of the handful of public-spirited men who have persistently carried forward the movement to the point it has now reached. Patiently and prudently they have gone on from stage to stage, having the satisfaction at each successive step to witness a decided advance in all the essential elements of success. The holding of an international exhibition in this country in 1883 is now an assured fact. The initiatory difficulties inseparably connected with a scheme of such magnitude, particularly those in regard to the obtaining of necessary legislation, have all been overcome, and the preliminary arrangements and complete organization of the United States International Exhibition Commission of 1883 are being pushed forward to a speedy completion. A special act of Congress providing for the holding of such exhibition has been obtained; bills have been passed in the New York Legislature granting to the Commissioners who may be appointed powers to acquire such lands, etc., as may be requisite, and the Governors of the several States are rapidly nominating Commissioners to assist the project to a successful termination. The plan of the proposed exposition is on a scale of such magnitude that it completely eclipses everything of the kind in the past, and may probably never be surpassed in the future, and the movement has now entered upon a career of popular recognition and public favor which guarantee the ultimate accomplishment of all its projectors have hoped to realize.

A NOTE FROM PROF. SANDERS.—A card which the Secretary of the State Horticultural Society received from Prof. W. A. Sanders, of Fresno county, too late for the meeting, is as follows:

"With us Black Tartarian cherries do best of any we've tried; ripe now (June 24th). Moorpark apricots are beginning to ripen here on my farm. The season is unusually late. Wood's Early apricot is all gone a half month ago. Fuchsias cannot be grown without perfect protection from our extreme sun heat. They literally burn up when it reaches 100° (no uncommon thing) in the shade."

OSTRICH RANCHING IN SOUTH AMERICA.—It seems that South America has entered the ostrich business. We read in the Buenos Ayres Standard that "the first African ostriches ever seen in this country arrived here on Monday from the Cape. They (101 birds) are owned by an Englishman, Mr. George Beaumont, who intend to start an ostrich farm in this province. These new immigrants have attracted much attention, and there is little or no doubt of their thriving in this climate."

HORTICULTURAL SUBJECTS FOR DISCUSSION.—The subject chosen for discussion at the meeting of July 30th is peach culture, and Dr. J. Strentzel was invited to open the discussion. The floral subject will be "flower growing for perfumes," to be opened by G. P. Rixford. Mr.

DESIGNS ON RIVERSIDE.—We learn that a party of 8 to 12 gentlemen of means, residing in Kuox Co., Ill., contemplate removing this season to Riverside, Cal., for the purpose of making that section their permanent home.

A National Monument.

The coming of the nation's favorite holiday, the Fourth of July, makes it timely to allude briefly to themes fit to call forth the patriotic flow. The year 1880, the country over, gives many promptings to national pride, and it is probable that Independence Day will be celebrated with unusual rejoicings and gratulation. There is a spirit of progress and prosperity abroad in our industries. The depression born of disorganized affairs resulting from the great conflict, seems now to have wholly passed away, and the people now stand with all the glories of the past to urge them on, and the free field of the future before them in which to win their victories in industrial, social and scientific advancement. It is a good time to review in mind the history of the republic, the glorious deeds of the early patriots, the priceless gifts of later heroes, and to picture the growth of the coming generations. If the results of such studies do not kindle the flame of patriotic pride in the heart of an American, such a one must be a soul so dead that no thought of greatness can awaken it.

We have chosen as an illustration appropriate to the time, an ideal sketch of a monument to the memory of Washington. This design is intended by the artist to fitly embody the idea, not alone of the majesty of the character of our country's father, but to typify the growth of the principles which he held as the corner-stones upon which to found a nation. It must be remarked that such a monument as yet exists only in the artist's drawings, but it is put forth to the view of the people as something worthy of their study, in the hope that some future year may see it, or something like it, hewn from enduring marble to remind coming ages of the veneration in which the great founder of the republic is ever to be held in patriotic hearts.

As most readers are aware, there is already a monument to the memory of Washington in progress of construction at the national capital. Of this, it may be briefly said that it was commenced in 1848 by an association incorporated by Congress. After an expenditure of \$230,000, raised by voluntary subscription, the monument came to a standstill for 20 years. Thus for a score of years it stood an unfinished column of 174 ft. in height. By act of Congress, passed in 1876, appropriating the sum of \$200,000, this monument is to be finished, and will form a lofty and imposing plain obelisk, 70 ft. square at the base and 470 ft. high. It is constructed of great blocks of crystal Maryland marble, lined with blue gneiss stone, and while simple and majestic in form, without attempt at ornament, will constitute a mausoleum that will last for ages, erected by the people of the whole country to its greatest citizen on a scale worthy of the nation.

It is the design of the artist whose work we present on this page, to have the imposing plain obelisk which we have described, serve as the central column of the majestic yet richly ornate structure shown in the engraving. It will certainly be more impressive to the average mind to contemplate a structure of this kind, upon which may be carved the history of the country's progress and the ideal embodiments of the principles for which we contend, than to view a bare shaft, which, no matter how much imagination may adorn it, is still but a vast factory chimney and barren of grace and beauty. It may be that some generation which is to come after us, will take the plain shaft which we shall build, and thus develop from it a monument which shall be more worthy of our country's progress in enlightenment and the science of government. To the future then this design for a national Washington monument is commended in the hope that ere long it will pass from paper to the enduring stone, and stand perhaps a thousand years in memory of the "Father of His Country."

COMPARATIVE WHEAT PRICES.—As there is much discussion just at this time of the comparative values of California and other wheats in the English market, we take from a London exchange the prices per cwt. for the week ending May 31st, for the following wheats:

Australian, 10s. 9d. to 10s. 11d.; Oregon, 10s. to 10s. 8d.; Walla Walla, 10s. 3d. to 10s. 4d.; Californian, average, 9s. to 10s.; Club and choice, 10s. 2d. to 10s. 5d.; Chilean, 9s. 10d. to 10s. 3d.; American, white, 9s. 11d. to 10s. 2d.; Red winter, 10s. to 10s. 8d.; No. 1 spring, 10s. to 10s. 4d.; No. 2 spring, old, 10s.; New, 9s. 6d. to 9s. 11d.; No. 3 spring, 9s. to 9s. 3d.; Canadian, white, 10s. to 10s. 2d.; ed winter, 10s. 2d. to 10s. 5d.; Bombay, 10s. to 10s. 7d.; Lutta, 9s. 1d. to 9s. 3d.; Salde and Daira, 8s. 4d. to 9d.

Meeting of State Horticultural Society.

The State Horticultural Society held its regular monthly meeting at the Y. M. C. A. Hall Friday afternoon, June 25th, A. T. Hatch, of Cordelia, in the Chair. The following exhibits were placed on the tables: Fine collection of cherries, John Rock, San Jose, including Black Tartarian, Napoleon Bigarreau, Great Bigarreau, Governor Wood, Cleveland Bigarreau, Black Eagle, Yellow Spanish and Reine Hortense; collection of lemons which were shown at the last meeting; spadix of date palm with staminate flowers, L. P. Rixford, Sonoma; cur-

mum list submitted for the approval of the managers of the Institute. This approval was granted and the arrangement was consummated. A resolution was offered by Mr. Dwinelle that the society endorse the action of the Board of Directors in this matter, and all members be urged to do all in their power to secure a successful exhibition of plants and fruits. The resolution was adopted. Upon page 12 of this issue may be found the list of premiums offered.

Mr. Rixford read the report of the Committee on southern California lemons, which we expect to publish next week.

The subject of apricots was then opened with an essay by W. W. Smith, of Vacaville, which may be found on page 2. Discussion fol-

Mr. Dwinelle alluded to the need of iron in orchard soil and cited the wonderful result of working small quantities of blacksmith shop sweepings into the soil of a peach orchard. The scale which falls from the blacksmith's anvil proves of value as a fertilizer.

John Rock, of San Jose, advised using one-year-old apricot trees for orchard planting. He believed the dropping of apricots may be sometimes attributed to frost. May frosts sometimes take off apricots as large as walnuts. This year in his section the cold winter restrained the blossoms and they came too late to be caught by the frosts. The result will be a full crop of fruit.

James Shinn agreed with the preceding speakers that one year from the bud was the proper age for transplanting apricot trees, and peach and almond trees as well. He had not had much success with planting out in dormant bud, but such trees will do well with care. Mr. Shinn asked Mr. Smith if the gopher's work was his only reason for choosing the apricot root as a stock to graft on? He had found that apricot huds will not take so well on apricot as on peach roots. He regarded the apricot root as an excellent stock for plums. The apricot root is longer lived than the peach root. Mr. Shinn also spoke of the value of the apricot for drying as well as canning.

Concerning the growth of apricots in Europe, Mr. Shinn had heard that the crop in Portugal would be very large this year. Mr. Rixford said that large quantities of dried apricots from Persia are sold in the European markets. Mr. Rock said the secret why California canned apricots sell so well in Europe is because of the large size of the fruit. The apricots which grow in Europe are very small. The large varieties which do so well in this State will not succeed there except when grown against walls, etc. If our apricots are to do well abroad, we must grow the large varieties.

Mr. Rock opened the discussion of cherry culture by exhibiting some fine samples of the Black Tartarian, Napoleon Bigarreau, Governor Wood, Great Bigarreau, Black Eagle, Cleveland Bigarreau, Yellow Spanish and Reine Hortense varieties. He stated that these were the leading cherries of our market, the only others worthy of mention being the Early Purple Guigne, a small black cherry, and Knight's Early Black cherry, smaller varieties. On the subject of cherries, a letter from Leonard Coates, of Yountville, was read. It is printed upon page three of this issue.

Mr. Smith spoke of gophers eating the roots of cherry trees. He found they would eat the trees grafted on mahaleb roots, but not on mazzard roots.

Mr. Hatch mentioned some cherry trees eaten off underground in a peculiar way. It did not appear like the work of the gopher on almond trees. He had seen small, white ants around, but not other pests.

[Mr. W. B. West of Stockton reports trees eaten off by white ants.—EDS. PRESS.]

Mr. Jessup described the work of gophers in his orchard. He has currant bushes between the rows of trees, consequently he can cultivate but one way. This leaves a narrow strip of undisturbed ground from tree to tree along the rows. Through this hard strip the gophers run and they cut off trees before he was aware of their presence. The weakening and wilting of the trees was the sign of trouble, and cutting down the ridge he found the runway of the gophers.

Mr. J. V. Webster spoke of several causes of decay in cherry trees. The tree is naturally delicate. He planted a lot of trees in clay soil, digging out large holes and filling in with loam, manure, etc. The trees grew well until there came an extra wet winter. This filled the basins in which the trees were set and as the clay held water like a cup the trees were destroyed by the water standing around their roots. Mr. Webster spoke also of a mistake he made years ago in cutting off large branches of his cherry trees so as to plow under them. He would never cut off a large branch. He finds that the wound never heals.

Mr. C. H. Shinn read an interesting article on fuchsia growing which we expect to print hereafter. Remarks upon the fuchsia were also made by F. Ludemann, who promised more definite information and an exhibit of best varieties at some future meeting.

W. H. Jessup gave an explanation of his samples of currant and gooseberry borer's work. These were detailed in his letter in last week's PRESS.

THE San Francisco Charter has been finished



IDEAL SKETCH OF A NATIONAL WASHINGTON MONUMENT.

rant and gooseberry bushes infested with borers, W. H. Jessup, Haywards, new and improved fastener for fruit-box cover, Wm. Cantelow, Vacaville; collection of fuchsias and pansies, E. H. Rixford and Robert Hall, San Francisco; fine Lisbon lemons, Mrs. Kimball, National City, San Diego county. The following were elected members of the society: B. S. Fox, R. D. Fox and A. E. Pomeroy of San Jose; Jas. B. Mahoney and Rev. Ed Verrue of San Francisco, and J. De Barth Shorb of San Gabriel. Mr. Shorb is already an honorary Vice-President of the society by virtue of his presidency of the Southern California Horticultural Society.

The Secretary read a statement of the transactions of the Board of Directors concerning the proposition made to them by the managers of the Mechanics' Institute, that the society have supervision of the horticultural department of this year's Mechanics' fair. The proposition was accepted by the directors and a new pre-

lowed upon the points involved.

Mr. Dwinelle spoke of the necessity of canning choice fresh fruit if the best product is to be obtained. He deprecated the system of canning what the fruit market rejects. He also drew attention to dried nectarines as a product which might be looked after with profit.

In answer to a question Mr. Smith remarked that he had not found root pruning of any value in preventing the falling off of apricots. He believes dropping fruit is a question of soil. He has trees which are a mass of bloom and set full of fruit, but the fruit drops when the size of peas or cherries. Not more than 200 ft. away, but on different soil, the fruit clings and ripens well.

Dr. Chapin asked whether it be desirable to transplant apricot trees in the dormant bud. Mr. Smith advised dormant bud in preference to two-year-old trees, but thought good one-year-old trees were best for planting out.

Mechanics' Institute.

Fifteenth Industrial Exhibition

Rules respecting the reception of goods, and for determining the awards of premiums, gold, silver and bronze medals, special premiums for California.

Board of Managers.

P. B. Cornwall, Pres.; A. W. Starbird, Vice-Pres.; J. A. Bauer, Treas.; J. H. Culver, Sec'y; J. H. Gilmore, Supt.; and A. L. Fish, C. Waterhouse, James Drury, Nathaniel Hunter, F. A. Frank, David Kerr, Samuel Dinsmore, J. R. Wilcox, George H. Hopps, Edwin Fretwell and George Spaulding.

Standing Committees

For the exhibition are: Auditing—Waterhouse, Frank, Kerr; Building—Drury, Wilcox, Starbird; Circulars and Classifications—Fretwell, Bauer, Hunter; Printing and Advertising—Spaulding, Hunter, Hopps; Power and Machinery—Dinsmore, Fish, Wilcox; Rules, Regulations and Awards—Frank, Fretwell, Bauer; Tickets and Admission—Starbird, Kerr, Fretwell; Music and Decorations—Bauer, Starbird, Hopps; Privileges—Kerr, Starbird, Frank; Location—Dinsmore, Hunter, Fish; Police—Hunter, Spaulding, Hopps; Horticulture—Fish, Waterhouse, Spaulding; Gas and Water—Wilcox, Drury, Dinsmore; Art—Hopps, Waterhouse, Drury.

Reception of Goods—Rules.

The pavilion will be open for the reception of goods from and after Monday, July 26th, and the exhibition will open Tuesday, Aug. 10th, and continue, Sundays excepted, from 10 A. M. to 10 P. M., until Sept. 11th. Articles may be entered for either exhibition or competition; if the latter, they must be in position not later than Aug. 13th. Application for space must be made at least two weeks before the opening. The managers will exercise the utmost care in protecting goods, but all articles deposited will be at the owner's risk. The Board will select three jurors for each class of articles. All premiums will be for the first degree of merit only. No second-class awards or decisions will be made or reported in any cases unless otherwise specified in the premium list.

The Premium List

Comprises the following divisions: I. Manufactured produce—machinery. II. Manufactured products—metals. III. Manufactured products—wood, or wood and iron. IV. Manufactured products—animal and vegetable fabrics. V. Chemical and natural products. VI. Food products. VII. Liberal and decorative art. VIII. Fine arts. IX. Horticulture.

The divisions are subdivided into 47 classes, as follows: 1. Steam engines, boilers and appliances—1 gold medal, 5 silver medals, 6 bronze medals, and 5 diplomas. 2. Hydraulic machinery and steam pumps—1 gold medal, 6 silver medals, 4 bronze medals, and 1 diploma. 3. Machinists' tools and metal-working machinery—5 silver medals, 10 bronze medals, and 6 diplomas. 4. Wood-working machinery—1 gold medal, 9 silver medals, 13 bronze medals, and 5 diplomas. 5. Printing and miscellaneous machinery—1 gold medal, 8 silver medals, 7 bronze medals, and 2 diplomas. 6. Mining machinery and appliances—1 gold medal, 10 silver medals, and 3 bronze medals. 7. Laundry machinery—1 silver medal, 3 bronze medals, and 2 diplomas. 8. Fire apparatus and appliances—1 gold medal, 4 silver medals, 1 bronze medal, and 2 diplomas. 9. Marine—4 silver medals, 7 bronze medals, and 1 diploma. 10. Sewing machines, knitting machines, braiding machines and looms—3 gold medals, 6 silver medals, and 3 bronze medals. 11. Agricultural machinery—1 gold medal, 7 silver medals, 20 bronze medals, and 8 diplomas. 12. Iron, steel and lead—4 gold medals, 7 silver medals, 5 bronze medals, and 2 diplomas. 13. Cooking, heating and ventilating—6 silver medals, 1 bronze medal, and 1 diploma. 14. General hardware—1 gold medal, 2 silver medals, 6 bronze medals, and 1 diploma. 15. Fire and burglar-proof safes and locks—1 gold medal and 2 silver medals. 16. Cutlery and edge tools—1 gold medal and 2 silver medals. 17. Grates and mantels, marbles, artificial stone, earthenware, glassware, etc.—1 gold medal, 8 silver medals, 5 bronze medals, and 2 diplomas. 18. Brass work, gas and lamp fixtures, plumbers' good, etc.—1 gold medal, 9 silver medals, and 5 bronze medals. 19. Carpenters', joiners', carvers' and stair-builders' work, ornamental glass painting, etc.—2 gold medals, 7 silver medals, 10 bronze medals and three diplomas. 20. Musical instruments—1 gold medal and 4 silver medals. 21. Vehicles and their attachments, children's carriages, hobbyhorses, etc.—1 gold medal, 16 silver medals and 6 bronze medals. 22. Furniture, upholstery, etc.—1 gold medal, 12 silver medals and 5 bronze medals. 23. Billiard tables.—1 gold medal, 2 silver and 2 bronze medals. 24. Woodenware, brushes, wire goods, willowware, etc.—1 gold medal, 6 silver medals and 3 bronze medals. 25. Boots, shoes, leather, rubber goods, etc.—2 gold medals, 15 silver medals and 5 bronze medals. 26. Hemp, cordage, paper, furs, hair, etc.—2 gold medals, 7 silver medals, 5 bronze medals and 1 diploma. 27. Woollens, dress goods, carpets, cotton, etc.—1 gold medal and 15 silver medals. 28. Gentlemen's furnishing goods, etc.—7 silver medals and 5 bronze medals. 29. Ladies' furnishing goods, dresses, cloaks, millinery, etc.—7 silver medals, 6 bronze medals and 1 diploma.

30. Tobacco—2 silver medals and 3 bronze medals. 31. Chemical and pharmaceutical products—3 gold medals, 14 silver medals, 6 bronze medals and 3 diplomas. 32. Geology, mineralogy, zoology, botany, etc.—2 gold medals, 8 silver medals, 2 bronze medals and 2 diplomas. 33. Groceries, meats, flour, etc.—14 silver medals, 9 bronze medals and 1 diploma. 34. Wines—1 gold medal and 8 silver medals. 35. Liquors and fermented products—4 silver medals and 1 bronze medal. 36. Printing and lithographing, etc.—10 silver medals and 5 bronze medals. 37. Gold, silver and plated ware, watches, clocks, jewelry, bronzes, etc.—1 gold medal, 6 silver medals and 6 bronze medals. 38. Scientific apparatus, etc.—1 gold medal, 8 silver medals and 12 bronze medals. 39. Surgical and dental instruments and appliances—3 silver medals, 3 bronze medals and 1 diploma. 40. Hairwork, needlework, embroidery, shellwork, patterns, etc.—3 silver medals, 4 bronze medals and 41 diplomas.

41. Paintings in oil and water colors—\$10 in cash will be awarded in this class for the most meritorious exhibits by local artists. The classification of awards is not yet determined upon. 42. Ceramic art—7 silver medals and six bronze medals. 43. Sculpture statuary and carving—8 silver medals. 44. Engravings, original drawings, penmanship, etc.—13 silver medals and 1 diploma. 45. Photography—1 gold medal, 4 silver medals and 5 bronze medals. 46. Plants, trees and flowers—5 silver medals, 9 bronze medals and four diplomas. 47. Fruit—4 silver medals and 3 bronze medals.

In all, there are 648 prizes, besides \$1,000 cash, to be distributed among local artists in oil and water colors, as may be determined hereafter; but the managers do not consider the list complete, and any meritorious article on exhibition, not therein mentioned, will receive due consideration.

California Premiums.

Premiums will be awarded for the best display in California make to the following: File cutlery, fire arms, assortment locks, assortment of edge tools, glassware, sample of galvanizing, and sample of electro-plating (done in San Francisco), articles made from California wood, turned articles from California wood, plate-glass mirror, string or reed instruments, hacks, single top buggy, open buggy, hotel coach, double buggy, sulky, stage coach, brooms, general display of boots and shoes, ladies' and misses' hand-made shoes, men's hand-made shoes, machine-made boots and shoes, sole leather, fair leather, kid leather, morocco leather, calf skins, leather belting, rawhide goods, leather hose (100 ft.), lasts, bale of hemp, imitation hair, cordage, paper, paper rags, paper boxes, dress silks (25 yards), ribbons (10 varieties), manufactured silk, thread and twist, woolen goods, mats and matting, oil cloth, weaving, gentlemen's furnishing goods, umbrellas and parasols, gloves (goat or buckskin, and kid), ladies' corsets, buttons and fringes, cigars, cigarettes, finecut tobacco, acids, candles, glue, shoe-blackening, writing fluid and mucilage, matches (quality and variety), coals (Pacific coast), fossils (ditto), petroleum, crude and refined, largest and most comprehensive collection of natural products of the Pacific coast, refined sugar, butter and cheese, hams, bacon and lard, codfish (cured), best general display of wines, best of sparkling, still, dry, white, sweet, port and claret wines, and cider, grape brandy, printed sheet music (done here), solid silverware, watch or clock, show cases, surveyors' instruments, hand-made lace work, specimen painting on pottery, painting on porcelain, wood engraving, mechanical drawing by a pupil of the public schools, architectural drawings, generally by pupils of public and private schools of this city, landscape photography, raisins, etc.

Fossil Butter.—At a late scientific meeting in London, Prof. Church read a paper on a sample of butter, which must have lain for many centuries, buried in an Irish bog. Its probable age was judged to be about one thousand years. The sample contained nearly four per cent. of curd, which consisted partly of vegetable matter derived from the bog, but contained quite enough animal matter to prove that the butter had been originally made from animal milk, and was not a mere artificial fat. Its fatty character had, however, been entirely changed, and the glycerides of which the fat had originally consisted had been decomposed so as to leave simply a mixture of the fatty acids, which constitute the acid portion of animal fats. The butter had, in fact, become changed into a substance closely resembling in character and composition the substance of which good composite candles are composed. The result is singular, as showing that length of time, combined with exposure to moisture, will effect the decomposition which the manufacturer of stearine has to effect by the agency of heat and acids. At the same meeting another paper was read on a sample of still older butter, which had been taken from an alabaster vase in an Egyptian tomb. It had evidently been melted and poured into the vase, and carefully sealed over. This sample was probably about 2,500 years old, but the preservation had been so perfect that it was only slightly rancid, and had fully retained the chemical properties of genuine butter, the fats not having been decomposed to any sensible extent. This sample possessed a decided taste and smell of butter, while the sample from the bog was cheesy rather than buttery in smell.

The Ocean Depths.

Dr. Carpenter, the English physicist, has recently published in the *Nineteenth Century* some remarkable results of his elaborate studies of the latest deep sea explorations. The work of the scientific circumnavigation expedition in the *Challenger*, though completed in 1876, has not until within a few months, if even now, been fully reduced, and some of its most important discoveries are now announced by Dr. Carpenter, its originator. One of the first questions its labors contribute to solve is the depth and configuration of the ocean basins. The prevailing notion of the sea beds, Dr. Carpenter shows, needs considerable modification, none of them having been carefully outlined, except that of the north Atlantic when sounded with a view to laying the first Atlantic cable. "The form of the depressed area which lodges the water of the deep ocean," he says, "is rather to be likened to that of a flat waiter or tea-tray, surrounded by an elevated and steeply sloping rim, than to that of the 'basin' with which it is commonly compared;" and he adds, "the great continental platforms usually rise very abruptly from the margins of the real oceanic depressed areas." The average depth of the ocean floors is now ascertained to be about 13,000 ft. As the average height of the entire land mass of the globe above sea level is about 1,000 ft., and the sea area about two and three-quarter times that of the land, it follows that the total volume of ocean water is 36 times that of the land above the sea level.

These deductions, seemingly unimportant except to the votary of science, are destined perhaps to serve the highest practical purposes of future deep-sea telegraphy. The intelligence now quarried out of the enormous collection of later ocean researches shows the modern engineer and capitalist the feasibility of depositing a telegraphic cable over almost any part of the ocean floor, and ought to give new confidence in the success of all such enterprises properly devised and equipped. When it is remembered that at the beginning of this century La Place, the great mathematician, calculated or assumed the average depth of the ocean at four miles (or 8,000 ft. more than Dr. Carpenter determines it to be from actual surveys), and that La Place's conclusion was the received view among scientists until 1850, or later, we get some idea of the advance made in this branch of terrestrial physics by modern research.

Not less interesting is a deduction Dr. Carpenter makes from the deep sea temperature observations in the north Atlantic. In consequence of the evaporation produced by the long exposure of the equatorial Atlantic current, its water contains such an excess of salt, as, in spite of its high temperature, to be specifically heavier than the colder overflows which reach the equator from the opposite Arctic and Antarctic basins; and consequently it substitutes itself by gravitation for the colder water to a depth of several hundred fathoms. "Thus it conveys the solar heat downward in such a manner as to make the north Atlantic between the parallels of 20° and 40° a great reservoir of warmth." The climatic effect of this vertical transfer of equatorial heat is obvious. If the great heat-bearing currents which enter the north Atlantic traversed its bosom as surface currents they would expend their warmth largely in the high latitudes. But, as their heavy and highly heated volumes in large measure descend to the deeper strata south of the 40th parallel, their stores of tropical temperature are permanently arrested off our eastern coast and ultimately made subservient to our climate.

RAILROAD BUILDING IN ARIZONA.—There are now, says the *Los Angeles Express*, June 18th, six trains running between here and Arizona, two new ones having been put on yesterday. This makes a departure every day of three trains from each end of the road. The company are pushing on the work of extending the road with increased energy, and say that as soon as they pass the range of mountains the other side of the San Pedro, they will reach a country where they will be able to lay three miles of track every day. They are impelled to this great energy in their work by the rapid movement westward of the Atchison and Topeka road. That road is now so far advanced that Arizona merchants can lay down goods cheaper by it from the East than they can by way of San Francisco. It looks as if the days of competition among the great corporations were approaching.

OREGON SWAMP LAND COMMISSION.—Sec'y Schurz decided June 7th, the Oregon swamp land cases arising in the Oregon City Land Office which were appealed last November. The Secretary reverses the decision of the General Land Office, and holds that the Oregon swamp grant was one *in priori*, that there has not been any forfeiture, either as to the land surveyed prior or subsequent to March 12, 1860, or whether selected within two years from the adjournment of the State Legislature or not, and consequently that all lands in Oregon actually swamp, must be certified to said State. This, and the Dennis Crowley decision, terminates in favor of the State of Oregon, all disputes between the U. S. and the said State, that have been pending under the Swamp Land act of March 12, 1860, for 20 years.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

ALBERT BURBANK, 43 California Market, S. F. Importers and Breeders of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

GRANGERS' BANK
Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY, President
JOHN LEWELLING, Vice-President
ALBERT MONTPELLIER, Cashier and Manager
FRANK McMULLEN, Secretary

DIRECTORS:

G. W. COLBY, President, Butte Co.
JOHN LEWELLING, Vice-President, Napa Co.
J. V. WEBSTER, Alameda Co.
URIAH WOOD, San Benito Co.
J. C. MERYFIELD, Solano Co.
THOMAS MCCONNELL, Sacramento Co.
I. C. STEELE, San Mateo Co.
SOLOMON JEWETT, Kern Co.
C. J. CRESSEY, Stanislaus Co.
SENECA EWER, Napa Co.
A. D. LOGAN, Colusa Co.

The Bank was opened on the first of August, 1874, for the transaction of general banking business. CURRENT ACCOUNTS are opened and conducted in the usual way. GOLD and SILVER deposits received. CERTIFICATES OF DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,
Cashier and Manager

San Francisco, Oct. 15th, 1879.

PACIFIC WATER CURE

— AND —

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,
Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca.
GILES H. GRAY. JAMES M. HAVEN.

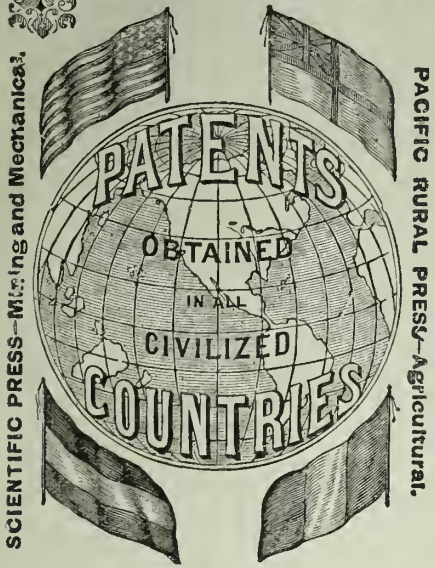
GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO

GENERAL Purchasing Agent, James B. Sheat, 410 and 418 Davis St., S. F.

DEWEY & CO'S SCIENTIFIC PRESS Patent Agency.



PATENTS obtained promptly; Caveats filed expeditiously. Patent re-issues taken out; Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Soliciting Business promptly and thoroughly conducted. Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons, and our success and business are constantly increasing. The ablest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.
Office—202 Sansome St., N. E. Cor. Pine, S. F.
A. T. DEWEY. W. B. EWER. G. H. STRONG.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

OXYGEN.

What is it? Everybody knows it is as essential to life as food itself. Yet when people are ill for the very want of revitalization through respiration, they dose themselves with drugs and bitters to the effect of demoralization! All Invalids should read Drs. STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*, which is sent free to all who may ask for it. The subject is worthy of investigation. References to physicians in San Francisco, who use and prescribe Compound Oxygen in practice. As prepared for home use (conveniently sent to any address) it may be obtained of H. E. MATHEWS, 606 Montgomery street, S. F., upon the same terms as furnished by Drs. Starkey & Palen, Philadelphia, Penn. Complete instructions with each package.

A NEW BOOK.

A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.



35 Fine Engravings showing the positions and actions of sick horses. Gives the cause, symptoms and best treatment of diseases. Has a table giving the doses, effects and antidotes of all the principal medicines used for the horse, and a few pages on the action and uses of medicines. Rules for telling the age of a horse, with a fine engraving showing the appearance of the teeth at each year.

DEWEY & CO.,
202 Sansome St., S. F.

Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

Poultry.

THOROUGHbred POULTRY.

SAFE ARRIVAL OF FOWLS AND EGGS. UNLIMITED RANGE. Healthy Stock. 116 ACRES. Devoted to the Business.



LANGSHANS. I now breed this justly celebrated Fowl. Send 3c. stamp for price list and circular describing the different breeds I keep. Incubators. M. EYRE, Napa, Cal. Pamphlet on Breeding, Hatching, Diseases, etc., adapted especially to Pacific Coast, sent for 15c.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON.

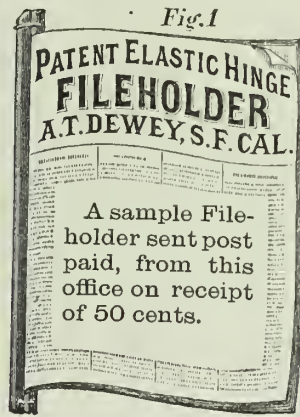
Near the University, Berkeley, Alameda Co., Cal.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested. Young Queens ready April 1st. Also, Wintered-over Queens. Purity and safety guaranteed. Comb foundation, smokers, knives, bee-books, etc. Sample Premium Hive. Address with stamp.

JOS. D. ENAS,

Sunny Side, Napa Co., Cal.



Five sizes are made to suit the dimensions of different papers, viz.: 13, 22, 20, 30 and 34 inches, inside measure.

For Sale by DEWEY & CO.,

No. 202 Sansome St., S. F.

COPP'S AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township and Section Corners; How to Homestead and Pre-empt land; How to Enter land under Timber Culture, Desert, Townsite and other Laws. Sent by mail postpaid for 50 cents. DEWEY & CO., 202 Sansome St., S. F.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. Proprietors.

Office—318 California Street, Room 3.

SEND FOR THE \$1.50

Homoeopathic Medicine Case.

Containing 12 principal remedies, with directions for use. Also Veterinary cases and books. Send for catalogue. Address BOERICKE & TAFEL, Homoeopathic Pharmacy, San Francisco.



NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

REMOVAL.

John F. Geary, M. D.

For the last 18 years at 632 Howard street, San Francisco, has

MOVED TO OAKLAND.

Consulting rooms, Eric House, 1113 Broadway.

Office hours, 1 to 5 P. M. Mornings and evenings at Marathon Park, Telegraph Avenue.

Diseases of women and children a specialty for 25 years.

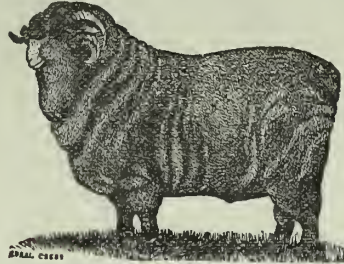
The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiculture, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, postpaid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Dewey & Co. { 202 Sansome St. } Patent Ag'ts

Stock Notices.

E. W. WOOLSEY & SON, Importers and Breeders of THOROUGHbred



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY HEIFERS FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

PRICES:

One Week Old \$ 5.00
One Month Old 10.00
Two Months Old 15.00
Three Months Old 20.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

RAMS FOR SALE.

300 THOROUGHbred

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first importation of Spanish Merino Sheep to California, in 1854.

Prices to suit the times. Residence, one mile north of McConnel's Station, Western Pacific Division C. P. R. R.

P. O. address, MRS. E. MCCONNELL WILSON,

Elk Grove, Sacramento Co., Cal.

TO SHEEP RAISERS.

300 THOROUGHbred SPANISH MERINO RAMS; 300 THOROUGHbred FRENCH MERINO RAMS.

For sale in lots to suit, and at greatly reduced rates. Apply to EUGENE AVY, Wool Commission Merchant, 320 Sansome St., Wells, Fargo & Co.'s building

Seedsman.

BUY DIRECT! SEEDS, TREES, Etc.

5 Cents per lb.—Egyptian Corn (white and brown); Broom Corn; Extra Early Vermont, Snowflake and Broom Corn; Prolific Potatoes; Pop-Corn. 10 Cts. per lb.—Pearl Millet in heads; Sorghum; Evergreen Imphee (for feed); Evergreen or Golden and Dwarf Broom-Corn; Golden Millet 20 Cts. per lb.—Liberian, Kenya, Amber, Oomseana and Neesana Sugar Canes; Best Spanish Chufas; Pearl Millet in hulls. 40 Cts. per lb.—Chinese Imphee, largest and richest in sugar. (See page 250 Report of Commissioner of Agriculture for 1877).

TREES at 5 to 10 Cts. each—Chestnut, Walnut, Maples (sugar, red and silver); Catalpas, Ailanthus, Fir, Pine, etc. 25 Cts. per 100—Strawberry Plants, Poplar, Osier and Hop Root Cuttings. At 1 Ct. each—Arbor Vite trees (1 foot high); Prickley Comfrey and Panicum Spectabile Root-cuttings; Pomegranate, Fig and Black Mulberry Cuttings.

Semi-tropical and other Fruit Trees, CHEAP. Trees, Seeds, etc., packed and delivered on cars without extra charge, or sent by mail for 16 cts. per lb. additional. Send for illustrated catalogue free. Address

W. A. SANDERS, SANDERS P. O., Fresno Co., Cal.

B.K. BLISS & SONS HAND BOOK.

A COMPLETE GUIDE FOR THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.

34 BARCLAY ST. NEW YORK.

Pocket Map of California and Nevada.

Compiled from the latest authentic sources, by Chas. Drayton Gibbs, C. E. This map comprises information obtained from the U. S. Coast and Land, Whitney's State Geological, and Railroad Surveys; and from the results of explorations made by R. S. Williamson, U. S. A., Henry Degroot, C. D. Gibbs and others. The scale is 18 miles to 1 inch. It gives the Judicial and U. S. Land Districts. It distinguishes the Townships and their subdivisions; the County Seats; the Military Posts; the Railroads built and proposed, and the limits of some of them; the occurrence of gold, silver, copper, quicksilver, tin, coal and oil. It has a section showing the heights of the principal mountains. The boundaries are clear and unmistakable, and the print good. 1878. Sold by DEWEY & CO. Price, postpaid, \$2; to subscribers of this journal, until further notice, \$1.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

Lands for Sale and to Let.

Rare Opportunity

— FOR A —

COLONY

— OR —

Farming Enterprise!

A tract of land, comprising 20,000 acres, lying in Town ship 16, south, range 19 and 20 east, in

FRESNO COUNTY,

Is offered in whole or in part, as a very desirable location for a Colony or extensive farming enterprise.

This land is in the immediate vicinity of several Colonies, which are already in successful progress.

Work for bringing water upon the land has already been commenced, and the land is so situated that it can be irrigated at very little outlay. It is also convenient for Railroad transportation.

Terms Reasonable.

For further particulars inquire of FRANKLIN D. COTTLE, No. 932 Howard Street, San Francisco, or COTTLE & LUCE on the premises, or at Fresno City, Cal.

FRUIT FARM

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for \$25,000. Is offered for \$20,000 and will pay a Good Interest on the investment.

There are 118 acres of choice land—40 acres in Strawberries, 7 acres in Blackberries, 700 young Pear Trees, and an Old Orchard. Has several flowing wells, a large house of 10 rooms, marble mantels, etc. The house is completely finished, Brussels carpets on most of the floors; parlor, sitting-room and bed-room furniture all nearly new.

With Stock consisting of Horses, Cattle, Hogs, Farming Implements, etc., sufficient for the place, all for the price above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N. R. 6 W. M. D. M. will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California.

March 20th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, DEWEY & CO.,

Office MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome Street, S. F.—1879.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

FOR THE WEEK ENDING JUNE 22, 1880.

- 229,109.—DRYING APPARATUS—E. F. Ely, Santa Rosa, Cal.
229,035.—BRECH-LOADING FIREARM—W. R. Finch, Eureka, Cal.
229,036.—NEWSPAPER FILE—W. C. Fitch, Sacramento, Cal.
229,040.—GRAFTING TOOL—C. W. Hoit, Petaluma, Cal.
229,144.—BOOT AND SHOE—P. Kelly, S. F.
229,147.—GATE—F. W. Lamb, Hydesville, Cal.
229,181.—TRACK CLEARER FOR MOWER—W. Prindle, Santa Clara, Cal.

List of English patents applied for by Pacific Coast inventors:

- 447.—EXPLOSIVE COMPOUND—M. Tishner, S. F.
458.—EXTRACTING METALS FROM ORE—A. C. Tichenor, 585.—UNERELLA—D. Harris, S. F.
773.—BED—J. H. Archer, S. F.
1,102.—VALVE—W. Wilson, Oakland, Cal.
1,216.—PHOTOGRAPHS—E. S. Molera and J. C. Cebrian, S. F.
1,217.—PHOTOGRAPHS—E. S. Molera and J. C. Cebrian, S. F.
1,230.—BREER—A. J. Spencer, San Jose, Cal.
1,586.—CHRONOMETRIC MOTOR—E. S. Molera and J. C. Cebrian, S. F.
1,620.—VESSEL—J. S. Taylor, S. F.
1,669.—BOLLERS—E. S. Molera and J. C. Cebrian, S. F.
1,752.—ICE MACHINE—C. C. Palmer, Oakland, Cal.
1,756.—PIPE LAYING APPARATUS—E. M. Hamilton and C. N. Earl, Los Angeles, Cal.
2,192.—FIREARM—A. Schneider and T. Elliott, S. F.

NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Horticultural Premiums at Mechanics' Fair of 1880.

PLANTS, TREES AND FLOWERS.

- To the exhibitor making the best and most attractive continuous display of plants and flowers during the exhibition..... Silver medal and \$75
Second do..... Bronze medal and 50
To the exhibitor making the best display of foliage, plants and ferns..... Silver medal and 50
Second do..... Bronze medal and 25
Best group of hardy palms and araucarias..... Bronze medal and 25
Best group of orange or lemon trees, rarity, height and growth considered (not less than 10 specimens)..... Silver medal and 25
Best display of fuchsias in bloom in pots (not less than 25 plants)..... Bronze medal and 15
Best continuous display of cut flowers during the exhibition..... Silver medal and 35
Second do..... Bronze medal and 20
Best continuous display of gladiolus (not less than 40 glasses)..... Bronze medal and 25
Second do..... Diploma and 10
Best display and variety of dahlias..... Bronze medal and 25
Second do..... Diploma and 10
Best display of ornamental grasses..... Bronze medal and 15
Best display of rustic work and filling..... Silver medal and 30
Best single specimen of rustic work and filling..... Diploma and 10

OPEN TO AMATEURS ONLY.

- Best 12 house plants..... \$10
Best display of cut roses..... 10
Best specimen of climber on globe or trellise..... 5
Best collection cut flowers..... 10
Best carnations..... 5
Best 12 variegated-leaf geraniums..... 10

FRUIT—OPEN TO GROWERS ONLY.

- N. B.—No premium will be awarded unless the fruit is properly named.
Best collection apples..... \$20
Best 12 varieties apples..... 10
Best collection pears..... 20
Best 12 varieties pears..... 10
Best collection peaches..... 20
Best 6 varieties peaches..... 10
Best 6 varieties canning peaches..... 10
Best collection plums..... 10
Second do..... 5
Best collection prunes..... 10
Best collection nectarines..... 5
Best collection quinces..... 10
Best collection figs..... 10
Best collection oranges..... 15
Best collection lemons..... 10
Best collection limes..... 5
Best display of grapes..... 25
Best collection table grapes..... 15
Best 6 varieties table grapes..... 10
Best collection wine grapes..... 20
Best 6 varieties wine grapes..... 10
Best collection raisin grapes..... 15
Best collection seedless raisin grapes..... 15
Best display Japan persimmons..... 10
Best display pomegranates..... 5
Best display blackberries..... 5
Best display raspberries..... 5
Best display strawberries..... 5

DRIED FRUIT.

- Apricots, best 10 lbs..... \$5
Apples, best 10 lbs..... 5
Prunes, best 10 lbs..... 5
Peaches, best 10 lbs..... 5
Plums, best 10 lbs..... 5
Pears, best 10 lbs..... 5
Figs, best 10 lbs..... 5
Raisins, Cal., best box of 20 lbs. or more..... 25
Seedless raisins, Cal., best box of 20 lbs. or more..... 15

NUTS—CALIFORNIA GROWN.

- Almonds, best 10 lbs..... \$5
Walnuts, best 10 lbs..... 5
Chestnuts, best 10 lbs..... 5

THE ZIMMERMAN DRIER.—From the frequent mention we see of the Zimmerman fruit drier in our Eastern exchanges we infer that it is a machine of good standing for family use. It is worth looking into and the advertisement in another column tells where catalogues may be obtained.

FAMINE fever has appeared in Killbran, County Sligo, Ireland. At a meeting of the Committee of the Mansion House Relief Fund it was stated that the Fund afforded only three weeks' supply.



CRYSTAL FALLS.

The accompanying engraving illustrates one of many charming views near Anderson Springs, Lake county. It is drawn from a photograph taken by A. J. Perkins (gallery, No. 337 Hayes street, S. F.) who has some two or three dozen more picturesque views taken upon the premises of Anderson & Patriquin, proprietors of the Springs. The height of the falls represented in our picture is about 12 ft. They are situated some little distance from the hotel on the right hand branch of quite a large brook, which comes tumbling over the boulders and rocks in rapid descent—its waters fairly roaring with agitation in some places and in others pleasantly rollicking and murmuring along. The falls are in a wild gorge. The water, almost icy cold and crystal clear, is a natural trout stream.

Change in Land Laws.

The new regulations set forth in the following letter from the General Land Office at Washington, are now in force.

To District Land Offices—GENTLEMEN:—Appended hereto is a copy of the act approved May 14, 1880, which changes existing laws and regulations relative to the entry of certain classes of land:

SEC. 1. That when a pre-emption, homestead or timber culture claimant shall file a written relinquishment of his claim in the local land office, the land covered by such claim shall be held as open to settlement and entry without further action on the part of the Commissioner of the General Land Office.

This will be held to apply only to the relinquishments which are filed subsequent to date of said act, viz: May 14, 1880.

You are instructed not to accept or act upon any relinquishment, unless made before you, which has been duly subscribed by the claimant on the back of his duplicate receipt, acknowledged, witnessed and executed in a manner which under the laws of the State or Territory in which the land is situated would be sufficient as a valid transfer of real estate. In case of the loss of a duplicate receipt or declaratory statement, an affidavit of such loss must accompany the written relinquishment.

Immediately upon a relinquishment duly executed as above, being received at your office, you will proceed as follows:

1. The Register will note on the relinquishment over his signature, the day and hour of its receipt by you.

2. Write the words "cancelled by relinquishment" (giving date), opposite the record of the entry in the tract book, the register of entries and the register of receipts.

3. Draw a line over the numbers of the entry on the township plat.

4. On Monday of each week you are directed to transmit to this office all the relinquishments which have been accepted by you during the preceding week.

When the relinquishment shall have been received and noted as above, you will hold the land embraced in the relinquished entry as subject to settlement or entry by the first legal claimant; the intention of said section, as understood by me, being only to prevent the delay resulting heretofore from awaiting action on such relinquishment by this office.

SEC. 2 is designed to secure to the contestant

therein named, for the period of 30 days from notice of the cancellation of a prior entry of the character specified, a preference right to initiate his claim to the same land. It is not intended to grant such contestants the unconditional right to final entry, as I construe the section as preceding settlement or entry by any other party during the period named.

SEC. 3 places homestead settlers on unsurveyed public lands on the same footing with pre-emption settlers under existing laws. This section protects the claim of an actual settler upon unsurveyed land, provided he shall make homestead entry of the land within three months from the filing of the township plat of survey in the district land office, the same as the pre-emptor is now protected by filing his declaratory statement within the same period, and if the homestead settler shall fully comply with the law as to continuous residence and cultivation his statement defeats all claims intervening between its date and the date of filing his homestead application. In making final proof his five years' residence and cultivation will commence from date of actual settlement.—C. W. HOLCOMB, Acting Commissioner.

DAIRY OR FRUIT RANCHES FOR SALE.—EDS. PRESS:—Among the many suitable places for "pleasant homes" that can be had in Santa Cruz Co., I will mention Mr. Frank Larkin's 1,000-acre tract, near Watsonville, of which I send you an advertisement to-day. I am acquainted with the place, and think it to be all that he claims for it, and think it would be a chance for a number of persons to combine and buy themselves homes. He wants to sell because he does not want the care of the place. The land is well adapted to the growth of grain, grass, or fruit, of all the varieties common to our climate, and particularly small fruit.—M. P. OWEN.

PRIZE TO AN AMERICAN WINDMILL.—It will be a matter of interest to many to know that the first prize at the Great International Exposition at Sydney was awarded to the new Alt-house windmill. This recognition of excellence in a standard American machine is well deserved, and the agent, Mr. Woodin, will doubtless give this award a place among his numerous laurels.

A RAILROAD official in Arkansas says that during the next two years more miles of railroad will be built in that State than in any other State in the South.

THE FORESTRY INQUIRY.—We have already mentioned the expected arrival of Prof. C. S. Sargent, forestry expert for the census office, and his associates. Later information from the East gives the plans of the forest examiners with more detail. They will begin by visiting Kansas to study the tree distribution on the eastern edge of the prairie and plain region; then they will go through Colorado, and possibly New Mexico, to examine on the spot the heavy timber in the canyons of the western spurs of the Rocky mountains. The labor completed, they will proceed, via San Francisco, to Victoria, and thence southward through Puget Sound to Portland, Oregon; then south along the western flank of the Cascade mountains to Roseburg, Douglass county, Oregon, where the party will make their headquarters for some time in order to examine the peculiar and little known forest vegetation of that region. Thence south again to the Mt. Shasta country, in northern California, where so many of the peculiar California trees were first discovered by Douglass and Jeffrey. From a botanical point of view the stay at Roseburg and in the neighborhood of Shasta will probably be the most interesting. The party will visit the great forest of Sequoias at the head of the Kern river in the southern Sierras. In Kansas and Colorado Mr. Sargent will be accompanied by Mr. Robert Douglas of Waukegan, and from Salt Lake westward by Dr. George Engelmann of St. Louis and Dr. Parry. The two latter, who are officially connected with the investigation, will pass the next winter in southern California, and return East by way of Arizona and New Mexico in the spring.

THE SACKETT BOARDING SCHOOL.—This institution has, in a very brief time, gained a leading position among the many private schools of Oakland. The fact affords the best possible proof of superior merit. The principal, Mr. D. P. Sackett, has been long and favorably known there as a disciplinarian and teacher. The location of the school is convenient, healthful and attractive. The comfort and well-being of the students is an especial feature of the domestic department. The moral and the physical training of the pupil is carefully conducted. In their mental training great prominence is given to the fundamental branches which must enter solidly into all genuine education. Parents who are in search of a school in which to fit their boys for the University or for business, would do well to examine the catalogue, and visit the premises of the Sackett school.

PRIME JERSEY BULL FOR SALE.—Attention is called to the advertisement of a famous Jersey bull for sale by F. J. Barretto, of Downey, Los Angeles Co., Cal. Mr. Barretto is one of the leading prize takers at our fairs, and his stock is commended by all who have seen it.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove, to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

HALL'S VEGETABLE SICILIAN HAIR RESTORER is a scientific combination of some of the most powerful restorative agents in the vegetable kingdom. It restores gray hair to its original color. It makes the scalp white and clean. It cures dandruff and humors, and falling out of the hair. It furnishes the nutritive principle by which the hair is nourished and supported. It makes the hair moist, soft and glossy, and is unsurpassed as a hair dressing. It is the most economical preparation ever offered to the public, as its effects remain a long time, and making only an occasional application necessary. It is recommended and used by eminent medical men, and officially endorsed by the State Assayer of Massachusetts. The popularity of Hall's Hair Restorer has increased with the test of many years, both in this country and in foreign lands, and it is now known and used in all the civilized countries of the world.

FOR SALE BY ALL DEALERS.

CITIZENS OF SAN JOSE and vicinity, who wish thoroughly good dress making, at reasonable prices, are recommended to call at the establishment of Mrs. N. A. Sanders, just west of the Farmers' Union.

FRANK'S attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavillion performance are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

THE YOSEMITE is strictly first class and the leading hotel in Stockton. Prices moderate. JAS. CATY, Prop.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, June 30, 1880.

The trade of the week has been rather more interesting than usual. Some Grains have shown more life, and Wool has advanced a little, apparently enough to set trade agoging again. The operations of the exchanges and the street transactions are becoming more interesting. The city generally bids fair to awake from the lethargy of the last few months.

Abroad the Wheat prices are shading down, as they always do as harvest draws nearer, and the English expect a home crop of much better amount and quality than they have had for the last 4 years. The course of prices has been as follows:

Range of Cable Prices of Wheat.

The course of the Liverpool quotation for Wheat to the Produce Exchange during the days of last week has been as recorded in the following table:

	CAL. AVERAGE.			CLUB.		
Thursday....	8s	6d@9s	3d	9s	5d@9s	11d
Friday.....	8s	5d@9s	2d	9s	4d@9s	10d
Saturday....	8s	5d@9s	2d	9s	4d@9s	10d
Monday.....	8s	5d@9s	2d	9s	4d@9s	10d
Tuesday....	8s	4d@9s	1d	9s	3d@9s	9d
Wednesday..	8s	4d@9s	1d	9s	3d@9s	9d

To-day's cable quotations to the Produce Exchange compare with same date in former years as follows:

	Average.			Club.		
1878.....	9s	11d@10s	3d	10s	3d@10s	9d
1879.....	8s	6d@9s	3d	9s	2d@9s	6d
1880.....	8s	4d@9s	1d	9s	3d@9s	9d

The Foreign Review.

LONDON, June 28.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "Despite somewhat too much rain, crops have made satisfactory progress, and anticipations of good crops are becoming more confident. The supplies of home-grown Wheat, both at Mark Lane and in the country, are insignificant. Sales were only practicable at a shilling decline. Growers yielded with reluctance, but the abundance and relative cheapness of fine White foreign Wheat rendered the millers somewhat indifferent to native Wheat. The weather now is of paramount importance. There is still a feeling of depression, which is due, in a great measure, to the liberal imports into London, which were 135,000 quarters during the past fortnight. Trade during the week was confined to supply the immediate wants of millers, who were able to satisfy themselves at a decline of fully a shilling per quarter on White and 6c on Red descriptions. The weather and crop prospects have brightened. American shipments all favor buyers. Maize was firmly held for last Monday's full rates. Trade closed with decidedly weaker tendency for Wheat. The arrivals at ports of call have been moderate, and the demand for Wheat has been inactive. There have been few sales, mostly for the continental market, at a decline of a shilling per quarter. Only 3 cargoes of Maize were received, and owing to its scarcity 26s 3d was paid for mixed American. In Wheat for shipment there is a downward course. There has been a fair business in mixed American Maize on passage and for shipment, at about late rates. Sales of English Wheat last week were 23,205 quarters, at 44s 8d per quarter, against 36,260 quarters, at 42s 6d per quarter, the corresponding period last year. The imports into the United Kingdom, for the week ending June 19th, were 1,063,831 cwt Wheat, and 255,863 cwt Flour.

Eastern Grain and Provision Markets.

New York, June 26.—The General Merchandise markets reflect the dullness of trade which is incident to the season. Breadstuffs are dull and depressed under the large and undiminished supplies and the limited export demand, both of which are induced largely by the very early and favorable crop prospects at home and abroad, and the consequent pressure to sell the old crop before the new arrives, and the delay till then to purchase. Provisions are dull, lower and neglected.

CHICAGO, June 26.—Except for a gradual and steady weakening in prices, there has been no change in Grain during the week closing to-night. The shrinkage has been small on the whole, but it indicates the approach of good harvests and a confidence in the weather and prospects, that are encouraging to the farmers. Receipts of Wheat are practically nothing at present, but a magnificent bulk of Corn continues to pour in, regardless of harvests or lowering rates. The amount is, however, likely to lessen as the month goes out. Sales for the week for July option were as follows: Wheat, 87,291½c (the lowest price to-day and the highest on Monday); Corn, 34½@35½c; Oats, 24½@26½c; Pork, \$11.35@12.22½; Lard, \$6.60@6.92½. Respecting Provisions, it is to be said that the rise in prices is the logical result of the small manufacture of Pork and Lard. These 2 products have been neglected by packers, because at the high current rates for Hogs it was impossible to make them with profit. The high prices for Hogs have been maintained, because there was an unusual demand for fancy cuts, and these could be made with profit by packers, so that they took all the Hogs that came. The heavy receipts of both Cattle and Hogs, and the stiff rates, seem to be running a race in which neither will yield. If rates decline, the receipts immediately show marked lessening. If they advance, receipts increase. The producers watch the market and the prospect with keen eyes, and are posted by their factors here. It is a pretty fight, and it would not be surprising if the Hog product was crowded up much higher than present figures before the summer closes. Closing cash prices were as follows: Wheat, 88½@89c; Corn, 34½@34½c; Oats, 24½c; Rye, 75c; Barley, 71½@72c; Pork, \$11.95; Lard, \$6.65.

New York, June 29.—The receipts of Grain at this port have been unprecedentedly large, both for yesterday and for the past week. Yesterday the arrivals were, in round numbers, 550,000 bushels of Wheat and 740,000 bushels of Corn. For the week ending the 26th they aggregated 5,213,330 bushels. The exports since Saturday were very large, being of Wheat 230,000 bushels, and of Corn 550,000 bushels. The visible supply has increased during the week in Wheat 200,000 bushels, and in Corn 89,000 bushels.

Eastern Wool Markets.

New York, June 26. Wool is neglected. Sales of California, 45,000 lbs Fall, 19½@22c.

Boston, June 26.—The Wool market is more active for all kinds with a steadier and better feeling, and bottom prices have evidently been reached. There is a movement in new Spring California this week, sales comprising 334,900 lbs at 25@36c, of which considerable was choice Northern at 35@36c. There is a better demand for washed fleeces, with sales of 171,000 lbs. In unwashed fleeces a fair business is doing, and for pulled Wools there is increased demand, but no improvement in prices. Transactions in foreign Wool included 500,000 lbs Montevideo, said to arrive several weeks ago, at 36½@42c, but just delivered. This is about 5c per lb above the present current rates. Sales include Ohio, Pennsylvania and Virginia fleeces, X, XX and XXX, at 44@48c; new X Michigan, 40c; old Michigan X and No. 1, 42@47½c; Wisconsin

fine, 45c; Ohio fine Delaine, 45c; Combing and Delaine, unwashed, 33½@36c; Georgia, 34½@36c; Texas, 31@34c; Lake, 35c; Missouri, 35c; choice Kentucky, 37c; unwashed and unmerchantable fleeces, 23@37; Spring California, 25@36c; Fall do, 20½@32½c; scoured, 48@50c; Super and X pulled, 42@53c; Montevideo, 35@36c; Australian, 43@45c; English combing, 50c; Scotch combings, 42c. The total sales for the week were 26,177,700 lbs, of which 1,304,400 were domestic.

PHILADELPHIA, June 29.—Wool is firmer and the supply light, and the demand improving. Oregon fine, 28@30c; medium, 30@35c; coarse, 28@30c; California, 25@30c; medium, 28@32c; coarse, 25@28c; New Mexican and Colorado fine, 20@30c; medium, 25@30c; coarse Carpet Wool, 22@25c; pulled extra Merino, 40@45c; Super, 40@43c; Lambs' Super, 40@45c.

New York Dried Fruit Markets.

NEW YORK, June 26.—Foreign Fruits are very quiet. Raisins are unchanged. Prunes are unsettled and weak. New, 5½c; old, 3½c.

Receipts of Domestic Produce.

The following table shows the San Francisco receipts of Domestic Produce for the week ending at noon to-day, as compared with the receipts of previous weeks:

ARTICLES.	WEEK. June 9.	WEEK. June 16.	WEEK. June 23.	WEEK. June 30.
Flour, quartersacks..	6,984	80,174	65,104	38,834
Wheat, centals.....	19,706	56,321	41,354	40,451
Barley, centals.....	24,575	25,029	9,007	16,035
Beans, sacks.....	3,787	3,002	10,600	1,474
Corn, centals.....	12,114	14,235	6,524	9,256
Oats, centals.....	8,494	10,367	4,165	2,873
Potatoes, sacks.....	9,068	7,050	8,802	9,855
Onions, sacks.....	1,688	1,850	1,658	1,700
Wool, bales.....	5,351	5,858	4,938	7,012
Hops, bales.....			18	18
Hay, bales.....	902	760	945	952

BAGS.—The Bag market seems to feel the better impression in the Grain prospect, and dealers report the trade firming. There is no change in rates. It is said that lots which were bought at 9½c a few days ago, have been resold at 10c in lots of 100,000 bags. Holders say they are confident that their goods will be called for.

BARLEY.—Sales of Barley have been considerable, although prices have not changed. We note sales, 2,000 sks Bay Feed at 70c; 250 sks choice Coast do, 70c, and 60 tons fair do at 65c.

BEANS.—There is no change.

CORN.—Corn is about the same as at our last report, although it has been a little off meantime. We note sales of 700 cts Large Yellow at \$1.12½.

DAIRY PRODUCE.—All are talking the Butter market a little weaker, but there is no material reduction in rates. The receipts have been a little larger than the demand took up, so the effect is natural. It seems altogether too late for a break in values, so probably a few days will stiffen things up again. Cheese is ruling from 7@10c per lb.

EGGS.—The bulk of California Eggs are selling from 19@21c, but some choice lots, extra fresh, still bring 22½c. The market is very quiet.

FEED.—There is no change of consequence either in Hay or Ground Feeds.

FRESH MEAT.—Trade is quiet and prices unchanged.

FRUIT.—Our list shows considerable fluctuations, generally in the line of reduced prices, as the receipts of all early Fruits are becoming large. Red Astracan Apples are now in. Black Figs have also appeared, and sold at 35c per lb. Prices of other Fruits may be found in our list.

HOPS.—Prices are stationary. Reports from California yards state that the growing plant is generally in good condition and promise.

LIVE STOCK.—We note sales: 250 Steers and Cows, mixed, \$33 per head; 82 head at \$32 per head; 560 head at \$35.20 per head; 417 head, mixed, at \$28 per head; 300 Calves at \$10.25 each; 300 Hogs at \$1c; 525 Hogs at 5c; 320 sows Hogs at 4½c; 500 Sheep at \$2 each; 420 Lambs at \$1.25 each, in the country; 460 Sheep at \$1.87½ each.

OATS.—Oats are quiet and sales few; 200 sks Humboldt Feed brought \$1.42½ per cwt.

POTATOES.—Old Potatoes are now out of the market; and prices are now for the new crop. Receipts are quite moderate so far.

POULTRY.—Young Roosters, Broilers and tame Ducks are lower, as quoted in our list. Other sorts are unchanged. The trade is very quiet.

PROVISIONS.—Quiet and unchanged.

VEGETABLES.—Our list shows many fluctuations. Eggplant is now in, and has sold at 20c per lb.

WHEAT.—The millers are doing nearly all the business. We note sales: 200 cts choice Sonora, for cracked Wheat, at \$1.65; 200 cts do, for the same purpose, \$1.61½; 400 sks choice Milling, \$1.60; 2,000, 1,000 and 125 sks do do, \$1.57½; 575 sks good do, \$1.55; 1,400 sks fair do, \$1.50; and 255 sks, for superfine, at \$1.37.

WOOL.—The demand is better and prices are advanced 1½c all around. Trade is going on freely, and there seems a disposition to clear up the Wool in hand. The demand is good, especially for choice lots. One house has sold 150,000 lbs at the prices given in our list.

RETAIL GROCERIES, ETC.

WEDNESDAY M., June 30, 1880.

Butter, California	15 @ 45	Rice.....	8 @ 12
Chico, lb.....	25 @ 25	Yeast Pwd. doz..	1.50 @ 2.00
Cheese.....	18 @ 25	Can'd Oysters doz	2.00 @ 3.00
Eastern.....	25 @ 30	Syrup, S.F. Gold'n	75 @ 1.00
Lard, Cal.....	18 @ 20	Dried Apples, lb.	10 @ 14
Eastern.....	20 @ 25	Ger. Prunes.....	12½ @ 10
Flour, ex. fam, bbls	10 @ 20	Figs, Cal.....	9 @ 15
Corn Meal, lb.....	2½ @ 3	Peaches.....	11 @ 10
Sugar, wh. crabd	12½ @ 13½	Oils, Kerosene.....	50 @ 60
Light Brown.....	8 @ 9	Wines, Old Port...3	50 @ 60
Coffee, Green.....	23 @ 35	French Claret.....	1.00 @ 2.50
Tea, Fine Black....	50 @ 60	Cal. doz bot.....	3.00 @ 4.50
Finest Japan.....	55 @ 61	Whisky, O.K. gal..3	50 @ 65
Candles, Adm'te..	15 @ 25	French Brandy....4	00 @ 63
Soap, Cal.....	7 @ 10		

BAGS AND BAGGING.

[JOBBER PRICES.]

Eng Standard Wheat, 10½@107	45 inch.....	9½ @ 10
California Manufacture.	40 inch.....	9 @ 9½
Hand Sewed, 22x36, 10½@107	Wool Sacks.....	
22x40.....	Hand Sewed, 3½ lb.....	@ 50
22x40.....	4 lb do.....	52½ @ 55
24x40.....	Machine Sewed.....	@ 50
Machine Sewd, 22x36, 10½@107	Standard Gunnies.....	@ 74
Flour Sacks, hars.....	Boan Bags.....	7 @ 7½
Quarters.....	Twine, Detrick's A.....	@ 35
Eighths.....	" A.....	@ 37
Hessian, 60 inch.....	" Lonesdale, Ex.....	@ 40½
	" Stand.....	@ 36

DOMESTIC PRODUCE.

[WHOLESALE.]

BEANS & PEAS.	WEDNESDAY M., June 30, 1880.
Mayo, ct.....	95 @ 105
Butter.....	10 @ 15
Castor.....	25 @ 30
Pea.....	125 @ 135
Red.....	95 @ 105
Pink.....	95 @ 105
Sm't White.....	105 @ 115
Lima.....	50 @ 60
Field Peas, b'l eye	25 @ 30
do, green.....	10 @ 15

BROOM CORN.	
Southern.....	14 @ 2
Northern.....	24 @ 3

CHICORY.	
California.....	4 @ 4½
German.....	6½ @ 7

DAILY PRODUCE, ETC.	
Cal. Fresh Roll, lb	20 @ 22½
Fancy Brands.....	@ 23
Pickle Roll.....	@
Firk'n, new.....	@ 22½
Western.....	@
New York.....	@

BUTTER.	
Cal. Fresh Roll, lb	20 @ 22½
Fancy Brands.....	@ 23
Pickle Roll.....	@
Firk'n, new.....	@ 22½
Western.....	@
New York.....	@

CHEESE.	
Cheese, Cal, lb.....	7 @ 10
N. Y. State.....	@

EGGS.	
Cal. fresh, doz.....	20 @ 22
Ducks.....	19 @ 21
Oregon.....	16 @ 17
Eastern, exp'd.....	@ 18
Pickled here.....	@
Utah.....	@

FEED.	
Brn, ton.....	12 50 @ 13 00
Corn Meal.....	@ 26 50
Hay.....	6 00 @ 12 00
Midlings.....	@ 10 00
Oil Cake Meal.....	30 @
Straw, bale.....	40 @ 47½

FLOUR.	
Extra, City Mills.....	25 @ 50
do, Country Mills.....	50 @ 55
do, Oregon.....	45 @ 54 75
do, Walla Walla.....	45 @ 54 75
Superior.....	50 @ 60

FRESH MEAT.	
Beef, 1st qual, lb	6 @ 6½
Second.....	5 @ 6
Third.....	4 @ 4½
Mutton.....	3 @ 3½
Spring Lamb.....	4 @ 5
Pork, dressed.....	5 @ 6
Dressed.....	7 @ 7½
Veal.....	6 @ 7
Milk Calves.....	6½ @ 6
do, choice.....	7 @ 7½

GRAIN, ETC.	
Barley, feed, ct.....	65 @ 70
do, Brewing.....	75 @ 87½
Oatmeal.....	20 @ 12½
do, Coast.....	10 @ 15
Buckwheat.....	25 @ 50
Corn, White.....	10 @ 12½
Yellow.....	10 @ 12½
Small Round.....	@ 15
Oats.....	35 @ 50
do, No. 1.....	52½ @ 57½
do, No. 2.....	42½ @ 47½
do, No. 3.....	@
Choice Milling.....	10 @ 62½

HIDES.	
Hides, dry.....	17½ @ 18
Wet salted.....	10 @ 10½

HONEY, ETC.	
Reeswax, lb.....	22½ @ 25
Honey in comb.....	12 @ 14
do, No. 2.....	@
Dark.....	@
Extracted.....	5½ @ 6½

HOPS.	
Oregon.....	25 @ 30
California.....	35 @ 40
Wash. Ter.....	25 @ 30
Old Hops.....	6 @ 10

NUTS.—Jobbing.	
Walnuts, Cal.....	12 @ 15
do, Chile.....	8 @ 10
Almonds, hd sh lb	18 @ 20
Brazil.....	14 @ 15
Pecans.....	16 @ 17
Peanuts.....	9 @ 10

FRUITS AND VEGETABLES.

[WHOLESALE.]

FRUIT MARKET.	WEDNESDAY M., June 30, 1880.
Apples, basket.....	35 @ 75
do, box.....	60 @ 25
Apricots, bx.....	1.00 @ 1.12½
do, Royal.....	1.15 @ 1.25
Bananas, bnch.....	2.50 @ 4.00
Blackberries, lb.....	8 @ 10
Cherries.....	4 @ 6
" B. Tartar.....	7 @ 9
Cherry Plums, bx.....	65 @ 1.25
Citronus, Cal, 100.....	@ 8.00
Cocoanuts, 100.....	7.00 @ 8.00
Currants, chest.....	6.00 @ 6.25
Figs, black.....	@ 35
Gooseberries.....	4 @ 7
Limes, Mex.....	7.00 @ 8.00
do, Cal, box.....	1.75 @ 2.25
do, large, box.....	5.00 @ 7.00
Lemons, Cal bx.....	2.50 @ 3.00
Sicily, box.....	8.00 @ 9.00
Australian.....	@ 9.00
Oranges, Cal M.25.....	@ 35.00
do, Taliti.....	30.00 @ 35.00
do, Mexican.....	@
Peaches, box.....	1.00 @ 2.00
Pears, basket.....	35 @ 60
do, box.....	75 @ 1.00
Pineapples, doz.....	10.00 @ 8.00
Raspberries, ct.....	4.50 @ 7.00
Strawberries, ct.....	8.00 @ 10.00
Sugar Cane, bble	1.50 @ 2.75

DRIED FRUIT.	
Apples, sliced, lb	10 @ 11
do, quartered.....	8 @ 10
Apricots.....	15 @ 18
Blackberries.....	@ 15
Citron.....	23 @ 24
Dates.....	9 @ 10
Figs, pressed.....	7 @ 8
do, loose.....	4 @ 6
Peaches.....	12 @ 13

Milling.....	— @ 55	Brown.....	1½ @
Oye.....	65 @ 1 00	Rape.....	3 @
Wheat, No. 1.....	1 52½ @ 1 57½	Ky Blue Grass....	20 @ 2

THE WELCOME CHORUS!

A NEW SONG BOOK FOR HIGH SCHOOLS, ACADEMIES AND SEMINARIES.

By **W. S. TILDEN.**

PRICE—\$1.00 or \$9.00 PER DOZEN.

A grand good book, of 255 pages, well filled with the best Part-Songs, a large collection of Sacred Music for practice, and opening and closing exercises, also the elements, on a new plan. Specimen copies mailed, post-free, for \$1 00.

Take with you to the seashore or the mountains, one of Ditson & Co.'s splendid volumes of bound music. More than thirty are published. Some of them are:

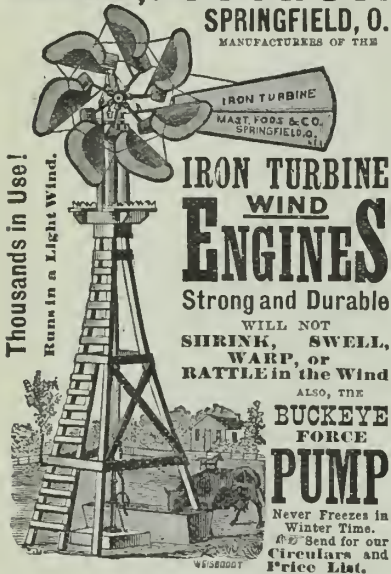
Arthur Sullivan's Vocal Album \$1 00
Gems of English Song. 68 Songs..... 2.00
Gems of German Song. 79 Songs..... 2.00
Sunshine of Song. 68 Songs..... 2.00
Gems of Strauss. 80 Waltzes, etc..... 2.00
Cluster of Gems. 43 Pieces..... 2.00
Home Circle, Vol I. 170 Pieces..... 2.00

Also take for the summer THE MUSICAL RECORD, which will bring new music every week. \$2 per year.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO. SPRINGFIELD, O.



To **D. E. GOLDSMITH,**
General Agent for the Pacific Coast.

419 Sansome Street. - SAN FRANCISCO.



OIL PORTRAITS.
— The Best —
At **Lussier & Hill's New Studio,**

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired.

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.



Calvert's Carbolic SHEEP WASH,
\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.

THRESHING MACHINERY FOR SALE.

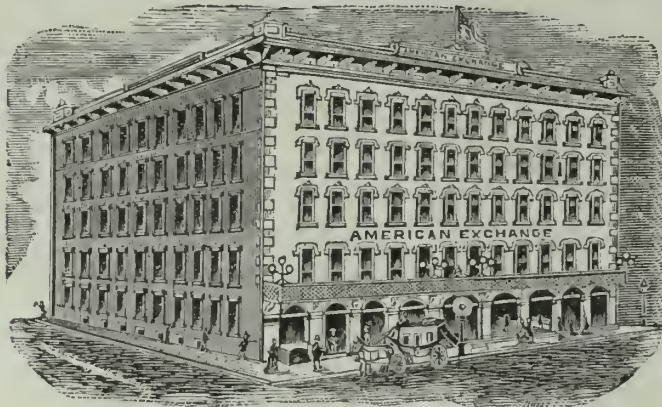
Rice Engine, Ames Engine 8x10 Straw Burners, 40-inch Separator, Jackson Feeder, Derrick Spools and Derrick complete, all 2d hand. Wanted, to buy a 9-inch Hoadley Wood-Burning Engine, or will exchange. Address J. W. RILEY, 460 Sixth St., S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



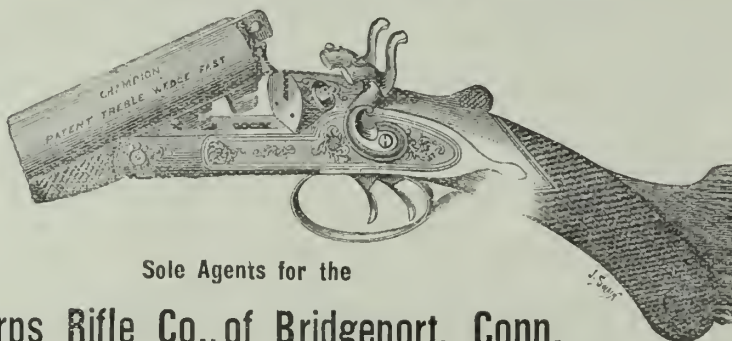
The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Nathaniel Curry & Bro.,

113 Sansome Street, San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; (an.) all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

Save Money by Using THE CALIFORNIA SPRING TOOTH HARROW.

Read the Following Testimonials:

SACRAMENTO, Jan. 20, 1880.
Messrs. Batchelor, Van Gelder & Co.:

Gents:—This is to certify that I have tried the Spring Tooth Harrow on summer-fallow volunteer and winter-plowed land, and am pleased to say that it does better work than any Harrow that I have used, especially on land that has been plowed for a length of time and has become compact. Respectfully yours,

H. M. LA RUE.
Pres. State Ag'l Society.

SAN JOSE, Dec. 30, 1879.

Batchelor, Van Gelder & Co.:

Gents:—This certifies that I have this day purchased a Spring Tooth Harrow, after having tested it to my entire satisfaction; and cheerfully say



that I consider it superior to any implement I have ever seen for thorough cultivation of the earth, and that they are just what every man with an orchard, vineyard or wheat field needs.

Yours truly,

JOSEPH ARAM.

I fully concur with the above.

MARK FARNEY.

Send for Circulars and Testimonials or come to our office, and we will occupy your time for a day with similar matter.

Batchelor, Van Gelder & Co.,
MANUFACTURERS.
902 K Street SACRAMENTO.

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

Educational.

MISS COCHRANE'S SCHOOL

FOR YOUNG LADIES AND CHILDREN.

No. 1036 Valencia St., S. F.

The next session will open August 4, 1880. Boarding Pupils limited to Ten. For terms apply to

M. B. COCHRANE, Principal.

CALIFORNIA

MILITARY ACADEMY,

AT OAKLAND.

The Next Session Will Begin

July 19th, 1880.

Rev. DAVID McCURE, Ph. D.,

PRINCIPAL.

Oakland, Cal.

THE DEGEN

Classical & English School,

1265 Franklin St., Oakland Cal.

The Sixth Year Begins July 14th.

This School prepares boys for the State University or Eastern Colleges. None of our students has ever failed to pass the entrance examinations. There are no boarders, but board will be found in select private families, for those who may desire it. Many of our best students have been from the country.

For Catalogues address the Principal,

GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.

GOLDEN GATE ACADEMY.

OAKLAND, CAL.

A First-class Boarding and Day School will begin its next term July 27, 1880. For information visit the Premises or apply to Rev. H. E. JEWETT, M. A., Principal.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collateral at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Traveling Agents.

We want several canvassing agents who will make it their business to solicit subscriptions and advertising for our first-class progressive newspapers. Men of ability and experience can secure good pay and permanent employment. Send references and state your past occupation, etc., to the publishers of this paper.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Singer from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layton's Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes Pacific Rural Press (bound) \$5; unbound, \$3;—Pictureque Arizona, \$2. Address DEWEY & CO., Publishers, 202 Sansome St., S. F.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1860. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast Inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

INVENTORS, and others interested, will receive DEWEY & CO.'S MINING AND SCIENTIFIC PRESS PATENT AGENCY Circular free on application at this office. It contains 42 pages of hints and information about Patents, Patent Laws, Patent Office Regulations, and how to obtain valid patents.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 409 Washington St., Boston, Mass.

50 Pertumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.

The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.

Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.

Also TOP DRAPER for Header Spout. This Draper prevents the wind from blowing the straw away and wasting wheat. No reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.

WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating

WINDMILLS,

Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crankshaft with double bearings for the crank to work in, all turned a run in babbit boxes.

Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or hells to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day. Combining strength and durability. Easily moved. Will be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE, Eureka Warehouse, Box 1,122, or of DAVID N. HAWLEY, 201 and 203 Market St., cor Main, S. F.

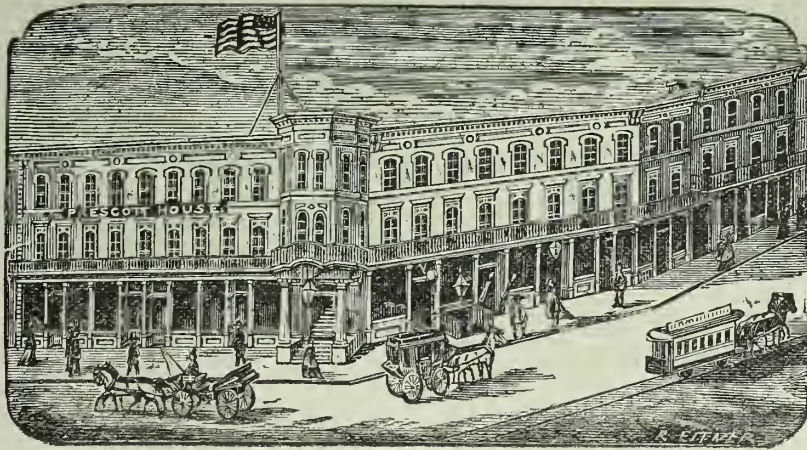


LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

ARE YOU GOING TO PAINT?

THEN USE THE

Averill Mixed Paint?

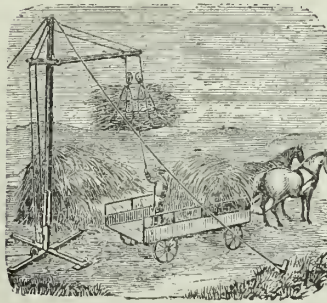
The Best, Most Durable and
Beautiful of all Paints.Prepared Ready for use, and of any
Desired Shade or Color.

TRY IT AND BE CONVINCED!

O. S. ORRICK, Gen'l Agent,

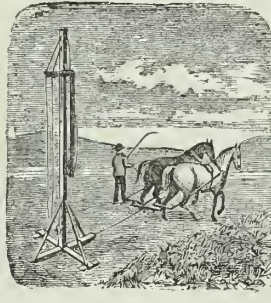
No. 417 Market Street, near First, - - - San Francisco, Cal.

THOS. POWELL'S ELECTRIC ELEVATOR.



AT WORK

The greatest labor-saving Machine now in use. Scatters no Grain out while unloading. Large stacks can be made. Men work cheap with this Machine, and a boy can do a man's labor. The time is one and a half minutes to unload. A header will cut five acres more in a day by not waiting for a wagon. There are fewer stack bottoms in a field. The ground for stacks is not cut up by the wagon, and no Grain is lost. Several Hundred are now in use. Send for Circular and Price List. Address

THOS. POWELL, Patentee,
AT
H. C. SHAW PLOW WORKS,
Stockton, Cal.

MOVING.

Fairbanks' Scales.

PORTABLE PLATFORM SCALES,

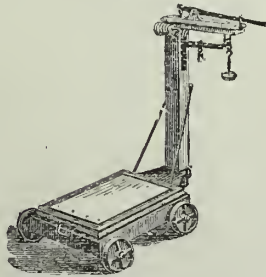
SUITABLE FOR

Weighing Hay, Grain, Dairy Produce, Etc.

All Sizes. 240 to 3,000 lbs. Capacity.

FAIRBANKS & HUTCHINSON,

417 Market street, San Francisco.



RICHARDS & SNOW,

SUCCESSORS TO BARKER & SNOW,

IMPORTERS OF

IRON PIPE AND PLUMBERS' STOCK,

Sole Agents for the Yale Lock Mfg Co.,

AMERICAN TACK CO.,

AND FOR THE SALE OF AMOSKEAG AXES.

406 & 408 MARKET ST., S. F.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct.

A. AITKEN.

AITKEN & FISH,

F. N. FISH

Premium Pioneer Marble Works,

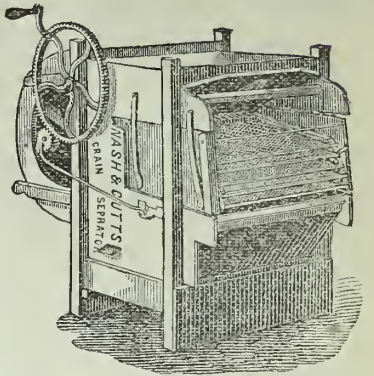
617 K St., Bet. Sixth & Seventh, - SACRAMENTO, CAL.

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. STEVENS BROS., Northford, Conn.

STILL AHEAD!

Trade

Mark.

"The Improved
Nash & Cutts Grain Cleaner."

Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly. Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal.

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

4th We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

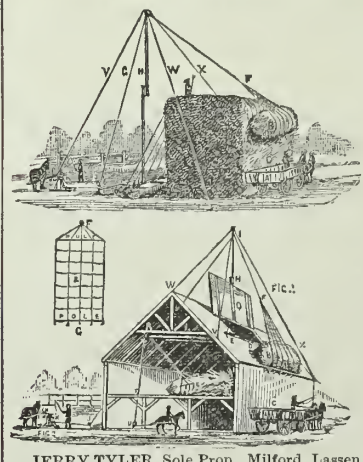
Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

A Valuable Invention.

TYLER'S PATENT

Hay and Grain Unloader, Stacker, Barn
Filler and Distributer.

THE HAYMAKER'S FRIEND.



JERRY TYLER, Sole Prop., Milford, Lassen Co., Cal.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

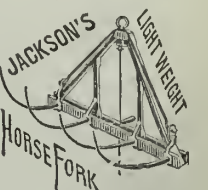
Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

Jackson's Agricultural Machine Works
AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader. Horse Forks for Headings or Hay. Folding Derricks. Headley Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address



BYRON JACKSON, Prop'r.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 100. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

CHOICE Irrigated Vineyard Lands.

PLEASANT HOMES,

Good Society and Good Schools!
THE WASHINGTON IRRIGATED COLONY,
In Fresno Co., Cal., presents

GREAT INDUCEMENTS

To those seeking HOMES and PROFITABLE INVESTMENTS. This Colony, situated within five miles of the Railroad and County Seat, contains over

7,000 Acres

Of Rich Irrigable Lands, subdivided into lots with Streets and Avenues with ABUNDANT WATER RIGHTS and IRRIGATING CANALS CONSTRUCTED, and with

Perfect Title to both Land and Water.

Fresno County is already recognized as the best in the State for Vineyards; and the abundant facilities for Irrigation affords

Complete Protection from Phylloxera, Which is already so destructive to the dry vineyards of the State. These lands are being sold at

Low Prices and on Liberal Terms.

Nearly 3,000 Acres are already purchased, and are being improved by excellent families, whose numerous Alfalfa fields, fine cows, and FLOURISHING CHEESE FACTORY attest the industry and sagacity with which they provide a support, while they cultivate their Fruits and ample Vineyards. For full information apply for Circulars at the office of the

WASHINGTON IRRIGATED COLONY.

22 Montgomery St., S. F. or at the Colony.
WENDELL EASTON, Treas. J. W. NORTH, Genl. Agt.

Dairy Farm For Sale.

Four miles west of Watsonville, in Santa Cruz county, Cal. One Thousand Acres of first-class Dairy Land, which will be sold in whole, or in part to suit purchaser, very cheap. The place can be divided into 10 or more small Farms, with

Lasting Springs of Pure Water,

On each 50 acres. All under fence, and 400 acres under cultivation. Living water, enough to irrigate nearly all the place.

Plenty of Firewood.

For particulars enquire of

FRANK LARKIN, on the place.

Pajaro Valley Nursery

FOR SALE.

Situated in the Town of Watsonville.
WAS ESTABLISHED IN 1867.

Contains 27 acres of land. There is about 60,000 trees under cultivation, embracing all the leading varieties of Fruits, with Shade and Ornamental Trees, 7 acres of the best varieties of Strawberries, Raspberries and Blackberries, together with all the necessary Tools, Buildings, etc., for conducting a first-class business. An abundance of water for Irrigation.

The proprietor being compelled to sell for the reason that he is about to leave the State, offers to any one wishing to engage in a profitable and well-established business a very great bargain. For further particulars apply to JAMES WATERS, Prop., Watsonville, Santa Cruz Co., Cal.

FIRST PREMIUM JERSEY BULL FOR SALE.

Having bred to my Jersey bull, "Blythe," for the past three years, I now offer him for sale at a moderate price. He is out of "Pantall," 4168, she from "Frankie 3d," 781, by imported "Quaker," 837. The sire of "Blythe" is "Prince of Statesburgh," 2336, imported from the Island of Jersey by W. B. Dinsmore. "Blythe" was dropped April, 1877. He is a solid, light silver gray; black switch and tongue; very yellow skin and hams, and shows very high breeding. In 1878, as a yearling, he was awarded the first premium at the State fair, and at two District fairs. Also in 1879 as a two-year-old, at the State Fair and at three District fairs, making in all seven times that he has been exhibited, taking the FIRST PREMIUM every time. He is a fine breeder, and his calves which are largely heifers, take after him in color and points. I will sell him for THREE HUNDRED DOLLARS (\$300) on ears, in Downey. Not one-quarter the cost of importing his sire. And he will no doubt nearly pay for himself if exhibited at the coming fairs.

F. J. BARRETTO, Downey, Cal.

ANGORA GOATS.

FIVE HUNDRED HEAD OF GRADED ANGORAS, from 3 to 15-16, for sale for cash or exchange for cattle.

Apply to D. F. NEWSON,
Arroyo Grande, Cal.

Rent paid two and a quarter years buys one.
MASON AND HAMLIN ORGANS
BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at every world's fair for 13 years. Prices, \$51, \$57, \$66, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$6.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Ave., Chicago.

SADDLES, HARNESS, LEATHER, WHIPS.

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in ALL GOODS in this line.
Send for Catalogue.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 120 Sutter St., S. F.



This Cut Illustrates the GIANT RIDING SAW MACHINE SAWING THE LOG.

THE GREAT SUCCESS of this WONDERFUL IMPROVED LABOR-
SAVING GIANT RIDING SAW MACHINE is fully demonstrated by the number in use and the present demand for them. It saws Logs of any size. **One man can saw more logs or cord wood in one day, and easier, than two men can the old way.** It will saw a two-foot log in three minutes. **Every Farmer needs one.** Township agents wanted. Send for Illustrated Circular and Terms.

IMPORTANT. Beware of all imitators and infringers. We are an old reliable house, and own and control five perfect patents on these Giant Riding Saw Machines. **We warrant every Machine.**

DEWEY & CO.'S

Scientific Press



Patent Agency.

[ESTABLISHED 1860.]

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

RECORD OF SUPERIORITY.

1878—AWARDED
J. H. STROBRIDGE,
First Premiums:

Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes.....22.50
Pen 5—Ewe Lambs.....22.50
Pen 3—Ram Lambs.....22.50
Yearling Ram (1st and 2d).....38.50
Two-year-old Ram.....22.50
Ram and five of his Lambs.....30.00

Sweepstakes:
For best Ram of any age or breed,
and five of his Lambs.....75.00



THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda, Co., Cal. E. W. PERT, Agent.

DIVIDEND NOTICE.

San Francisco Savings Union, 533 California street, corner Webb. For the half year ending with June 30, 1880, a dividend has been declared at the rate of six (6) per cent. per annum on Term Deposits, and (5) per cent. per annum on Ordinary Deposits, free of Federal Tax, payable on and after Wednesday, July 14, 1880.

LOVELL WHITE, Cashier.

Mrs. Colgate Baker's
BOARDING AND DAY SCHOOL
For Young Ladies,
AND KINDERGARTEN FOR CHILDREN.

850 Van Ness Avenue, San Francisco.

FRUIT DRYER & BAKER

OVER 11,000 IN USE
THE BEST IN THE MARKET
MADE ENTIRELY OF GALVANIZED IRON
AGENTS WANTED
ZIMMERMAN FRUIT DRYER CO.
Send for Circular. Cincinnati, O.

MRS. POSTON'S SEMINARY,
Oak St., bet. Tenth & Eleventh, Oakland.
THE NEXT SCHOOL YEAR BEGINS

Wednesday, July 28th, 1880.

E. C. POSTON, Principal.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

BAKER & HAMILTON, San Francisco & Sacramento.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

PRESSES

EAGLE HAY PRESSES (old style).....\$200
“ “ Improved.....250
ECLIPSE “ “ 300
PRICE PETALUMA HAY PRESS.....450
LITTLE GIANT HAY PRESS 11 tons per car. 550

DERICK PERPETUAL CAR PRESSES.

Send for Prices.

Address, PRICE PRESS CO.,

San Leandro, Cal.

Or I. J. TRUMAN,

San Francisco, Cal.

Office with BAKER & HAMILTON, 17 Front St.

Fine Engraving.

The Engraving Bureau belonging to the office of this journal is prepared to design and engrave all kinds of Wood Cuts for illustrating newspapers, books, catalogues, cards, circulars, advertisements, labels, badges, seals, etc., in the best style of the art. Our portraits and illustrations of machinery, buildings and landscapes, are superior. Good engravings can be made from paintings, lithographs, steel and copper plate prints, photographs, models, patent office or other drawings. We have a photographic department and the best of machinery for producing accurate and perfect work at the lowest prices. Original maps, charts, and diagrams are made by our New PHOTO-RELIEF Process at greatly reduced rates. By the same process copies can be cheaply and quickly produced of printed cuts, in *fac simile*, or they can be enlarged or reduced with equal facility.

Any hand writing in perfectly black ink on clear white paper for manuscript letters or circulars, will be accurately reproduced in metal plates suitable for common printing. Also, *fac simile* signatures, monograms, sheet music, etc. We excel in trade cuts and matched plates for combination color printing. With a large business, long established, and every facility for improvement, we can guarantee more than ordinary satisfaction to all of our patrons. All interested are invited to send for or call and see specimens and obtain prices.

Orders for electrotypes, stereotypes, steel and copper plates, lithographing, stamps and seal presses executed at low rates.

SANTA CLARA, CAL., APRIL 18, 1880.

Messrs. DEWEY & Co. Gentlemen:—I received the Letters Patent for my improvement in Paper Bag Machines, together with the extra copies that I ordered on the 20th ult. Also a copy each of your most valuable weeklies, containing a full description of my invention and notice of patent. You will please accept my thanks for the gentlemanly and business-like manner in which you have dealt with me from the beginning of my application, and feel assured that I shall take pleasure in recommending your firm to all who may wish to procure Letters Patent. Very respectfully yours, Ed. O. BENNETT.
P. O. Box 246.



PRICES REDUCED!

Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS. ESTABLISHED I
SAN FRANCISCO, 1863.

Country Orders Attended to.

Contents of Pamphlet on Public Lands of California, U. S. Land Laws, Map of California and Nevada, Etc.

Map of California and Nevada; The Public Lands; The Land Districts; Table of Rainfall in California; Counties and Their Products; Statistics of the State at Large.

Instructions of the U. S. Land Commissioners.—Different Classes of Public Lands; How Lands may be Acquired; Fees of Land Office at Location; Agricultural College Scrip; Pre-emption; Extending the Homestead Privilege; But One Homestead Allowed; Proof of Actual Settlement Necessary; Adjoining Farm Homesteads; Lands for Soldiers and Sailors; Lands for Indians; Fees of Land Office and Commissioners; Laws to Promote Timber Culture; Concerning Appeals; Returns of the Register and Receiver; Concerning Mining Claims; Second Pre-emption Benefit.

Abstract from the U. S. Statutes.—The Law Concerning Pre-emption; Concerning Homesteads; Amendment Act Concerning Timber; Miscellaneous Provisions; Additional Surveys; Land for Pre-emption; List of California Post Offices. Price, post paid, 50 cts.

Published and sold by DEWEY & CO., S. F.

507 Mechanical Movements.

Every mechanic Should have a copy of Brown's 507 Mechanical Movements, illustrated and described. Inventors, model makers and amateur mechanics and students, will find the work valuable far beyond its cost. Sold by DEWEY & Co., Patent Agents and publishers of MINING AND SCIENTIFIC PRESS, San Francisco. Price, \$1, (post paid)

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. MCCORMICK.

861 Market St., opposite Baldwin's Hotel.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, JULY 10, 1880.

Number 2

Improvement of Merino Sheep in Germany.

Some time ago we gave an illustrated article descriptive of the improvement of form and increase of product of Merino sheep by a century of breeding at Rambouillet. We have now two engravings showing the results gained in developing the Merino by German breeders. Hon. J. R. Dodge, in his work as expert at the Vienna exposition, made a special study of this point and secured the engravings which we reproduce from the report of the Department of Agriculture.

The Merinos of Germany have been greatly modified in later years by crossing, so that it might be impossible to find a flock with the precise characteristics of 20 years ago, though bearing the same name. The Electoral, Negretti and Rambouillet are mingled according to the whim or judgment of the breeder, the better to suit his views of the demands of the market for wool or meat, and the result is the loss of the distinctive character of the originals. It might be impossible to find at the present day a counterpart of the Saxon ram of the Electoral-Escorial blood, an engraving of which is given in Fig. 1. The spindle legs have been shortened, the flat ribs rounded, the bald head covered, and the very fine super-Electoral fleece has been displaced by longer, coarser and more abundant wool, which brings more money at a slightly reduced price per pound. This was the prize-ram of Von Thae's flock, one of the best and most highly improved in Germany. The wool was of excessive fineness, very short in staple, though not of full length when the drawing was made in August. The folds and wrinkles so fashionable since, were even then deemed desirable as indicative of a large proportion of fleece to live weight; indeed, we are told that the Spanish shepherds were wont to kill the tight-skinned lambs of the best flocks, fearing their influence in producing light and thin fleeces. Nor would it be easy to find the Negretti type of those days.

The Merino of the present day, whatever its name, is a producer of a good quality of cloth-wool, is compact and strongly built, with a head of good breadth and medium length, a short, full neck, a straight back, round barrel, and good breadth of shoulders and rump. The heads, hells and feet of approved types are well covered, and evenness of fleece is deemed an important consideration. The wool is of medium length and fineness, nearly uniform upon all parts of the body, the fiber closely set, and the "closure" of stubble as nearly perfect as possible to protect the fleece from dirt.

A brief reference to the prominent breeding-flocks represented in the exhibition will indicate the status and tendency of wool-breeding in Germany. Among the best merinos exhibited, though bearing fleeces remarkable for weight rather than fineness of fiber, were those of the flock of Herr Robert Gadegast, of Thal Oschatz, Saxony, which includes 1,000 animals kept as breeding stock, the males yielding fleeces of 8 to 10 lbs., the females clips of 4 to 5 lbs. of close and even fiber, good felting property, with abundant yolk. The old flock of Herr R. Holtz, Saatel, Barth, Prussia, which has been in course of improvement for more than half a century, and now numbers 1,500 large sheep, good feeders, yielding a long fiber suitable for carding, was well represented. Washed fleeces average about 7 lbs.

Among the stock noted for fineness of wool, the flock of Herr Rudolf Mens, Jordansmuhl, Silesia, presented fleeces of exceptional fineness weighing about 3½ lbs. Herr Alfred von Radzinski-Rudno, of Lipton, showed Electoral sheep of Prussian Silesia, from a noble flock of 1,000, bearing fleeces of superior fineness, with an average weight of 3 lbs. A Silesian flock of 200 founded 60 years ago upon the stock of Prince Lichnowsky, and afterward crossed with Negretti rams, was represented by the entry of Count Arthur Prinzenstein, Hoschutz. An excellent quality of cloth-wool, weighing about 5 lbs. per head, is the result of breeding on this estate. A notable flock, at times including 1,100 pure-bred sheep, owned by Herr Adolf Heinrich Steiger, Lentewitz, Meissen, Saxony,

has been bred for more than 30 years, without any admixture of blood, with reference to fineness, elasticity and evenness of fiber. The original stock was imported from Spain by Prince Reuss in the beginning of the present century. The rams shear 12 to 14 lbs.; the ewes, 5 to 6 lbs.

Among the breeders of Rambouillet Negretti,

VALUE OF IMPROVED SHEEP.—The wide-awake nature of the Australian wool interest is shown in the price which the wool growers are willing to pay for animals fitted to improve their flocks. There were a number of sheep sent from the French national sheep fold at Rambouillet to the Sydney exposition, and after the



FIG. 1. THAE'S ELECTRO ESCORIAL RAM OF 1845.

Herman Kannenberg, Gerhin, Prussia, is prominent. This flock exhibited great evenness and elasticity of fleece, with fiber 2½ inches in length upon ewes and 3 inches upon the rams. Fig. 2 gives a good illustration of the style of this flock. The sire of this ram sheared 27 lbs of unwashed wool, which weighed 17 lbs. after washing in hot water. The average weight of

fair they were sold at auction. There were 12 animals, and the prices obtained reduced to United States money was about as follows: Ram, 2 yrs., \$750; ram, 4 yrs., \$605; ram, 3 yrs., \$300; ewe, 4 yrs., \$150; ewe, 3 yrs., \$180; 3 ewes, \$150 each; 4 ewes, \$150 each.

CALIFORNIA WINES.—An item in the recogni-



FIG. 2. KANNENBERG'S RAMBOUILLET-NEGRETTI RAM OF 1873.

fleeces of the full-grown animals of this flock of 600 is 6½ lbs.

At Anderson Springs the Fourth was very sociably but quietly observed. A picnic dinner was given by Mrs. Anderson and her daughters in the grove surrounding the hotel. Some 75 persons partook of the hountiful repast enchantingly spread amid delightful surroundings. A few campers and neighbors were among the invited guests. The hostess (nearly 70 years of age and one of the sprightliest of the party) was well toasted for the patriotic and kind-hearted spirit shown.

tion of California wines is gained from a letter written to J. De Barth Shorb, of San Gabriel, by a house of wine dealers in Bordeaux, the great wine market of France. They ask for samples of California red wines, saying that they think they may do some business in them. California supplying France with wine may be rather a startling idea to those who have not followed the course of the wine interest closely, but it is bound to come to that if agencies now in progress have due course. It is not unpleasant to think that we are going to have back again some of the money we have paid France for her wines.

FIVE steamships landed 1,806 immigrants at Castle Garden, New York, June 30th.

Viticultural Meeting in Sonoma District.

The coming meeting of the Viticultural Commission in Sonoma, Sonoma Co., promises to be one of great interest and importance. The days of meeting will be July 23d and 24th. The chief matters under consideration will be topics pertaining to the ravages of the phylloxera. The commissioner for the Sonoma district, Mr. De Turk, announces that a preliminary meeting of the viticulturists of the Sonoma valley will be held, July 10th, to make arrangements for the reception of visitors, and for a systematic examination of vineyards affected by the disease.

Visitors from other counties should arrive in Sonoma on the evening of Thursday, July 22d, in order to be in time for the scientific addresses, which will be delivered on the following morning. It is intended to devote Friday and Saturday, July 23d and 24th, to a careful discussion of the whole subject of the phylloxera, aided by personal examination in the vineyards.

Dr. Herman Behr, of San Francisco, and M. A. De Lacerelle, have already notified the executive committee that they will be present and address the meeting. Other practical addresses will be made by experienced viticulturists. All who are interested in the subjects under discussion, are cordially invited to attend the meetings.

AMBITIOUS AUSTRALIA.—The good fortune which attended the Australian shipment of meat to England in the cold chambers of a steamer, prepared for that purpose, has set up the country several pegs in its own estimation. In fact it has brought about what we would call a "boom" in Australian productions. A correspondent of one of our English exchanges gives the old country fair warning that the great island continent is to distance all competitors in supplying food to England. The writer states that Adelaide alone would have over 200,000 tons of breadstuffs to export, and that New Zealand likewise had a large surplus. Referring to another phase of the food question, he says that a new industry will soon be started out there—namely, the sending to London of fresh beef and mutton, butter and cheese, all maintained in excellent condition by refrigerating process. Large companies, he mentions, are forming in Melbourne, Sydney and Queensland, anticipating good results from the business; and the several Governments are going to assist in the establishment of refrigerating stores up-country, and running carriages fitted with the refrigerating apparatus, so that the stuff may be shipped without delay. He concludes by saying—"You will have fresh beef and mutton delivered in London at 5d. per lb., fresh butter at 9d., and best cheese at 8d. What with wheat, flours and other necessities, we shall soon supersede America." This is rather a long programme to carry out at a single sitting, but such are the particulars on the small bills. Well: it matters little, America has a way of trying a new business, when one fails. We can grow sailors for the Australian trade.

THE UNIVERSITY GRAIN EXPERIMENTS.—We passed a part of the glorious Fourth in the retirement of the University experimental grounds as one of a party in charge of Mr. Dwinelle, lecturer on practical agriculture. A very interesting review was made of the great varieties of cereals, the seed of which was obtained in Europe for test under California conditions. It would delight any observing grain grower to have the opportunity to examine so many kinds of grain, each showing its peculiar traits of growth and distinctive characteristics. Mr. Dwinelle will keep close watch and record of these points, and will report them ere long so that all may profit by them. The large plots grown to show the effects of different modes of culture and different fertilizers promise to afford valuable deductions also. This experimental branch of the work of the College of Agriculture is receiving the approval of many farmers who visit the grounds, and certainly a half-day cannot be better employed, when one comes to the city, than by a visit to Berkeley and a study of the growths upon the University grounds.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

El Dorado County Notes.

EDITORS PRESS:—I arrived a few days ago in this romantic and quaint old mountain village after a pleasant trip from Sacramento, through that beautiful and fruitful agricultural, horticultural and vinicultural region, through which the Sacramento & Placerville railroad runs, to Folsom; thence by stage to this place. In the Sacramento valley the farmers were busy reaping an abundant harvest; the green and golden landscape presenting to the eye of the traveler a gorgeously picturesque scene, to be met with only in California. At Folsom we strike the foothills, and for 22 miles, by stage, are rolled up and down the rocky hillsides and through the ravines and canyons which cut the country into a thousand different irregular shapes; all the time, however, tending upward until by the time this point on the American river is reached, we are 4,000 ft. above sea level. Of course we leave behind us, when we begin the irregular ascent at Folsom, the sea of golden grain we have passed through, and which happily escaped from the blasting northers, and orchards and vineyards now greet us on all sides.

As to fruits, the apple crop alone is a good one; the pears, plums and cherries, average; and peaches an entire failure. The vineyards all present excellent prospects, and the yield will be abundant. This will apply to the entire region from Folsom to Coloma.

I paid a short visit to the ranches of Henry Mahler, F. Veercamp, E. M. Smith, W. H. Valentine and others near this place. They are among El Dorado county's most successful farmers and most respected citizens. The Coloma vineyard, owned by Mr. Robert Chalmers, near the town of Coloma, is one of the most interesting and attractive features of the locality. One hundred and twenty-five acres are covered with vines, comprising over a dozen varieties of grapes, including the Catawba, Green Hungarian, Isabella, Tokay, Muscatella, Cucumungo, etc. I was, of course, introduced into the immense cellars and vaults, in which are kept the wines and brandies for which this Coloma vineyard has long been famous. I was courteously shown through and about the premises by Mrs. Chalmers, the indefatigable, intelligent and amiable hostess. The mammoth hotel in course of erection on the place, and the numerous other improvements, will, when completed, make of the Chalmers hotel and vineyard a most charming and sought-for resort. Over 40,000 gallons of wines and brandies are made here in a single season.

At Green valley, on the route hither, we met Mr. Arthur Litten, one of El Dorado county's largest Angora goat raisers. His flocks and herds of this choice hair-producing animal are in a most thriving and healthy condition, and his clipping this season has been very profitable. He is one of the PACIFIC RURAL PRESS' most appreciative readers. We also here met Mr. Skinner, another patron of your valuable paper, who has a fine vineyard and distillery. Last December the old gentleman came near suddenly bidding adieu to all earthly things at the dictation of an assassin, who stealthily fired a round of buckshot into his left shoulder, in the immediate region of his heart; the charge first crashing through the window while Mr. Skinner sat in his parlor, absorbed in the perusal of the RURAL PRESS, on that silent winter night. The would-be murderer, supposing he had killed his victim, fled into the chaparral and escaped, but the old man to-day is well, having fully recovered, and offers \$1,000 for the apprehension of the assailant.

To-morrow I visit the ranch of Mr. N. D. Burlingham, one of the oldest and most experienced mining men of El Dorado county, residing in the Gardeu Valley district. He and "Doc" Alderman are the fortunate owners of three or four of the best mines of this famous gold-producing region, among them the Esperanza, Old Judge and others, well known to everybody save the Pine St. victims of your city, for the dividend-paying stocks of none of these are to be found on any of the boards. But more of mines and mining, ranches and ranching, at another time, A. J. B. Coloma, June 29th.

Lassen County Notes.

EDITORS PRESS:—I have long been a reader of your valuable paper, and take a great interest in reading it, and it seems to me that every number is better than the last. I am a farmer, and would almost as soon think of doing without a plow as to do without the RURAL. I thought I would send you a few items about this part of the State, but as this is my first attempt, and being a poor scribe, I hope you will judge it accordingly.

This is a very backward spring and summer. Crops are fully one month later than last year. I commenced haying at this date last year, but it will be nearly a month before I can cut anything this year, for timothy has just commenced to head out. It has been a most remarkable

season; there has been so much wind that it has dried the ground out, so that after all the rain and snow that fell last winter there will be short crops if we do not have some rain soon. Last Friday and Saturday night we had sharp frosts that did a good deal of damage to gardens, and some say that grain in the upper end of Honey Lake valley is hurt. The fall-sown grain, which was just heading out, is hurt the most. The fruit was too far advanced to receive any harm. There is a prospect of a large fruit crop this year; blackberries and strawberries excepted, they were injured by the severe winter weather.

I understand that the grasshoppers are doing a good deal of damage to crops in Long valley, this county. We all have our troubles in some way or other. While the north wind in the lower counties scorches everything up, it brings to us a frost, and perhaps this is a fact that but few are aware of, but it is nevertheless true.

The loss in sheep and cattle was very great here last winter, some losing nearly all by not having hay to feed them. Stock men are beginning to see that it does not pay to keep large bands of sheep and cattle and nothing to feed them on in case of a hard winter. They may manage to winter on the range for three or four winters without feeding, and then comes a hard winter and the owner loses half, or perhaps all, as in some instances that I know of, and then all his labor and all that he has invested is lost. More anon. G. R. WALES.

Janesville, Lassen Co.

HORTICULTURE.

California Lemons.

At the last meeting of the State Horticultural Society G. P. Rixford and W. W. Smith, the committee appointed to examine the large collection of Californialemons exhibited at the May meeting by L. M. Holt, of Riverside, submitted the following report:

The collection embraced 16 different lots of fruit, including the following. Lisbon, on orange and lemon stocks, J. W. Wolfskill, Los Angeles; Lemon of Genoa, from A. B. Chapman, Los Angeles, and A. Brigden, Pasadena; Eureka, on orange stock, from J. Banbury, Pasadena, and J. W. Wolfskill, Los Angeles; Seedlings from J. De Parth Shorb, San Gabriel, J. F. Crank, Pasadena, and J. W. Wolfskill, Los Angeles; Olivia from Geo. C. Swan, San Diego, and Knobby from G. W. Garcelon, Riverside. The last mentioned, however, rotted before the tests were made. An average specimen of each lot was carefully weighed, the quantity of juice measured and all were tested for bitterness of rind by being sliced in water, to which sugar was added and left to soak for 24 hours. No tests for strength of the acid in the different specimens were made, as no appliances for the purpose were at hand. The repeated and careful tests made by Mr. Holt and the lemon committee of the Southern California Horticultural Society have effectually settled the merits of the different varieties in this respect, and all who are interested in the question are referred to their reports.

Of the sixteen different lots, those presenting the most attractive appearance, size, heauty of form and texture of skin being considered, were the Lemon of Genoa and J. F. Crank's seedling. The seedling fruit, as would be naturally expected, was the largest and for this reason turned out the largest amount of juice, but generally of low strength compared to the other varieties. It would be unjust to make a comparison for thickness of skin, as the different periods of time that had elapsed since the various specimens were gathered, had, from drying out, made the skin of those the longest plucked the thinnest, and vice versa. The same circumstances probably affected the bitterness of skin to some extent, those long gathered having lost a portion of their bitter flavor, if they ever had any. The Olivia and two or three of the seedlings were found to have a slightly bitter flavor, but not sufficient to materially affect the quality of the fruit. In fact, none of the specimens developed more bitterness than would many imported lemons under the same treatment. Some of the specimens, including the Lisbon, Lemon of Genoa and Eureka contain so large a number of seeds as to be an objection. These specimens were found to contain from 18 to 26 well developed seeds, which, if a common average, will be found to injure them to some extent as a market fruit. The market demands a medium size, handsome formed, delicate, thin-skinned fruit, with plenty of juice of good acid strength. All the qualities are combined in several of the samples in question, and the lemon grower may confidently plant them knowing that his fruit will successfully compete with the best imported.

Judging entirely by the appearance and quality of the specimens before us, we find the Eureka, Olivia and Lisbon lemons to come nearest to filling all the requirements of first-class fruit, while a number of others, including Crank's seedling, deserve propagation and further trial.

Of course the orchardist will not be guided entirely by the quality of the fruit in selecting the varieties to plant, as vigor and productiveness of the tree, and absence or presence of thorns are important considerations. Finally, as a whole we find the collection to be very superior in many respects, showing the wonderful improvement that skillful cultivation and intel-

ligent selection has made over the ordinary seedling, and the great capacity of our California soil and climate for the production of new and improved varieties of fruit. No cultivator of experience would now think of planting a grove of seedling lemon trees, whose coarse bitter-rind fruit will be unsalable as soon as the market is supplied with the product of the improved varieties now being extensively planted. Your committee believe that lemon growing in this State is a promising industry, and that the ability of our growers to compete with the best Mediterranean fruit in our own market, as well as that of the Atlantic States, is no longer a matter of experiment or uncertainty.

Since the above was written the following report on lemon tests has been received from Mr. L. M. Holt of Riverside, and is submitted as of special value in this connection.

To the Committee on Lemons of the State Horticultural Society:—In accordance with your request I submit herewith the result of lemon tests made on sample lemons taken from each exhibit before the State Horticultural Society at its May session. They all kept in good condition up to the present time—June 21st—when the tests were made, with the exception of one, the Knobby, grown by G. W. Garcelon of Riverside, which I found decayed. The lemons as a lot were the best I ever tested and many of them were equal to the imported fruit.

I find the average quantity of juice to be 33%. I also find that with one exception the lemons on orange stock give a percentage of juice above the average, while the lemons on lemon stock, with the exception of the Olivia and Crank's seedling, have a percentage of juice below the average. As might have been expected, all lemons which showed a low percentage of juice had a coarse-textured pulp and usually a thick rind. The Eureka lemon keeps up its reputation pretty well as regards percentage of citric acid while the two specimens of Lisbon are below the standard. The Olivia still shows a good record and has been tested enough to rank it as a first-class lemon.

In determining the quality of the lemon from these tests it is necessary to consider both the percentage of juice and the percentage of citric acid; or compare the amount of citric acid as expressed in the last column with the weight of the lemon. This comparison places Swan's Olivia at the head of the list and the imported Malaga second. Following is the table:

NAME OF LEMON.	Weight in ounces.....	Amount of juice in drams.....	Percentage of juice.....	Percentage of citric acid.....	Amount of acid in drams.....
Shorb Seedling.....	4.5	12	33	8.50	1.03
Shorb Seedling budded on orange stock.....	4.37	10	23	7.27	.73
Wolfskill Seedling.....	5	12	30	6.95	.83
Seedling budded on orange by Wolfskill in 1866.....	3.12	9	36	7.28	.65
Wolfskill's XX.....	4.25	11	32	8.13	.89
Crank Seedling.....	3.56	10.5	37	6.42	.67
Swan's Olivia.....	3.37	10	37	8.50	.85
Eureka on orange (Banbury).....	3.06	8.25	34	7.77	.64
Eureka on orange (Wolfskill).....	3.25	9.5	37	6.63	.63
Eureka on lemon (Wolfskill).....	3.25	8	21	7.28	.58
Lisbon on lemon (Wolfskill).....	3.80	8.5	23	6.85	.58
Lisbon on orange (Wolfskill).....	3.37	10	37	6.69	.67
Lemon of Genoa on lemon (Chapman).....	3.80	9	30	7.00	.64
Lemon of Genoa (Brigden).....	3.50	9	32	8.50	.77
Imported Malaga.....	2.37	8	33	7.23	.53
Average.....	3.64	10	33	7.41	.72

With regard to bitterness I made but three tests. The Crank seedling is not bitter. The Shorb seedling is quite bitter, but the same lemon budded on orange stock is entirely free from bitterness. The other lemons are not bitter, with the exception of Wolfskill's XX, and the two seedlings sent by him, one representing the ordinary bitter seedling and the other a sample from probably the oldest lemon tree on orange stock in southern California; these are bitter.

GUARDING STRAWBERRIES FROM DRY WINDS. What the editor of the *Rural New Yorker* describes as a successful experiment in protecting his strawberries from a dry south wind, may help some of our readers to save their fruit from a dry north wind: Just as our strawberries began to ripen one season, a very violent, hot, southern wind prevailed, which dried up the ripening fruit and began to shrivel the green. Having an abundance of clean, coarse, water-meadow hay in a stack, we took from this and spread it about three inches thick over the strawberry bed, and let it lie there till the evening of the third day. We then raised it off the outside row and found the berries filled out large and full as in cool, calm weather. We picked the ripened fruit from this row, and the next evening raked off the hay from the second row to cover the first, and thus proceeded from day to day till rain fell and the weather became cooler. Then we removed all the hay from the bed, except what was wanted to mulch under the vines, to keep the berries clean from the ground. If the fruit of two rows were wanted, one for tea at evening and the other for breakfast the next morning, we raked off two rows, leaving one uncovered during the night, as it seemed all the better for getting the dew, and the berries were fresher and finer for picking in the morning than even those were in the evening. Clean straw, we presume, would have been just as effectual as hay, and either of these, scattered thinly at night over a bed of strawberries, would preserve them from frost.

THE DAIRY.

The Manufacture of Parmesan Cheese.

According to an interesting paper on Parmesan cheese, written by Dr. Prato for the Italian *Annali dell' Agricoltura*, the process of manufacturing the popular dairy produce is as follows:—The cows are milked by women and girls at evening, and the milk carried in wooden or tin pails to the cheese-room, a sort of shed enclosed with walls on two or three sides, and having in the center a furnace with its copper. The milk is measured, strained through a cloth, and placed in flat, shallow dishes ranged round the wall of the cheese-room. There is another delivery of milk in the morning, which is measured in the same way. When all the cream has been removed, the milk is placed in the copper, and raised to a temperature of 89° Fahr., which is considered best. The fire is then drawn, and rennet added. Natural rennet from the calf is always used; it is stirred in and left for an hour. Next, the curds are reduced to a state of even and uniform comminution with the aid of a long stick provided with projecting points and a hush-like end of wire. This operation having been carefully performed, a small quantity of whey is added, and good saffron, in the proportion of half a drachm per 20 gallons of milk, is well stirred into the mass. The fire is again set going, the contents of the copper being now maintained at 113° Fahr., and kept well stirred until it is known by the feel that the cooking has proceeded far enough, when the copper is lifted off, and the contents are allowed to cool, so that the casein may be precipitated. To facilitate the process a little cold skim-milk is added, and at the end of a quarter of an hour precipitation is complete. The curds accumulate in the middle, and are removed with a cloth. The cheese is lifted out in a cloth and pressed under a thick wooden plate weighted with a heavy stone. When the whey is well squeezed out, the linen cloth is replaced by a hair cloth, fresh weights are added, and the cheese trimmed round from time to time. After this, it is carried to the salting-room where it is covered with salt. Here it remains three weeks, being constantly turned over and salted on each side in turn during that period. Lastly, it is carried to the drying-room, well scraped and brushed, and the surface oiled. The whey from the cheese is made into *ricotta*, which is eaten, salted or baked, by the peasants instead of cheese. It is heated to a temperature of 176° Fahr., stirring constantly. A little fresh milk or buttermilk, or, if the milk be not sour enough, a little sour milk, is sometimes added. In time, the *ricotta* or curds form on the surface and are collected and pressed in molds. The refuse is given to the pigs. The cream removed at the commencement of cheese-making is made into butter.

SELF-CLEANING FLOORS.—Now that many of our dairymen are building fine barns it may interest them to know of an arrangement which has been used for some time in the East. Automatic platforms, by which the stable may be made to clean itself, can be made. One dairyman has had one in operation for more than two years. Not five minutes of time have been expended in his stable in two years in cleaning. Let the fore feet of the cattle stand on a wooden platform and their hind feet upon an iron grating, made of wrought iron bars three-eighths of an inch thick and one and one-half inches wide. The bars of the grates are placed one and five-eighths inches apart, and rests on iron joists one-half inch by two, these resting on an angle iron sill at the back of the platform, and the other end resting on the wooden platform. Through these gratings the droppings fall. Harris Lewis once said that "cows cannot be kept clean unless you sit up all night with them." This plan sits up with them and keeps them perfectly clean. There must be a receptacle below the grate which must be cleaned when filled; but this cleaning is no more labor than when the manure is thrown out into a pile. Gratings can be put in for about six dollars per cow and will last a life-time. The cattle stand upon these bars with ease. Their feet stand across the bars. The grating cannot be used in barns in which the manure freezes. No wood-work comes in contact with the manure, and therefore there is no wood to be rotted. If winter dairying is to be inaugurated, cows must be kept clean. The platform costs no more than the bedding of a cow for one season. This platform saves all the liquid as well as solid manure in the gutters under the platform. This saving the liquid manure is equal to the whole cost of the grating in a single year. In Flanders the liquid manure of a cow is estimated at \$10 per year.

A MIXED RATION FOR COWS.—Mr. Henry Stewart tells the *Rural New Yorker* that after feeding cows for years, and making a large number of tests of different kinds of feeding substances he has settled down to a mixture of corn, oats and wheat bran ground together—not merely mixed—in equal parts by weight, as the best and most profitable food for cows, either for milk or butter, and on 10 pounds per day as the ration that can be most economically employed. The bran used is the common commercial sort usually procured in the market, and which has been cleanly scoured of all particles of flour or middlings.

THE FIELD.

Country Help.

EDITORS PRESS:—There has been considerable said through the columns of the PRESS on the labor question. Now, if you will permit me for the first time, I want to have my say. In the first place I think Mr. Kamp's saying, in the June 19th number of the PRESS, caps the climax of all that has been said or will be said on the matter. I think there is hardly a reader of the PRESS but will pronounce what he has said, or at least most of it, unmitigated nonsense; the idea of any farmer in the State being able to pay his hired help \$1.50 or \$2 per day and expect any return for his investment and labor is simply nonsensical in the extreme, at the price produce brings and has brought for the last few years. But I presume Mr. Kamp is not a farmer, or he would not gush about paying his hired help such wages, because they have nothing but their "muscles and will for capital." Mr. Kamp may be a very benevolent man, and, if he is a farmer, may be willing to help with his capital and labor this poor man that has no capital but "his muscles." That course may do for him, but it would be a ruinous course for everyone to adopt, because it would soon place the employer in a position or condition that he would be unable to pay his hired help anything. But the presumption is, Mr. Kamp is human, and, just like any other human being, will not hire a man for fun, and would just like to make a "little something" over and above food, lodging and wages out of his hired help, and it is very certain if he pays \$1.50 or \$2 a day and hoard that in the end of the year he will come out at the small end of the horn, so far as making is concerned.

But then he says that to pay the above wages "farming must be done properly," that is, there must be a large amount of brain work thrown in with the capital and labor of the farmer to pay this \$1.50 or \$2 a day to hired help. Now I will make the broad assertion that there is not a farmer in the State of California (Mr. Kamp included, although he may have the brain of a Webster or Clay,) who is able to pay such wages and have any margin on the capital invested, except it may be a few days in harvest. As to farming being more profitable in this State than any other, I think the farming community throughout the State will not say so. There are difficulties to contend with here of a peculiar nature, owing to the climate and soil. The yield on the average is no greater than elsewhere; prices are no better and labor is higher, so that to take everything into consideration, farming in this State is uphill work with the most of men. Mr. Kamp must certainly be an exception if he can farm it and pay his hired help \$1.50 or \$2 a day. Let us see if I am correct; facts and figures will show. We will put one man's wages at the lowest figure of Mr. Kamp, \$1.50 a day, which comes to the nice little sum of \$468 for one year; and I do not think Mr. Kamp can hoard a man for less than \$3 per week, which, added all up, comes to over \$600 per year. Now if Mr. Kamp can pay over \$600 a year to each man he hires, and interest on the money invested in land, horses, farming implements, etc., it is beyond my comprehension how he can do it. It can only be done in this way, if Mr. Kamp is a rugged, hearty, double-fisted fellow, with a healthy, strong, hard-working woman for a better half, with a half-dozen or so chunks of boys and girls, and they will all pitch right in with this hired man, together with Mr. Kamp's brain power, they might possibly succeed in raising this hired man's wages at the end of the year. But if Mr. Kamp has not the above-named appliances to help him to pay his farm help, I would advise him not to try the experiment.

I believe it is right and proper to pay hired help all that can be paid in justice. Some men may be worth more and some less, but none worth Mr. Kamp's estimate of labor. I think both farmers and hired help have a bad system in this State. The farmer only hires a few months in the year—consequently the hired man has only employment that length of time, and must have large wages or he will have to go hungry or steal a part of the year. It would be better for the employer and employed if, instead of working a few months for \$1.50 or \$2 a day, they would get employment the year round at small wages—then they would have a home and employment the year round, and in a few years, with economy, they would save up enough to get a home of their own, with a wife and family to sweeten the toils of life. Perhaps I have spun this out a little too long, but I could not do justice to Mr. Kamp and say less, but my next may be on a different theme. I will not write in the dark as Mr. Kamp has complained of some others, but give my name in full.

RICHARD JOHNSTON.

Humboldt Co., Cal.

[There is a thread of the *argumentum ad hominem* running through our correspondent's letter which we regret, but the disposition is apparently a fair one and the style sprightly. Please try and make arguments altogether impersonal, then no sensitive natures can be wounded.—EDS. PRESS.]

Flax Growing.—No. 3.

EDITORS PRESS:—In my last letter on the cultivation of flax I promised to give the many readers of the PRESS my experience in the harvesting, threshing and cleaning the seed for the market. In the first place, the cultivation of flax on the coast has been in a great measure experimental, and has brought out various ideas and devices for doing the work in the most economical and labor-saving way. The cutting is much the same as oats or barley, with the exception that it is much slower—six to eight acres being a good average day's cutting.

It has been the general idea that the flax must stand until the straw was all ripe clear to the ground. This idea has been given up, however, after three years of getting caught in the rains with our threshing. I am convinced that as soon as the holls and small stems or runners, on which the bolls grow, are dry, the seed has had all the nourishment it can get from the stalk, and is just as well and better cut then, than to let it stand, say, three to four weeks longer for the straw to get dry, as we have been in the habit of doing. Last year my flax was ripe by the middle of July and I did not commence to cut until the 14th of August, and the consequence was that the rains came and caught me in the midst of my threshing, and most of my neighbors were in the same boat. Threshing wet flax is the most tedious and vexing thing a man can do, and I think it would have tried the patience of Job, if he had been in the business. Flax that is cut when the straw is rather green, threshes a great deal better than when allowed to stand until very dry, as the straw does not grind up so badly and tax the sieves so heavily. Also the longer it stands after it is ripe, the greater the loss. The small stems which hold the holls, soon become so dry and brittle that a great many break off in the handling and are lost; and the straw, when very dry and brittle, grinds up so badly that the separation of the chaff from the seed is much more difficult than when the straw and fiber are tougher.

The threshing of flax is very slow and tedious. The seed is so light that it is very hard to separate it from the endless varieties of foul seeds that we have to contend with, and the fiber winds on the shafting, and in fact everywhere about the machine, and often makes it necessary to stop and cut it off. It has to be fed very slowly and evenly to save and clean the seed. From 100 to 150 cts. has been about as much as the best machines could thresh per day, and clean ready for market. It seems as though no machine or device can be found that will separate the seed from oats, turnip, mustard, and a great many other foul seeds. There have been several cleaners got up, but none of them can do the work fast enough. If we had a machine that could thresh and clean 300 or 400 sacks per day, it would do; but when we have to pay 25 cents per ctl. for the threshing and all other expenses, and only get 100 or 150 sacks per day, it is tough. But we still live in hopes that some inventive genius will come to our relief with a machine that will do the work more rapidly and in better style. Some improvement is very much needed in this class of machinery.

Stacking.

We have been in the habit of hauling the flax to the machine out of the piles, or just make a base of a stack at each setting, to start on in the morning, while the flax is wet, and when dry, haul in to the machine. This plan has been pretty well abandoned as unsafe in this foggy climate. This year the most of the flax will be stacked with an eye to standing the rains that we usually have in the early fall.

Threshers Needed.

There will be work for all the machinery that can be had on the coast this season, to get through before rain. The flax crop is looking very fine, and wheat and oats show no signs of rust or blight yet. I will not trespass further on your valuable space at this time, but will, in my next, speak particularly of the cost of the crop and of the profits, if any there be.

FARMER.

Pescadero, San Mateo Co., Cal.

TO TEST MILK FOR WATER.—A German chemist furnishes a very simple procedure for testing the amount of water in milk, which can be applied by anyone. All that is required is a small quantity of gypsum (plaster of Paris), say one ounce. This is mixed with the milk to a stiff paste, and then allowed to stand. With a milk of 1.030 specific gravity, and a temperature of 60° Fahr., it will harden in 10 hours; if 25% of water is present already, in two hours; if 50%, in one and a half hours; and with 75%, in 30 minutes. Skimmed milk which has been standing for 24 hours, and is of 1.033 specific gravity, sets in four hours; with 50% of water, in one hour; and with 75%, in 30 minutes. Heat should not be applied, as then the use of the thermometer would be required. This test is certainly very simple and not costly.

IMPORTANT TO FISHERMEN.—The *Scientific American* says it is a well-known fact that fish always return to the same ground each year to spawn, but that it has recently been discovered that they always follow the left-hand side of the river on their trips to the spawning grounds, and returning take the right-hand side of the river. Our fishermen should remember this.

FLORICULTURE.

Old-Fashioned Flowers.

EDITORS PRESS:—I write in their behalf to the generation who know nothing of them—who have no remembrance of the scarlet runner, or morning-glory, shading the window of an old homestead, of the hollyhocks and peonies of the good old days. To the readers of the PRESS bred in the Southern States one need only to speak of the yellow jessamine and the Cherokee rose to awaken a host of precious memories among the elders.

Permit us a word concerning the history of the Cherokee rose. It is native of China, and at an early day took so kindly to the South as to be classed among our indigenous plants. It is like the bansia in its habit of growth, a rampant climber, will hide barns or outbuildings in a year or two with its vivid, polished leaves, and when covered with its large, waxen-white flowers, is a heavenly sight indeed. Botanists know it as the *Rosa laevigata*.

The "sweet briar" is to the North what the Cherokee is to the South. The poets long ago sung its praises under the name of Eglantine. Who can forget its fragrance after a June shower! Who that has chanced to find a wild hush in autumn, covered with its crimson fruit, has not admired it anew in its winter dress! This is *Rosa rubiginosa*. There are gardeners' varieties, the "royal," the "scarlet," the "celestial," but none exceed the soft pink of the old-fashioned briar.

These two members of the rose family have kept the faith originally given to flower saints, and, all unspoiled by culture, are the key-notes of an endless flower song. Two or three other old-fashioned roses ought to be in every garden. The ayrshire, the hoursault, the crimson, and, above all, the original provence, or cabbage rose. None of these roses require much care, except in pruning. They may be said to take care of themselves, and are often found in deserted gardens, as if keeping watch for the hands which once tended them, now cold and still.

For late summer effects no plant is more desirable than the hollyhock. The Parisians value it, and have carried its culture to apparent perfection. The double varieties are more sought after, but the single are most to our taste, where the colors are pure and well contrasted. A shaded line of hollyhocks, along a garden fence, is a very appropriate disposition of them. The florists furnish them in every tint and shade, except blue. To get a pure contrasting blue, in a tall growing plant, one must depend upon two other old-fashioned plants, viz., aconite and hee larkspur. I have rarely seen either of these in California, but they are superb, grown in masses upon a lawn.

And among humble plants we have to bring forward the claims of hachelors huttons and marigolds. The marigolds are especially fitted to shine on this coast, where all composite plants flourish so wonderfully. One should see a special show of African marigolds, with their velvet petals ranging through the color scale from black to the palest straw and cream color, streaked, blotched, spattered with fire, to get a marigold fever. We hope our Horticultural Society will remember them among the many claimants for attention.

And then we had, in every old-fashioned garden, crysanthemums, another family which modern florists have made so much of, that we scarcely know them as descendants of the loose, straggling, but always welcome November blooms.

"Lichnidia," too, pure colored with spotted stems, is now represented by gorgeous varieties of perennial phlox. "Sweet William," ditto, and the humble thyme goes forth gilt and silver edged.

In planting an "old-fashioned garden" the lilac and snowball with the peony would of course find place. Grass pinks would adorn the borders. Ribbon grass and sweet grass must fill odd corners. Flower de Luce, and all the lovely old-fashioned bulbs, especially daffodils, must hide under lilac bushes, flowering cherries and almonds.

Have not these ancient floral favorites a claim upon our loving thoughts, equal at least to that of our grandmother's china, and chintz or brocade gowns? In these days of exaggerated admiration to the old-fashioned in art, why not revive the original devotion to the surroundings of a home, which developed the taste and refinement upon which art culture rests? China painting is a pleasing accomplishment, but it cannot give to body or spirit half the enjoyment or real culture which old-fashioned people gained in their old-fashioned gardens; and what our young folks need is not to reproduce or servilely to imitate the work of an earlier period, but to seek fresh inspiration in the perennial fountain of nature.

JEANNE C. CARR.

Pasadena, June 26, 1880.

AVERAGE SPEED ON RAILROADS.—The average speed on English railroads is 46 miles an hour; on the French roads, 37½; on the German, 40, and on the American, 37. On the English roads, 6½-ft. driving wheels are quite common; and some of the fast lines have 8 and 9-ft. wheels, and one line has 10-ft. wheels.

SHEEP AND WOOL.

The Half-Year's Wool Trade.

E. Grisar & Co., of the Wool Exchange of this city, have furnished us with their usual review of the wool trade for the six months ending June 30, 1880. We quote as follows: The spring season of 1880, has been the complete reverse of 1879. At the beginning of the year the supply of wool in warehouse was unusually small. Throughout the fall prices had advanced without cessation, and finally reached a point higher than any attained since 1871. During January and February, Eastern markets were active and constantly advancing, so that California wool growers had reason to expect exceptionally high rates for their product. In many cases efforts were made to contract for wools before they were shorn, but the amount of business done in this way was very limited, on account of the indisposition of growers to accept prices offered, although they were higher than had ever been paid, excepting in 1872. A few of the producers in the southern portion of the State sold, but in no other section. The first wools were from the interior of the State, and reached this market about the middle of March; meeting with eager competition and realizing extreme prices. The quantity received was small, and for nearly a month arrivals were meager, as the long expected rains fell heavily, and almost constantly all over the State during April, which prevented shearing. The result was that wools arrived from the southern and middle counties about the same time that some of the northern sections were sending forward their wools. Stocks therefore accumulated rapidly and growers added to this result by being averse to selling. Having become accustomed to the idea of receiving extreme prices they were reluctant to accept ruling rates. In the meantime extreme dullness had succeeded to great activity in the Eastern markets, prices declined constantly, and as sales were very limited, shippers were completely in the dark as to what they could afford to pay here. This uncertainty still continuing, we have, therefore, had a market unsatisfactory to all interested,—growers have been disappointed in prices realized, and buyers because the market has been continually declining. During the last few days there has been more activity, but the general market during most of the season has shown little signs of life. Some large growers and purchasers of wools at extreme prices have forwarded their wools East. Manufacturers, directly or through their agents, have been the chief support of the market, as shippers have operated with great caution and very sparingly. Although the market has generally been quiet, there has been sufficient demand to absorb supplies gradually and the stocks to-day are much smaller than was expected.

Character of the Wool.

The average of the clip is good, as early rains caused the grass to start and sheep were generally in good condition, although extreme and prolonged cold weather during the winter injured feed in some sections. The abundant rains of April, and the consequent delay in shearing, made the staple of wool unusually good. The clip from the southern coast and lower interior counties was the best for several years. Last year, many of the wools from these sections were dusty, but this year they have been lively, well grown and strong; and although more slightly, the difference in shrinkage has not been so great as seemed at first. From the extreme north very little wool has been received, so it is difficult to determine the comparative conditions, but in other northern sections the wools have been about the same as last year. The clip of the State in 1880 will probably be less than that of last year, as many sheep have been driven out of the State, and in some sections the loss has been heavy.

State of the Market.

The first receipts of long stapled wools were sold at 36c. The market value of similar wools to-day is 23c. to 24c. The market for southern coast and middle counties production opened at 33c. to 34c. and declined until similar lots now bring only 20c. to 23c. On northern wools, the decline has been less marked, as this description did not arrive until after the market had declined materially. First sales were made at 29c. to 30c., and on these rates a shrinkage of from 10% to 15% has taken place. The demand for this class has been good, and no accumulation has taken place. On fancy conditioned parcels the market has been strong, at 29c. to 30c., and during the past few days an advance of about one cent per pound has been made. Other descriptions are also firmer owing to diminished supply. The stock of California wool to-day probably does not exceed 8,000 bags.

Receipts from Oregon are almost altogether Eastern. Stocks to-day are large. Prices are nominal, as very little has been taken by shippers. The wools are decidedly inferior to those of last year, as they are in poorer condition, more unsightly, and contain more alkali. The amount of valley wool received is too small to furnish any reliable opinion as to the general character of the clip.

Freight overland has been 2½c. per lb. By Cape Horn, 1c. per lb. Sailing vessels have taken an unusually large proportion of the ex-

[CONTINUED ON PAGE 26.]

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department.

Union Meeting at Alhambra Grange.

EDITORS PRESS:—Are we as farmers a social people or not? How different the answer to this question to-day from that of 20 years ago, especially in those communities where that great hugbear, a Grange secret society, has planted its footprints. Very frequently in the dark past of country life have families lived almost within sight of chimney smoke, and yet never have broken the spell that divides the stranger from a neighbor, nor parted the thin veil of silence that needs but a voice and a kindly shake of the hand to forever lift such brooding silences as maketh of such homes isolated spots, where comes no outside friendships to brighten life or cheer the sad weary hours of sickness and trouble.

In this dearth of social life, into this world of all work and all play, came the verification of that proverb "the Lord bestoweth nuts leaving us to crack them," in the casting of those strange Grange nuts into the agricultural fields of these United States. Well have they taken root; and, if in the cracking we fail to get a rich harvest of kernels, then be ours the fault.

Such the range of thought engendered by our Alhambra Grange meeting of June 29th, when Bro. Spilman, State Master, and Bro. Adams, State Secretary, came as neighbors to talk and confer with those farmers whose grain covers the hills and valleys that nestle around Mt. Diablo, and lie against the coast, or, in other words, in Contra Costa county; here, too, sat our friends, the Demings, from Solano, "over the hills and far away," and I might say over the waters, too. Danville, Walnut Creek, added their quota to this mixed Grange household, while a voice from the dead past of Antioch Grange was heard giving a hope of its revival and resurrection.

Two sisters and one brother took the fourth step of the patron's ladder, and were thus admitted into full fellowship with those pioneers who have partially at least cleared the fields of those prejudices that are numberless; hence, time only may uproot them; this can only be fully accomplished by perfecting the social scale of the farmer, and in proportion as this comes, so will fade that mildew of clodhopperism that has not only blighted a most respectable calling, but turned many a young promising man from the widest range of mental and physical labor, namely, the fields of agriculture, to the more narrow proscribed paths of so-called learned professions.

Ingenuity of flower artists left graceful touches, bright tints and a fragrant redolent spell of huds and flowers in our Grange room; but this was superseded by pupils well skilled in culinary arts, and who reigned supreme in the dining room; clatter of knives and forks, chatter of merry tongues filled more than an hour, and was only hushed by the masterly stroke of the gavel.

Worthy Master Spilman being called to the floor most beautifully eulogized the conception of our Order, and especially dwell upon the influence of Sister Clara Hall, in making woman not only a co-worker, but co-equal in all the rights as well as responsibilities of this organization. In a plain concise manner, in keeping with his boasted farmer's calling, was shown by citations of woman's work and almost untold powers, how wisely our founders had laid their groundwork, and planned for man and woman to stand side by side as well in practice as in theory. Much, very much was said, but be it enough for these columns that good Grange seed was sown, not to the uninitiated multitude, but perhaps more to the purpose, upon minds and hearts that do not always palpitate in keeping with our every-day Grange movements and meetings, but in a lukewarm way, or newly aroused sense of duty, come upon great occasions.

Bro. Adams followed in a happy style, playing more particularly upon the co-operative strings of Grangerism, showing conclusively that in "union there is strength," and also in uniformity of action, is followed by a proportionate success, the highest, noblest meed of labor.

Good of order called forth voices from visiting brothers and sisters, and their hearty response to the welcome so freely given, was but a forerunner of the greeting they on the to-morrows would extend to all patrons, for to Walnut Creek and Danville was yet the privilege of holding an uncracked nut; this nut, we know from past experience, is like unto the leaves and fishes of old, sufficient to feed not only the few but the many.

Thus was told in one of those happy re-unions common to a good patron's creed, that it is well for man and woman to live in the coils of such social bonds, as they tend not only to strengthen and perfect physical life, but to exalt and quicken mental and intellectual forces to such a state of fruition on earth, as giveth a happy foretaste of that final crowning of immortality.

MRS. MARIA B. LANDER.

Martinez, July 4, 1880.

From Another Correspondent.

EDITORS PRESS:—We spent such a delightful day with Alhambra Grange on Tuesday, June 29th, the temptation to tell you about it becomes perfectly irresistible. We started about nine o'clock from our home on the Straits of Carquinez, in the fast sailing plunger, the *Plowboy*, which is the property of our good

neighbor, Mr. Edwards, who was kind enough to take us with him on his way to Benicia. As Martinez is on the opposite side of the Straits, it was necessary for him to go out of his way to oblige us; this kindness was greatly appreciated. It has already been remarked that the *Plowboy* is a fast-sailing boat, consequently we were in danger of arriving at Martinez before the appointed time, so we sailed up near the large ferry boat, the *Solano*, and watched the train move aboard this great floating palace. After blowing her whistle, which was echoed back by the surrounding hills, this immense result of man's mental and manual labor, left her slip at Port Costa for the other side. We then sailed over near Benicia to see the large wharf being built there beside the ferry slip for the shipment of wheat by Messrs. Balfour, Guthrie & Co. From here we crossed to the port to which we were destined, where we were met by Bro. Adams and my father, who had come on the train. We thanked our kind neighbor for the pleasant sail, bade him good day and immediately proceeded to the hall of Alhambra Grange. Here we were welcomed by some of our friends, the good brothers and sisters, who were laden with baskets and boxes. Now every good Granger can guess what was in those mysterious looking baskets and boxes. We ascended to the Grange hall, where we found sister M. B. Lander and some of the young sisters arranging flowers and preparing for the reception of visitors.

There were representatives from Danville, Walnut Creek and Vallejo Granges, and Mr. Smith represented the dormant Grange of Antioch, which he said was about to awaken. The gentleman told us, in the course of his remarks, which were quite scientific, that "the tide flowed out and the tide flowed in." This being true, it is perfectly natural that the tide of good fellowship should again flow in among those who have once enjoyed the society and advantages of the Grange. The earlier part of the day was employed in conferring the fourth degree upon two ladies and one gentleman. W. M. Spilman and Bro. Deming were invited to assist the Worthy Master of Alhambra in his labors. After the degree had been conferred and two new sisters and a brother welcomed as full-fledged Patrons, we were invited to repair to the lower hall to partake of the good things that the ever thoughtful matrons had spread for our refreshment. We now had no doubt about the contents of those numerous baskets and boxes. Each had contributed its share to the bountifully laden table before us, which almost groaned under its burden. I can assure you that we did ample justice to this collation, for we had an early breakfast, and then the sea air is said to have an appetizing effect. Among everything that was excellent, there were some very fine cherries from the ranch of Dr. Strentzel.

The meeting in the afternoon was called to order by W. M. Dr. Strentzel, and Worthy Master of the State Grange, B. R. Spilman, was introduced and treated us to a very excellent and interesting address upon the advantages of the Grange to its members, and also to those without the gates. He made some very complimentary, but very true statements about the noble work the sisters are doing and the advantage the Order is to them. Bro. Amos Adams was then called upon and made some very pleasing remarks in regard to the Business Association, Grangers' Bank and Patron. Mr. Woods next spoke and showed us that he thoroughly endorsed the remarks of the preceding gentleman. A gentleman from Walnut Creek, whose name I did not hear, astonished us by telling us there was a class of 13 to be initiated into their Grange on Thursday. We were glad to hear this and would like to hear it from all other Granges in the State. Several other brothers and sisters spoke, and the meeting being a closed one, was then closed in due form. Some of the other members of our by no means small family, having arrived to take us home in the yacht, "Wave," we bade good night to our kind and hospitable friends, and after a delightful sail found ourselves once more treading upon the soil of Glen Cove rancho. CLARA DENING.

July 5th, 1880.

CARRY ON THE WORK.—From a well written essay in the *Michigan Grange Visitor*, by a farmer's daughter and a matron in the Grange, we extract the following: We know that we are often surrounded with the most trying circumstances; and trivial things that come to annoy us seem to gain increased power until we are tempted to falter on the way. We know that sometimes there is so much for busy hands to do, there are so many hard duties devolving on the tired father, it seems like asking too much to require him to hitch up and drive to the Grange. But when we get there we feel paid for the extra exertion required. The meeting of sisters and brothers whose hearts we know are true, to whom we may look for sympathy, the bright faces and cheerful tones of friends we have learned to prize, enlivens and refreshes and gives us strength for the duties that follow on the morrow. Patrons and matrons do not deceive yourselves. Herein you can pluck grains of solid comfort when the germs of dormancy are about to take root in your hearts. Spare yourselves the pangs of such weaknesses in your lifework. Be men and women in the most "trying circumstances" and allow not "trivial things" to annoy you and gain "increased power." In the Grange you have a proud inheritance to bequeath to your posterity. Act not the part of cowards, now, when the zenith of success and glory is within your grasp.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

INTRODUCING PLANTS.—*Washington Reporter*, June 26: Many years ago Mr. A. Patterson, of Decoto, brought with him, from the East, a lot of cuttings and roots of the pecan, sassafras, sugar maple, mulberry and walnut trees, and they can now be seen in full growth. Only the mulberry trees are in bearing. In bringing the cuttings Mr. Patterson experienced considerable difficulty, they having to be moistened every day. The cuttings having been taken in the autumn, on reaching Panama they began to sprout and grow, and considerable skill had to be exercised in transplanting them into California soil and climate.

BUTTE.

THE HARVEST.—*Oroville Mercury*, July 2: The farmers are so busy in the harvest fields that but few of them have been in town this week. The weather is very favorable, being cool and accompanied by light winds. On the red lands the grain has shrivelled but a very little. The most of it will be plump as usual. Owing to the fact that but little of it has been injured by rains, the yield on this land will be full as good as last year. On the black and the adobe lands the crop is fully 20% ahead of last year. But very few acres in this part of the county have been injured at all, while field after field presents an appearance that gladdens the heart of the farmer. The scarcity of field hands is greatly felt, and were it not that Chinamen can be obtained, large fields of grain would be left to be threshed out by the wind.

DEBRIS SUIT.—There was filed in the office of the County Clerk this week, by F. C. Cusk, attorney for G. W. Colby, of Nord, a complaint containing 16 pages of printed matter, wherein the plaintiff alleges that the Spring Valley Mining and Irrigating Co., a corporation, has damaged him in the modest little sum of \$41,250, by running sand, tailings and other debris from its mines at Cherokee Flat upon the lands of plaintiff, destroying to a great extent his crops for the past three years.

WAGES.—*Record*, July 3: Two dollars per day is the standard price for labor in this county, also for heading and threshing, with the exception of the separator tenders, sack sewers, forkers, engineers and header runners, whose pay is much more, although some ranchers seem to think that they can hire men for less; but, generally speaking, the men who work for small pay are those who work for a very short time, and the inconvenience of securing a new crew every two or three days more than offsets the difference in prices paid for labor. Good working men are scarce in this section. If there be a superabundance of this kind of workmen in other counties, they can find work here at standard prices, and if they are of industrious and temperate habits, they will have no trouble in securing work for the entire season.

COLUSA.

THE CROPS.—*Sun*, July 3: We are pleased to be able to state that the crops are turning out much better than was anticipated after the continued north wind. It was thought that the greater part of the wheat would be shrunken, and scarcely merchantable, but the most of it will be excellent wheat. Mr. Campbell, who is farming the Glide land this year, has been threshing for a fortnight, and finds the yield to be about 18 sacks to the acre. This one farm will have 125,000 bags of wheat to sell. This is plain land. Most of the river wheat has filled very well. John Deeter brought us a sample of his club on his home place, which is as fine and heavy as any we ever saw. We spoke last week of the crops on the east side of the river, and now we think the west side, except some of the poorest alkali land, will turn out almost as well. Julius Weyand showed us some samples from the neighborhood of Arhuckle, which were very fine. The average per acre throughout the county will be very large—in the neighborhood of 25 bushels to the acre—some place it as high as 30. Colusa county will have an immense surplus for export this season.

FRESNO.

NEW INCUBATOR.—*Republican*, June 29: A Bronze turkey gobler belonging to Mrs. Inns, on the Central Colony, concluded, as the price of poultry was advancing, that he would go into the business. Rolling an egg out of a hen's nest, he fixed himself up a nest, and commenced setting in good earnest. The egg was taken away from him, but he succeeded in getting another. Finding that he was determined on having a family of his own, Mrs. Inns furnished him a nest full of eggs, and for the past ten days he has attended to business assiduously. What he will do when they are hatched out remains yet to be seen.

THRESHING.—Messrs. Frank Chapman and Ed. Burnett started up their new thresher at Mark Chapman's place, about five miles from Centerville, on the 16th inst. The grain is excellent, and their machine works like a charm. Grain in this section escaped damage from the drying winds, and is plump, the yield being far above the average. They charge six cents for barley, and seven for wheat, and promise good work.

LAKE.

CROPS.—*Cor. Santa Rosa Republican*: In traveling over a large portion of Lake county, I find some excellent wheat crops, but the larger portion is not an average. The peach,

nectarine, apricots, and some of the cherries, are entirely destroyed for this season, while the apple and pear promise a good yield.

LOS ANGELES.

BANANAS.—*Express*: It has never been claimed that the banana can be successfully cultivated on the low, damp lands of this county, but that it can be on dry hillsides has been demonstrated. We have never had so severe a winter as the last since the settlement of the State by Americans, but there are localities where the banana has survived the frosts and continuous cold, and is now flourishing and bearing fruit. In Judge Widney's garden, in this city, is a plant which has a fine bunch of bananas, more than half-grown, and which will mature fruit of as fine quality as one can desire. There are at least 50 banana shrubs in this city which will fruit this season. The banana has no particular time for fruitage, the maturity of the fruit depending wholly on the growth of the plant. Some plants reach the fruitage period too late in the fall for the fruit to ripen. These are usually killed by the frost, but Judge Widney has a plant which bore fruit last December, and, after passing through the rigor of the winter, the bunch of bananas still remains, and probably half of them will mature. But the danger of having fruit blasted by the cold can be avoided by cutting down all sprouts which it is evident will not fruit until it is too late. The leaves on this and other plants were mostly blasted by the frost, but the body of all the plants, excepting those of very young growth, remained in good condition, and in March and April new leaves put out, and on some of them clusters of fruit have made their appearance. This success can be looked for only in favorable locations. A dry hillside with a southern aspect is the best. Farmers living in the open valley and on moist land have failed in all their attempts to cultivate the banana, but their failure is no proof that another cultivator, perhaps not a half mile distant, may not succeed.

BUCKWHEAT.—*Herald*: Mr. J. F. Nadeau, Mr. Blakeslee and others, have some half dozen fields of buckwheat now in bloom in the vicinity of Florence. The snowy flowers are in fine contrast with the living green of the leaves. Without the slightest irrigation, the foliage, from bottom to top leaf, showed not the least symptom of thirst, up to noon yesterday. The fields of huckwheat are some in the artemisia section of Florence precinct, while the rest are in the non-artesian or arid section. The huckwheat is growing luxuriantly in the arid section. It is suggestive of the capacity of huckwheat to flourish with a minimum of moisture.

NAPA.

CROPS.—*Register*, July 3: The quality of the hay cut this year is far superior to the general average, being bright, well-cured and free from thistles and other noxious weeds, which of late years have been so prevalent among hay cut in this valley. Wheat is ripening quite fast. Never in the history of the valley has there been a more favorable year for the growth of this grain. From seeding time to the eve of harvest all things have been favorable to a large yield. The cool weather of the last two weeks has caused the grain to fill exceedingly well and a very fine article will be placed upon the market this fall, as it will be not only very plump but free from foul seeds. The peach crop this year in the valley will be exceedingly light. A large majority of trees have been attacked by curled leaf and the fruit has been blasted. Apricots will not be very abundant. A large crop of apples is expected though the hot weather in the early part of the month blasted much early fruit. A larger crop of grapes is now assured than was ever harvested in Napa valley. The vines escaped spring frosts, fruit set well, is now in blossom or just past, and growing finely. The prospective demand is large and high prices are already being offered.

SAN JOAQUIN.

INUNDATED WHEAT.—*Independent*: Geo. Emerson, who rents land from M. C. Fisher, on the upper division of Roberts' island, brought to this city samples of the growing wheat that was recently inundated. Notwithstanding the fact that it stood for several days in a depth of about 16 inches of water, it is strong and in the best possible condition. The soil was quite dry at the time the break occurred in the levee, and much of the water has been absorbed by the earth and has nearly all disappeared, leaving the growing grain high and dry. The samples of the inundated wheat exhibited at Southworth & Grattan's store recently attracted considerable notice, and the general conclusion was that a better development of head and berry could not be found anywhere in the valley. Some of the farmers on the upper division, who thought they were drowned out, will gather large quantities of wheat into their granaries.

SCARCITY OF HANDS.—*Stockton Herald*, July 3: A prominent grain merchant to-day stated that it was almost an impossibility to get a sufficient number of work hands to run on the steamers plying between this city and landings up the river. Fifty dollars per month and board are offered them, and they still refuse. When work is so plentiful as it is at this time of the year there can be no need of tramps going about the country hegging. They should be refused assistance when they make application.

THE PRESENT WHEAT CROP.—We are informed by those who, from long experience, are competent to judge, that the present wheat crop is likely to be, on an average, of better quality than that of any previous season, although much

of it may be somewhat shrunken. Samples thus far received, with few exceptions, are of a quality to be classed as good milling wheat.

SANTA CRUZ.

PLEASANT HOMES.—*EDITORS PRESS:* Let me say to your many readers, who are "seeking a country" where they can make themselves "pleasant homes," that, in all probability, there is no county in the State, or in any other State, that offers any greater natural advantages for such a home than Santa Cruz county. Now let me enumerate some of them that exist here in a high degree. First—Our climate is the most regular, evenly tempered, freest from storms and drouth, or other extremes of any country I have been in. Second—We have clear, pleasant sunshine, with gentle breezes, 19 out of every 20 days of the year, and the air is pure, coming either from the ocean or the mountains back of us. Third—The whole county is watered with living springs and creeks of pure water, so that it might be divided into small farms with living water on each farm. Fourth—We have great quantities of timber, suitable for making building lumber and for fire wood, and vast quantities of tanbark oak that furnishes cheap material for tanning leather of the first quality. Our mountains of limestone, of superior quality, supply us and the whole coast with the best of lime and building stone at cheap rates. Fifth—Our facilities for getting to market, or anywhere else, are as good as any in the State, and we can go by rail or water. In consequence of the great influx of the visiting population every summer, we have a home market for most of our agricultural products. Sixth—Besides our railroads we have splendid wagon roads all over the county, affording pleasant drives amid grain and picturesque mountain scenery. There are pleasant resorts along the sea coast, and other summer resorts where people congregate by the thousand for health and recreation. Last, but not least, is the fact that we have one of the finest fruit-growing regions in the world, and our market facilities are first-rate. Our soil and climate are peculiarly adapted to the growth of a great variety of choice fruits and nuts, as well as grain and vegetables. We have good society, good schools and good neighbors, and no shoddy aristocracy. We value one another according to manly or womanly worth or character; and there is plenty of good land to be had at reasonable rates, in quantities to suit, with good titles to make pleasant homes.—*M. P. OWEN, Soquel.*

SUISUN NOTES.—*Republican, July 3:* Owing to the continual cold, damp weather wheat is ripening very slowly. We took a little spin into the country the other day and we found that wheat had scarcely changed from the condition it was in a week previous. The wind has been blowing furiously all the time, right from the bosom of old ocean, and has retarded the ripening of grain considerably. The sap seems to remain in the stock, and the kernels seem to remain soft and pulpy. Many headers that have started, have found the grain too green, and were compelled to stop.

THE HARVEST.—*Tribune, June 26:* The threshers of Messrs. Bloom, Cooper and Kline began work this week upon barley, but no wheat has yet been threshed that we know of. There is a cheerful tone among farmers, as most of them now believe they were scared too soon. The south winds that followed the blow from the north were a grand thing for the wheat. From Colusa the reports continue favorable. Mr. Killebrew shows us some fine samples of wheat from his farm there.

SONOMA.
CURL-LEAF.—*A. Bouton, in Russian River Flag, July 1:* The principal cause of curl-leaf on peach trees is a superabundance of rain or moisture, which puts the tree in a susceptible state to be acted upon by the sun. We may say that the sun is an auxiliary cause of curl-leaf. We knew of a tree, a part of which was shaded, and that part retained its leaves in a healthy condition, while the remainder and larger part lost all its leaves. April, 1860, like 1860, was stormy, and bad for the curl, yet few, if any trees, died. The curled portions of leaves will turn black, crumble and fall, which we think is the slow process; the quick process gives no time for curl. The sun without the rain will not produce the curl, yet the sun does damage. There are many non-curling varieties of peaches in non-curling years, but few in curling years. We conclude that when we have all dry weather we have little curl; when we have very wet weather late in the season, we have much. If there is any moisture in the ground, some varieties will curl. Natural or artificial drainage is desirable to run the water off soon; then keep the trees in a lively condition by proper pruning and cultivation. We have seen plum trees with curl-leaf, and have heard of some varieties of apples with the same.

CROPS.—*Petaluma Argus, July 2:* Our farmers are generally getting everything in readiness to commence their grain harvest. In consequence of the backwardness of the season, active harvesting will fall at least two weeks later than usual. During the week past the weather has been of the most favorable character to cause the grain to fill. While there has been considerable fog, yet we do not hear of any complaints of rust. The grain is now so far advanced that it may safely be considered out of all danger of any set-back. Taking the county over there is certainly a fair average crop. In some localities the yield will fall somewhat below expectations in the earlier part of the season, but in the other localities the present outlook in excess

of first anticipations will counterbalance this. Taken as a whole our farmers have great reason to congratulate themselves on their certainty of paying crops.

CARP.—*Cor. Santa Rosa Democrat:* Those interested in fish culture should look after the young carp, as the spawn are about all hatched, and the green or garter snakes are very fond of them. We were at Mr. Oliver's ponds on Sunday, and he informed us that he had killed 14 snakes this spring at his ponds. We had the pleasure of seeing him feed his fish, and it is a sight well worth witnessing. The increase is simply immense.

WOOL SALES.—*Santa Rosa Republican:* All the hotels, boarding-houses and livery stables were full of customers at the big wool sales at Cloverdale. Wagons loaded with wool came from all points northwesterly, more than 100 miles distant. The town was full of buyers from abroad. The 980 bales on the ground Tuesday, were offered in a lot, but buyers held off, and there were no transactions. The next day (23d), each man commenced selling his own wool. Though many of the city buyers had departed, the trade was active, and a good part was disposed of when the reporter left in the afternoon. Prices ranged from 26c to 30c. E. M. Hiatt, of Yorkville, and his partner, controlled the largest and finest lot of wool on the ground, besides representing other parties. The largest purchasers were Shaw, Bowman & Co., of Cloverdale, and Wise, Goldfish & Co., of Santa Rosa.

STANISLAUS.
OAKDALE.—*News, July 2:* Oakdale has, during the past year, made a rapid growth. The extension of the cultivation of wheat instead of stock ranges in the eastern portion of the county, has increased the population and given a stimulus to trade. As a result, Oakdale being eligibly located, has taken a fresh impetus. Situated as it is at the terminus of the railroad, the bulk of the grain between the two rivers and south of that place, must find its way to market from its depot. Hence, as a grain center, it will this year have no superior in our county. There are several new buildings in the course of erection, the most important of which is a brick warehouse, capable of storing 3,000 tons of wheat.

THE CROP.—A hasty glance over the county establishes the fact that, as a whole, the grain has not been injured to the extent feared. True there are some localities, and not a few fields, where the grain was badly damaged. Still, even in such localities the yield will be much better than hoped for two or three weeks since. The eastern or foothill section of the county is this year the most favored locality. The yield north of the Stanislaus will be full an average, while the acreage is much larger. South of Oakdale and between the two rivers there is also to be seen many splendid fields of grain. The west side is most seriously damaged, yet the yield there is by no means a failure. There will be, if properly classified, three grades of wheat produced this year in our county. As a whole, the quality whilst freer from seeds, weeds and other foreign substances than usual, will be inferior to what it should have been. The farming has been better than usual, and the only defect in the grain will be in size and perfectness of the berry.

THE BANANA.—Among the novelties on the Dorsey ranch, we found a South American banana tree, some five ft. in height. It is now in the second year of its growth, and though cut down by the cold of last winter, appears to be in flourishing condition. It was planted on the south side of the house, and was protected during the winter from the severe frosts, by a covering of common sacking. We also noticed samples of the Chinese bamboo and cactus from the Colorado desert, both apparently in a healthy condition.

SUTTER.

GOOD GRAIN.—*Banner, July 2:* The farmers are busy heading grain, and some have commenced threshing. They feel much elated about the good crops, it being now known that there was little cause for the fears and complaints recently indulged in. One Sutter county farmer who expected to get 300 sacks from a field filled over 400 sacks. Another from West Butte reports that the grain has filled out, and is yielding one-sixth more than was recently calculated upon, and that the average yield of that locality will be between 25 and 30 bushels per acre.

MACHINE MORALS.—*Appeal, July 3:* The manager of a threshing machine in Sutter county will have printed cards about the machine and dining car, notifying the men that no employee who, either about the grounds, car, or in town, either on week days or Sundays, becomes intoxicated, or who smokes in the field, plays cards about the car, or makes a loud noise, or engages in disputes or quarrels, will be retained in his position. If all employers were as strict with their men, and in return for these requirements would treat them with some consideration and look after their interest, it would be better for all concerned.

VENTURA.

RUST.—*Free Press, July 3:* So far as we have learned as yet, the Odessa seems to be the wheat for Ventura county. No rust on this wheat is reported in any direction, while all the other varieties that we have yet heard from are affected in places, though the damage is very slight. Mr. Chrisman showed us, the other day, a bunch of White Russia and a bunch of Odessa, grown within a few feet of one another. The Odessa is bright, plump and heavy, while the other is so rusted as to be worthless. This White Russia seed was brought from Oregon,

and great things were expected of it, but the sample shown us would indicate it to be a conspicuous failure.

YOLO.

CROPS.—*Cacheville Cor. Woodland Democrat, June 29:* Harvest, in this vicinity, is somewhat retarded on account of the slow progress of the ripening of the grain. Many headers are compelled to lie idle a few days to allow the crops to mature. In consequence of this fact, harvest will be unusually prolonged this season. Farmers, generally, while not altogether satisfied with the price outlook in the grain market, are quite jubilant over the gratifying result of the last few weeks' favorable weather. Cool nights, with dew, have completely overcome the influence of the north winds, and the yield will be very large, while the grain is of much better order than in ordinary years. There is no poor grain in this locality to speak of.

Forms of Warehouse Receipts.

Pro formas for warehouse receipts are given to show what is required for negotiable receipts such as are in universal use throughout the northwestern States. Warehousemen, and those giving receipts for goods, etc., on storage, should have their receipts handsomely lithographed or printed upon what is known as bank note paper (a strong thin linen paper), bound in book form. The receipts to be eight inches long, by three and a half inches wide, attached to stubs of half their length, from which the receipts are cut when issued. The stubs and receipts attached to them, should be numbered alike and consecutively. The stubs briefly give what is recited at length in the receipts detached from them, serving as a reference at all times. Similar in many respects to stock certificate books, etc. Great care is taken in having receipts returned before deliveries are made, as confidence is all-important in business, every precaution and safe-guard is taken with these evidences of value.

The following are forms of receipts:

No. 1882.	Stub.	No. 1882.	Goods Receipt.
December 20th, 1878.	Lot 14, 16, 18.	Lot 14, 16, 18.	GENERAL WAREHOUSE.
Order of Richard Roe.			No. 26 California Street,
Five thousand boxes Raisins.			San Francisco, Dec. 20, 1878.
C. P. R. cars Nos. 2650 & 65			Received in store from C. P. R. cars Nos. 2650 and 65,
Advance charges paid, \$125.50			five thousand boxes Raisins, on account of Richard Roe,
Rate Storage, 5c & 2½¢ per box.			and delivered only to his order hereon, on payment of
Insurance.....			charges and cooperage.
			All loss or damage by fire, rillage, leakage or by prop-
			erty being perceptible, at owner's risk. Storage five cents
			per box for the first month, or any part thereof, and 2½
			cents per box for each subsequent month, or any part
			thereof.
			John Doe.
			Advance charges, \$125.50.

These forms of receipts are applicable to all descriptions of property stored in warehouses under the new warehouse law. The increasing

No. 2021.	Stub.	No. 2021.	Grain Receipt.
December 20th, 1878.			CENTRAL ELEVATORS,
From Barge Yolo.			Stockton, Cal., Dec. 20th, 1878.
Account John Brown			Received in store from barge Yolo, eight thousand
5,000 Sacks Wheat.			sacks marked A. B. C., 533 666-100 tons of Wheat, with
Marked A. B. C.			five only of this receipt and payment of charges.
			It is hereby agreed by the holders of this receipt, that
			the grain herein mentioned may be stored with other
			grain of the same quality, by inspection. Loss by fire or
			thefting at owner's risk. This grain is subject to our
			advertised rates of storage.
			10,666 66-100 Centals.
			Grangers Storage Co.

number of warehouses throughout the State demands that a uniform and proper style of receipt should be generally used. We give this description in answer to several inquiries.

News in Brief.

THE Fisk University has graduated six negroes this year.

GERMANY sent England £3,000,000 worth of potatoes last year.

CLOVERDALE is building a small tannery and calls for a woolen mill.

THE Roumanians are setting out forests of young trees. In one place 14,000 have been placed.

A NATIVE of Surrey, N. H., has given \$10,000 to pay the town debt, and \$5,000 to establish a free library.

FOR the last fiscal year North Carolina spent \$326,040.85 for public schools and had a balance of \$147,170.94.

THE subscriptions to the projected railroad from Stockton to Bodie have been cancelled and the project abandoned.

SOUTH CAROLINA has six flourishing colleges, six female seminaries, three military academies and a colored university.

A cow in Cambria county, Pa., has undertaken the care of seven young pigs that were neglected by their mother.

COL. JAS. DIXON, a member of the Stevenson regiment, was drowned lately while fishing in Gold lake, Sierra Co., Cal.

NEW YORK humane grocers request their patrons by placards to purchase supplies before 8 P. M., for the sake of the clerks.

THE El Dorado *Republican* says that most of the cattle and sheep men have passed up into the mountains with their stock.

A MECHANICVILLE (N. Y.) farmer protects his hen roost from hawks and thieves by keeping a flock of a dozen guinea fowls.

THE new breed of whales reported to have made their appearance in the Arctic seas are larger and tamer than the old whales.

THE Oakwood herd of Short-Horns was sold at Dexter Park, Chicago, July 1st. There were 39 head, which sold for a total of \$60,250.

AT New York, July 1st, the exports of wheat, corn and oats amounted to 1,250,000 bushels—the largest amount ever reached there in one day.

THE Wesleyan Chapel, in City road London, founded by John Wesley, which was partially destroyed by fire in December last has been restored.

OVER 500 sick women and their little children enjoyed the delicious surf bathing and the hospitality of the Seaside Sanitarium at Rockaway beach, June 26th.

THE Agricultural Association, comprising the counties of El Dorado, Amador, Placer, Nevada, Mono and Alpine, will hold its tenth annual fair at Placerville.

THERE lately arrived in New York city, from Albany, a horse 20 hands and 1 inch high, and weighing 2,450 lbs. He is a dark bay, and without spot or blemish.

THE Santa Cruz papers state that the population of Monterey aggregates 1,400 persons, and that a large majority of those are natives of Mexico and California.

AT Hamden-Sidney College, in Virginia, the Arts degree is to be given hereafter to students who substitute both French and German for either Greek or Latin.

FREQUENT and heavy showers throughout the northwest have already greatly delayed the harvest of wheat, and impeded the cultivation of corn and hay-making.

THE Philadelphia Grand Jury meets with encouragement in its proposition to revive the pillory and whipping post as a means of punishment for petty crimes.

LATELY in New York a 16-months-old child had her ears pierced for earrings, and was immediately attacked by facial erysipelas, from the effects of which she died.

THE first Merino sheep ever shipped from Vermont to Montana were shipped last week from Middlebury, and filled two cars, one load being all registered stock.

SUBSCRIPTIONS are to be raised throughout England for the widows and orphans of the officers and crew of the *Atalanta*. All hopes of the safety of the vessel are abandoned.

TWO-THIRDS of the American tourists now in Europe expect to go to the Ober-Ammergau Passion play. Myriads of English will go there, too, on the Cook excursion tickets.

AT Memphis within three months and a half, 20½ miles of sewerage pipes and 30 miles of sub-soil drain pipes have been put down, and beneficial results are already discernible.

THE latest reports from the famine districts in Ireland show that many parishes have not yet received any relief at all and that in the month of July there will be a fearful suffering.

THE coinage at the U. S. Mint for the fiscal year ending June 30th was valued at \$84,370,144, of which \$27,934,750 were standard silver dollars. This exceeds the coinage of any previous year.

THE Spanish government will not permit the exiled religious societies of France to establish themselves in Spain near the French border, and elsewhere only after vigorous examination into their character.

THE United States Entomological Commissioners are making preparations to resume the investigation of the Rocky Mountain locust and grasshopper and the cotton worm under the new appropriation of \$25,000.

THE announcement that the Empress of Russia died alone, unattended by any member of her family, and during even the absence of the one servant who was in her room during the night, has given rise to much comment in England.



A Noble Toast.

It was a grand day in the chivalric time. The wine circled around the board in a noble hall, and the sculptured walls rang with the sentiment and song. The lady of each knightly heart was pledged by name, and many a syllable of loveliness had been uttered, until it came to St. Leon's, when, lifting the sparkling cup on high—

"I drink to one" he said,
"Whose image never may depart,
Deep graven on a grateful heart,
Till memory is dead.
To one whose love for me shall last,
When lighter passions long have passed,
So holy tis and true;
To one whose love has longer dwelt,
More deeply fixed, more keenly felt,
Than any pledged by you."

Each guest upstarted at the word,
And laid a hand upon his sword,
With fiery, flashing eye:
And Stanley said: "We crave the name,
Proud knight, of this most peerless dame,
Whose love you count so high."

St. Leon paused, as if he would
Not breathe the name in careless mood,
Thus lightly to another;
Then bent his noble head as though
To give that word the reverence due,
Then gently said: "My Mother."

A Sylvan Sermon.

[Written for the RURAL PRESS by Mrs. C. I. H. NICHOLES.]

"Every woman should fill her heart with plans and purposes of self-support; and if a man will marry her, let him be strong enough to break down all barriers, check the whole flow of her life, and sweep it around himself."
—Mrs. E. J. S., RURAL PRESS, May 8th.

Rambling once in a beautiful Kansas wood, a sight both beautiful and suggestive arrested my attention. A grand old oak stood before me, its trunk and main branches encircled, and its stately head enveloped in a thrifty vine, which the tree, in its "glorious magnificence" had "swept around itself;" but which, from inherent limitations, it could not wholly appropriate. Here and there, indeed, a withered branch whispered the danger of ultimate decay from the luxuriant fullness of the vine-life whose creative ends the fine old tree could neither absorb nor fulfill, but might, to a limited extent, assist and even arrest.

When both were starting out in life—the earth beneath them and the heaven above them, theirs by primal endowment—the vine, modestly conscious of innate power to glorify by her attachment, and obedient to the social law of her nature, had gracefully accepted the proffered support of the sturdy tree. From that time onward, in summer's heat and winter's storm, they had found succor and refreshment, each in the other's embrace; and when in the course of their development, there had come revelations of natural differences and surplus energies, suggesting diverse activities and new departures, they had acquiesced without question or apprehension of adverse interests. To repress the individuality of either would be to invite the nonentity of both. So the grand old tree, festooned and crowned to his utmost, and holding fast his allegiance, sustained his beautiful vine, and day by day watched her, glad in her unfolding beneficence, swaying in the breeze, soaring upward, or coyly trending to his side. At last there came a day when weighed down by accumulating leaf and flower and branching responsibilities, her beautiful head trailed in the dust!

A mighty rustle, a quick rebound of lithe, enfolding arms from loosed tendrils, and the prone vine lifted by the passing breeze caught the extended branch of a neighboring tree-top; and here safe in her additional supports, she sent out thrifty laterals to lattice the intervening space, and made of her extended sphere a bower of beauty, where the wearied body might find rest, and the muddled brain grow clear, and mayhap, learn from bird and bee, that in the divine economy, tree and vine owe sweet uses outwardly, and in living for themselves or each other only, must decay and grovel in the dust.

"A Woman at the Bottom of It."

In 1702, Elizabeth Mallet established and edited the London *Daily Courant*—the first daily paper in the world—in London, England. "In June, 1877," says the *London Annual Register* of that year, "the Chilean Congress granted to women the right to vote."

Mrs. Jas. Brander, an eminent English teacher, has been appointed by the British Government, Inspector of Schools for Madras, India. The appointment, says the N. Y. *Tribune*, was wholly unsolicited.

What Christianity Has Done.

One method of defining the influence of the Christ principle, is to resolve our civilization into its several factors and see to what extent, or in what way Christianity has modified and influenced these factors that make up the sum of our advancement.

One cause of our high civilization is the adventurous and aggressive spirit of the Aryan race; this peculiarity of temperament has made them the developers of human possibilities, and the conquerors of the elements. They have fought for the right to be, and won it gloriously. Now that our position is consolidated, now that there is no further need of fighting our way through barbarism by the sword, we are apt to forget that war was once an actual necessity. Life in its first stages is merely a struggle for existence; even among the gentleflowers there is a ceaseless fight for the right to live and bloom; and our much prized civilization would not exist to-day were it not protected by its cannon. These are the fire-breathing dragons that guard the golden apples of civilization.

War is a characteristic of race, the advance guard of progress. Has Christianity influenced this characteristic? Most certainly it has. The Sermon on the Mount has been preached throughout the ages on the battle-fields, and sweet deeds of mercy have humanized bloodshed. Chivalry gave war a moral code, not perhaps of the highest; but to have a code is a great advance upon having none at all.

Then societies were organized, brotherhoods who made it a religious duty to carry succor to the wounded, to bear away the dead from the battle-field and to give them Christian burial. Thus did the seeds of Christ's mercy and charity germinate and grow until they blossomed in the sublime self-sacrifice of a Florence Nightingale, a Clara Barton, and their many heroine companions.

The second great factor is science, or knowledge, based upon experience. To this element we owe all the comforts that make life delightful, by it all the grandeur of the universe is revealed to us. Science enables us to think the thoughts of God and to enact his laws; but the tree of science could not have waved its branches over Asiatic railroads, European telegraphs, and American telephones; it could not have written upon its leaves the history of the worlds, and fostered neath its genial shade the religion of truth, had not its roots been well nourished with the blood of its martyrs.

Closely allied to science is liberty, which forms a third factor of our progress. Liberty of person and of thought, liberty for man and woman were ideals that haunted the dreams of the Greeks; ideals for which the Anglo-Saxon has ever fought, for which we are still fighting. Slowly, liberty has been raised above this sordid world, raised upon a holocaust of martyred patriots, until her standard greets the eyes of half the world. The spirits of her noble dead hover round her, echoing her war cry, "Onward in the cause of right, falter not till the cause is won; fear not, for out of death comes life."

Liberty and science owe all to Christianity, for it is, by the spirit of martyrdom that truth has conquered; no reform is of value to the world unless its progenitors are willing to seal its truth with their blood, to give it a soul by the sacrifice of their body. As Bayard Taylor says: "We won through martyrdom the power to aid;" and this spirit of martyrdom is the spirit of Christianity.

Christ breathed a new spirit into the world. Inspired by the new life thousands of people, tottering old men, venerable matrons, men and women in the vigor of life and health, youths and maidens to whom life was yet a rosy dream braved death, yea, chose death for a principle, and that principle a spiritual one.

Others had died before for fame, for friendship, for their country, but that people should die for a belief was unheard of; and what was yet more incomprehensible, these people embraced death, not with the cold stoic heroism of a Spartan, but cheerfully as if death was a pleasure. Young girls smilingly entered the blood-stained arena and welcomed the tiger as it sprang forward to devour them; men and women sang canticles of joy while their flesh was torn to pieces, or dropped melted into the fire. Such a sight electrified the world, the proud Romans, the philosophic Greeks, the voluptuous Orientals, the barbaric Goths looked on in amaze, till thrilled with enthusiasm they bowed before the new life. For on Calvary was born a new life, a life of sacrifice, of devotion, of universal love, a life that gave its last breath for its belief, its conscience; and when, the coarse elements of Judaism and Paganism, under the name of Christianity crystallized into a thick ice crust, deep neath its cold, hard surface flowed the fresh heaven-born current of the new life, ever and again bursting forth to refresh the world in a Wickliffe, a Huss, a Savonarola, a Luther, a More or a Garrison. This glorious spirit of Christianity inspires the patriot lover of liberty, the earnest lover of knowledge to brave prison, ostracism and death for the sacred principles of freedom and scientific truth.

It has idealized art and literature, deified morality and made truth invincible. It has infused a vital power into all it has breathed upon; and when classical lore awoke from its long sleep, it awoke endowed with a soul—a soul born of Christianity.

And although this spirit of martyrdom has degenerated sometimes into fanaticism, we must remember that fanaticism holds the torch for progress and throws a plank over the swamp of

the unknown that the world may see to walk while a good road is being made and illuminated. Let us bow then in gratitude before the spirit of Christianity that in spite of fire and sword, sneers and ridicule, has given a soul to our philosophy, a conscience to our morality and vitalized and inspired our civilization.—W., San Jose, Cal.

A Visit to Mt. Vernon.

We had a holiday; so I took that opportunity to go to Mount Vernon, the home of Washington. It is 17 miles down the river; has been bought by a party of ladies called Regents, and is kept in exquisite order. Ticket on the boat, admitting you to the grounds, cost a dollar; that takes you there and back. Col. Hollingsworth has the place in charge, and meets visitors every day at the boat and conducts them through the house. It is quite a long walk up to the house, but a lovely, shady one; the grounds are on a high bluff, and the river runs around on two sides. Majestic trees grow all along the slopes. The house was much finer than I expected to see. He must have lived like a prince there. It is frame and painted white, three stories high; a high veranda to top of second story across the front. Servants' quarters form two other sides of the square and enclose a pretty back yard on which the back windows of the house open. From this yard their flower garden opens. The box planted to mark the beds so many years ago has now grown to a beautiful hedge. The ivy planted by Martha is there. It has a great many rooms; they must have entertained considerably. There are mahogany and magnolia trees on the place, as well as the native trees. At the Conservatory hothouses and flowers are for sale, which add to the revenue. It is now paid for, and the Regents are out of debt. You can run clear down to the river. An elegant ice-house (empty of course) shows the nice work done in those days. It is very, very deep, and all four sides nicely bricked. It required a long ladder to get down to the ice. The old milk house—you have seen many like it—the spring walled in and the gutter for the crocks—it too is not used. It is pretty far from the house; but they had slaves in those days. The old tomb is still kept fenced in with a wicket fence; the new tomb is a Mausoleum. The two graves were beautifully decorated. His has nothing on it but "Washington." The old furniture looked quaint. Much of it did really belong to them. The rest is of the style used in that day. The bed on which he died stands in his room. In accordance with the old Virginia custom, his room was shut up for two years after his death. His room has two little dressing rooms leading off from it. His wife, after his death, took the room in the third story, with ceiling sloping nearly to the floor and one deep window (dormer style) looking out on his grave. This room she never went out of, until carried to her grave 18 months afterward. A hole was cut in the door for the cat to go in and out. A child asked one of the Regents that morning "where the cat was." She pointed to one in the yard that was purring around a group of merry girls. The Regents were there that day holding executive session—a handsome looking set of ladies past middle life. About 300 people went down that day. Only one boat goes every day, and none other is allowed to land at the wharf. A nice lunch is for sale under a shed.—Cor. Pacific States Watchman.

Marrying for Love.

The man who marries for love has generally the vital temperament—is combative, sagacious and independent, and takes a genial view of everything. A life of indolence and stagnation has no charms for one whose blood is warm, and whose hopes are high; he likes to be in the thickest of the fight, giving blows and taking them; watching for the turn of events with coolness and foresight; pleased at his own independence and struggle; eager to show the world what he can achieve; and the contest rouses all the strength and manliness of his nature. He wins the respect of his fellows by his own worth. He often brings home pleasant surprises for his wife and children. You may recognise him in trains loaded with parcels, which he good naturedly carries with perfect unconcern of what others think—a new bonnet, music, books, a set of furs for his wife; while in another parcel the wheels of a cart, a jack-in-the-box, a doll or skipping-rope intrude through the paper and suggest the nursery. He never forgets the dear ones at home; the humanizing influence of that darling red-cheeked little fellow who calls him father brings a glow of rapture of the purest pleasure earth holds; for the man who has never felt a tiny hand clasp his will always lack something—he will be less human, less blessed than others. This is the noble, the honest, the only form of life that imparts real contentment and joy, that will make a death-bed glorious, and love see peace through its tears. It is so purely unselfish, so tenderly true, it satisfies the highest instincts, it stimulates men to the best deeds they are capable of. By studying how to live, we best know how to die; and the finest life is that which ministers to others' needs, and increases the joys of those dependent on us, whom we love, and who look to us for support, solace and light, even as the earth is revived by the sun; for feeling is life, the pulsation of delicious sympathy, the spring in a desert, the manna from the skies.—Anon.

California Homes and Women.

The idea of a home, sacred to the owner, is the root of all English law, the spring of English independence, the chief cause of English superiority. Blot out the home, and the race has the battle all to fight again. Show me the land where there are homes, where the son occupies after the father has gone to his reward, and I will show you brave men, virtuous women, good laws, and a people whom a tyrant cannot enslave. If a man has a home and loves it, he will love his fellow-man the more, and his country will find him a patriot. In the Sierras you will find hills stripped to nakedness, and streams choked, by the hands of the giants who have wrenched away the treasures hidden there, and the scene is a desolate, sad one; but suddenly a curve in the road brings to view a little cottage, with trees, a garden, cattle and—children; a school-house maybe, near, and your heart takes courage, for these things you know will endure. The pioneers of California were a generation of mighty men. History furnishes no greater. Strong, brave, almost infinite in resource, driven by the fiercest passion that can demonize men—the thirst for gold—they furnish us an example of admiration for law and order at which we stand and wonder; but I submit, that their best monuments are the homes, the school-houses and the churches that dot the land from the summit to the sea. In no commonwealth are the laws more tolerant, labor more remunerative; in no commonwealth has man more opportunity, woman more right and protection. And when we speak of homes and firesides, we at once associate the name of woman. To me there has always been a deep pathos in the picture of the miner in his cabin, trying to harmonize the rough with the gentler employments of life, trying to do the work of two. Oh, the heart-loneliness he must have felt! how his soul went out with every stroke of his pick, as he eagerly searched for the gold that would satisfy his heart-cravings! As he told his comrades his story, and heard from their lips a similar one, no wonder a spirit of fraternity was developed; no wonder that when this same miner descended to the plains to make laws for the infant State, he remembered woman with such chivalric devotion, and all through the Code she stands with more rights and exemptions than anywhere in the wide Union.—P. M. Fisher.

A Lecture for Young Women.

We have devoted considerable space to lecturing young men and husbands, and it would be only fair to read a lecture to the young women. A recent author, who calls his book "Nuggets of Gold," gives the following paragraphs:

"I know many young women—oh, too many of them, and I think they can be found anywhere—whose mothers are working their lives out, or whose fathers are keeping themselves impoverished by hiring other women to wait on them, but who ought to be doing the work for some neighbors who really need help. I have seen families consisting of three or four bouncing women, and two or three others, all of whom would be in the most pitiable distress on any occasion of the hired girl's leaving them for a few days; and such a commotion as the house would be in if she should leave for good, so that another must be hunted up! Yes, the distress is pitiable, and the helplessness, the uselessness and the insipidity of a large proportion of American women is the more pitiable. The fathers and the husbands of that class of women are to be pitied. They should be specially avoided by young men who have any aspiration for advancement. And I notice that many prudent young men do avoid marrying altogether, because they cannot afford the expense of a wife, when it ought not to cost a man much more with a wife and a baby or two, than it usually costs him alone.

"And this false education of women is the cause of all the trouble in the hired girl problem, which is everywhere the great difficulty of housekeeping. So many girls who ought to be trained to the necessary duties of the household are indulged in idleness; and when they marry, their husbands, respectively, have to marry another woman or two to take care of them; that an inordinate demand for hired girls is created, and the supply is to be made up of the poorest material; for any young woman really fit to do the work and have the care of a house, very soon learns that that kind of work is too degrading for her, according to the prevailing public sentiment. Take any town of 5,000 inhabitants, and probably there are not less than from 100 to 200 families depending on hired girls, where they ought to be dispensed with and the work done by their wives or the daughters, as the case may be; which increases the demand and diminishes the supply so that it is becoming more and more difficult for those who necessarily must have help, to obtain anything worthy of the name, for love or money."

THE GREATEST MAN is he who troubles himself the least about the verdict that may be passed upon him by his posterity, but who finds doing good honest work to the best of his ability, under existing conditions, "its own exceeding great reward."

"CHERRIES are high, firm and in demand, with scarcely any obtainable," as the small boy said when he gazed wistfully at Deacon Close-watcher's delicious "Early June's."

Chaff.

In the gallery of the Louvre, before the statue of the Venus of Milo. Little boy—"What did you cut her arms off for?" Mother—"Because she put her fingers in the sugar-bowl."

A JUDGE of much experience says: "I have never had a breach of promise case before me in which the mother of the girl did not know more about it than her daughter. She always suspects the fellow is a rascal, and accordingly gets ready for him."

It was a bright little miss of six summers living on Mt. Auburn, who astonished her mamma the other day with this question, after a careful study of her baby brother's head: "Mamma, did God make teensy-toutsy holes in Rodney's head to put each one of his hairs into?"

"How came these holes in your elbows?" said a widowed mother to her only son. "Oh mother, I hid behind the sofa when Col. Gobbler was saying to Maria that he'd take her even if you had to be thrown in; and he didn't know that I was there; and so I held my tongue and laughed in my sleeves till I bust 'em."

THE BOERS of South Africa have a very useful social custom. When a Boer lady has a daughter in society, and a young man calls to see her, the careful parent sticks a pin in the candle; when the candle burns down to the pin the young man knows his time is out; he picks himself up and leaves. Bores of more civilized society might be managed in the same way.

A BETHEL dog was taken suddenly ill, and died on Friday. His symptoms were so remarkable that the owner had him opened to learn if possible the cause of his death. In his stomach was found a piece of old blue cloth. It is said that a census enumerator in Bethel wore blue trousers until Saturday, when he appeared in a pair of another color.

A LITTLE five-year-old friend, who was always allowed to choose the prettiest kitten for his pet and playmate, before the other nurslings were drowned, was taken to his mother's sick-room the other morning to see the two tiny new twin babies. He looked reflectively from one to the other for a minute or two, then poking his chubby finger into the cheek of the plumpest baby, he said decidedly, "Save this one."

A RECENTLY arrived foreigner lately stopped at one of our hotels, and at the supper-table began to play fearful havoc with a plate of hard-boiled eggs, scooping out the yolk and leaving the white untouched. Just as he was devouring the 10th one, the waiter remonstrated with him, calling his attention to his wastefulness. "Good gracious, man," he remarked, "you would not have me eat 10 vites, would you? De yolk is der shicken, and der vites der fedders. Do you tinks I wants ter make von great bolster of mine stomach?"

Perfect Work.

We are told in the Book that whatever our hands find to do we should do with all our might. Beyond question this is most excellent advice, and yet it is not enough for certain success in life that our utmost energy be put into all we have to do. Work may be energetically performed and yet but indifferently. Quality is quite as important as quantity. It should be the aim of everyone not only to work out with his utmost strength what his hands may find to do, but to do it in the best possible manner. In whatever avocation he chooses, whether that of a lawyer, doctor, preacher, mechanic or shoveler of sand, his aim should ever be to excel—to do his work better and more of it than his fellows. Capability and efficiency are sure to command a proper recognition for the possessor of these admirable qualities. They are always in demand. "There is plenty of room at the top" in any calling, and the greater the energy and skill required to reach that position, the greater the demand therefor, and the more ample and sure the recompense.

OUR BOYS.—How we shall train them for life's work? Let us first secure health, by fresh air, wholesome food, and cleanliness. I would emphasize this last. How many mothers bathe their children insufficiently? Don't fail to accomplish this health-giving duty less than once a week. Bathe the entire body. When the child is old enough to go from under your own immediate care to a room of his own, see that he attends to this duty himself. Prepare for him suitable conveniences—a stand, wash-bowl, and clean towel. Keep this room in order, so far as it is your place to. Many mothers think anything is good enough for the boys—tattered quilts, one sheet or none, a pillow made by rolling up some cast-off garments, no carpet, no pictures, no comfort of any kind. Nothing elevating or pleasing to a refined taste, the best method in the world to raise uncouth boys. This is not an overdrawn picture, but many found in real life in well-to-do families. Make their rooms as convenient and attractive as for their sisters. Make a place for their clothing and other effects, and teach them to be orderly with the same and about their person. Teach them all the little niceties of refinement, such as attention to their hair, wrists, finger-nails, and clothes. I can see no reason why they will not grow up with as refined tastes and delicate a sense of propriety as their sisters. It is one great step toward preparing them for the duties of manhood. Treat them so they will give you their confidence. Don't deal harshly or find fault unless you wish them to seek sympathy elsewhere than of mother.—M., in *Inter-Ocean*.

Young Folks' Column.

Our Puzzle Box.

Cross-Word Enigma.

My first is in city, but not in town.
My second is in garment, but not in gown.
My third is in stare, but not in look.
My fourth is in niche, but not in nook.
My fifth is in hope, but not in trust.
My sixth is in shall, but not in must.
My seventh is in dust, but not in dirt.
My eighth is in smite, but not in hurt.
My ninth is in night, but not in day.
My whole is a mountain far away. B. S., Jr.

Letter Changes.

1. Change the central of a distance and form a color.
2. Change the central of a time-keeper and form a sharp sound.
3. Change a fissure and form a short, thick block.
4. Change the central of a garment and form waste matter.
5. Change the central of to omit and form a steuple. EVA.

Charade.

My first includes the human race,
Of every age and time and place,
Down to this moment from the fall.
My second was a Roman camp,
And still it wears its ancient stamp,
The gate, the peristyle and wall.

My whole is but of modern date,
Where other unions formed of late,
Are dreaded rather than admired.
Bearing a deep and smothered flame,
I boast but half the Roman name,
With less than half its virtue fired.

Anagrams.

The first column gives the names of four authors; the second, their four works.

- | | |
|-------------------|--------------------------|
| 1. Tan cry, B. | 5. Try's our all counce. |
| 2. Somehow, L. | 6. An apple, A. |
| 3. Fill saw Waim. | 7. He'll tie M. |
| 4. Troy's W. W. | 8. Saw rong. |

W. H. G.

Curtailments.

1. Curtail a succession of loud sounds and leave a vegetable.
2. Curtail a gem and leave a kind of fruit.
3. Curtail a public conveyance and leave a wild animal.
4. Curtail to forbear and leave a small beam.

MARY L.

Answers to Last Puzzles.

ENIGMA.—Universe.
HOUR-GLASS PUZZLE.—C H I L D H O O D
M A L A C H I
C L I N G
A S P
Y
O N E
C L O A K
A L L E G E D
P O S T P O N E D
GEOGRAPHICAL FRACTIONS.—Philadelphia.
DECAPITATIONS.—1. Clover, lover; 2. Glove, love; 3. Face, ace; 4. Meat, eat, at, t (tea); 5. Fox; ox; 6. Bride, ride.
CONCEALED CITIES.—1. Richmond; 2. Washington; 3. New Bedford; 4. Taunton; 5. Troy; 6. Wheeling.
Correct answers received from Mark Keppel, Biggs, Butte county.

Botany.—No. 2.

[Written for the RURAL PRESS by FFA.]

I wonder if anyone who read the closing verses of my last communication, has felt a desire to become more closely acquainted with those loveliest of God's creations, flowers!—"day stars" or "earth stars," as the poets have justly called them.

"Spake full well in language quaint and olden,
One who dwelleth by the castled Rhine,
When he called the flowers so blue and golden,
Stars that in earth's firmament do shine."

If so, let me urge all, whether they be dwellers on the wide prairie, in the mossy woodland, or the everlasting hills to form himself or herself into a RURAL Botanical Society. Who has better opportunity of studying the subject than the farmer's boy or girl? Every roadside is teeming with vegetation; by the side of the very path through which you drive your cows are dainty flowers looking wistfully into your face, and craving your further acquaintance.

Or, if you are fortunate enough to live in the hills, a storehouse of almost inexhaustible material awaits your labors.

Not only will you find beautiful flowers, but soft green mosses, and loveliest of all, the graceful ferns.

But I think I hear the murmur of voices—"We have no teacher." Let nature be your teacher, aided by one or two good books, and I hope, by occasional words of instruction and encouragement, through the columns of the RURAL PRESS, from those who fully understand the subject, and have a desire to develop the perceptive faculties of our boys and girls.

Get a little culture and knowledge first, then keep your botanical eyes open and see what you can do for yourself. As I began the study myself without a teacher, and am pursuing it in an amateurish way—going to my more scientific friends when I come to a hard point—I may be able to help you to make a beginning. There are three good books that I have in my possession that are valuable assistants, Gray's "How Plants Grow," Gray's "School and Field Book of Botany," and "A Popular California Flora," by Volney Rattan—any one of them will do. The former is best suited for young beginners; the latter is best adapted for our California flora, and if you cannot have them all I would advise the latter. Then, when you come to analyze, a small pocket lens or microscope will be essential; the former can be had for 75 cents, and a very good one of the latter, with three lenses, for \$2.

Supposing you have studied well the first pages of your botany, supplementing the work with critical examinations of all the seeds,

roots, stems and leaves you can find, and have become familiar with the essential parts of the flower and their various arrangements, through studying some of the principal families, as the mustard (*Cruciferae*), the rose (*Rosaceae*) and the pea (*Leguminosae*) family, let us go into the fields for specimens for our herbarium, for we want to see some results from our labor. Select your specimen, dig it up carefully, for we want root, stem, leaves and flowers, also the plant in seed for a perfect specimen. With some you will find both flowers and well-developed seeds on the same plant; others will require two specimens. Wash carefully the soil from the roots and place the plant between the folds of thick unglazed paper (several folds of newspaper will do), and subject it to a moderate pressure. Change to new papers every day, drying the old ones for future use. This should be particularly observed if the plant has thick, juicy stems or leaves.

In selecting specimens be sure to get extras for analysis and also to press, as you may desire to exchange with students in other counties or States. In fact, a system of exchange is the only means by which a majority of our students can obtain varied and extensive herbariums. To make a beginning, I would be glad to exchange, with anyone, ferns of this county for those of any other county or State. Any communication addressed to box 754, San Jose, Santa Clara county, Cal., will be sure to reach me and receive attention.

But to return to our specimen, we must analyze it, and write the name on a neat label to be attached when it is mounted for the herbarium. Do not be discouraged if you can only give it the family name at first, after more study and practice you will be able to add the generic and specific names.

Now to mount your specimens; have sheets of stiff white paper, all of the same size, 9 inches by 12 is a good size to begin with. Place the specimens in the center of your paper, and fasten down in several places with tiny strips of paper, gummed at each end. Now fasten on your label and you have your work complete. If your specimen is too long for the paper, it may be cut in two, or a portion may be cut out of the middle.

I hope my remarks may have interested at least a few boys and girls in the study of botany; if so, I shall feel amply repaid for having snatched a few moments from my housework and studies to write these lines; and I also hope some abler and wiser pens than mine will give us all a little assistance.

San Jose, Cal.

GOOD HEALTH.

Climate in Consumption.

Apropos of the journey from Cannes to St. Petersburg of the invalid Empress of Russia, who went home in mid-winter for fear of dying away from her family, a distinguished Vienna physician publishes a vigorous protest against the practice of sending consumptive patients to warm climates without regard to the stage of their disease or their circumstances. He has taken note of 50 cases of such patients, who have been sent by their physicians to spend a winter in Italy or Egypt, and among them all he found only three who received any benefit from the change, while many were positively injured. Much that he says is as applicable to this country as to Europe. No doubt many of our physicians prescribe a winter sojourn in Florida or Nassau, to patients in advanced stages of lung complaint, without much consideration of possible effects upon them of an enervating atmosphere, the absence of home faces and home comforts, and the weariness and loneliness of a listless life among strangers. A warm winter climate is no doubt beneficial in the early stages of the disease, and in some instances may effect a cure; and in more advanced stages its influence may alleviate the sufferings of the patient and retard the progress of the fatal malady. But the wise physician should carefully consider whether the possible benefits will not be more than counterbalanced by the fatigues of the journey and the discomforts and home-sickness attendant upon life in hotels, away from family and friends. Every one who has visited our Southern winter resorts, has been moved at the spectacle of melancholy invalids hoping for some magical effect from the climate, which they never should have been led to expect. Consumed with *ennui*, and no society save that of other patients, these poor people watch the thermometer and the progress of their ailments, shivering with cold when the mercury approaches the freezing point, and bitterly regretting the snug Northern homes which many of them should never have left.—*Materia Medica*.

SANITARY ERRORS.—It is a popular error to think that the more a man eats the fatter and stronger he will become. To believe that the more hours children study the faster they learn. To conclude that if exercise is good, the more violent the more good is done. To imagine that whatever remedy causes one to feel immediately better is good for the system, without regard to the ulterior effects.

WEeping.—The physical, mental and moral effects of weeping are dependent entirely upon "circumstances," and these "circumstances" are very comprehensive, as they relate to the organization, temperament, education, association, business, etc., of the individual.

DOMESTIC ECONOMY.

Sweet Jars.

Collect the rose leaves on fine sunny days, after the dew has dried off and when the flowers are fully expanded or just ready to fall. Strip the leaves from the calyx, pack them in a large glass or earthen jar in alternate layers with a third the quantity of fine salt, and sprinkle each layer with strong vinegar. Collect the leaves all through the rose season; after they are gone gather other sweet-scented blossoms and leaves, such as tuberose, heliotrope, carnations, lemon verbena, violets, rose and nutmeg geranium, lavender, rosemary, etc. Use only the petals and leaves; always make the top layer of salt, and keep the jar tightly closed except once a day, when the mass must be thoroughly mixed and turned, and fresh leaves added if you have them.

As soon as the leaves look moist, which they should do in a week after packing, put some bruised allspice and stick cinnamon in the jar. The quantity will depend on the amount of leaves you have. Three-quarters of an ounce of allspice, and a quarter of an ounce of cinnamon to every quart of fresh petals. The spice may be added once in a week or two, as occasion requires. When the last leaves have been put in let them remain for three days, stirring and turning twice a day, after which this "stock" may be transferred to the jar in which it is to be kept, and the balance of the ingredients added. Supposing that the stock consists of three quarts of fresh rose leaves, and a quart of other varieties, three ounces of allspice and one of cinnamon, it will require a mixture in the following proportions: One ounce each of cloves and stick cinnamon, two nutmegs, half an ounce of ginger root, half an ounce of anise seed, and two ounces of orris root, all coarsely powdered or bruised. Sprinkle these ingredients over each layer of the stock as it is placed in the jar, and also add orange and lemon peel, cardamon and fennel seeds (bruised), cedar chips, sage, thyme, spearmint, a tiny bit of camphor, or in fact any sweetly-scented material that may suggest itself and be convenient. An atom of musk, sachet powder, perfumed water and fragrant oils are all fine additions. Whenever the mixture becomes dry it should be moistened with scented water. Keep the jar tightly closed for a month after mixing. Then open only when the perfume is desired. The jar must be frequently shaken and stirred. Open it for 15 minutes every day and the house will be filled with a delicious perfume, like the breath of a thousand flowers.—*Clara Francis in Prairie Farmer*.

ASPARAGUS SOUP.—Select about two dozen of good asparagus stalks; boil these thoroughly in enough water to cover them; a quarter of an onion boiled with the asparagus is an improvement; when tender take the asparagus out of the water, saving the water, and removing the onion; cut the asparagus into small pieces (of course only the tender part), and put them in a mortar, adding a little of the water; must be pounded until perfectly smooth; now take some sifted flour, a dessert spoonful, a bit of butter as big as an egg, and a very little pulverized sugar; mix well, and then put on the fire till it melts, stirring all the time; add this to the pounded asparagus and the rest of the water; when it has boiled a few minutes mix the yolk of one egg with a tumblerful of cream, and add this; if properly made it wants no straining; use salt and pepper to taste, and a very little nutmeg; one stalk of asparagus may be left, which may be cut in thin slices, and added last.

TO WASH SHETLAND SHAWLS.—Make up a thin lather of boiled soap and water; plunge the shawl in this, and gently strip it through the hand. It must never be rubbed or wrung. When clean rinse through water without any soap, hang it up for about a minute, shake it gently by each side alternately, pin it out on a sheet exactly square, and if the shawl be of a fine texture it should be slightly sewed down to the sheet by the top of the fringe to prevent its running up; then go over the whole fringe, drawing each thread separate and laying it straight out. If these directions are carefully attended to the shawls may be washed many times, and each time appear as well as when new. They should never be put into the hands of any but those who are accustomed to wash lace.

CARE OF MILK.—A writer in a recent number of *Nature* says that milk is especially liable to be affected by the atmosphere about it, whenever it rests in open vessels. In the cleanest pantry or larder, it gathers the effluvia of meat, cheese, onions, bread, fruit and such matters; the result being that it is soured and spoiled. In kitchens, nurseries, living and sleeping-rooms, closets, etc., the case is worse. Nature intended that milk should be drunk at once at its source; and it is very likely that exposures and delays impair its power of nutriment. Milk should be kept as much as possible in close vessels.

GOOSEBERRY TRIFLE.—Put one quart of gooseberries into a jar with sufficient moist sugar to sweeten them, then boil them until they are reduced to a pulp. Place the pulp into a trifle dish, and pour over it a quart of custard, and when quite cold cover with whipped cream.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES: 1 week. 1 month. 3 mos. 12 mos.

Per line.....	.25	.80	\$2.00	\$ 5.00
Half inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	6.00	14.00	40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. S. KWSR.

G. H. STRONG

SAN FRANCISCO:

Saturday, July 10, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Improvement of Merino Sheep in Germany; Viticultural Meeting in Sonoma District; Ambitious Australia; The University Grain Experiments, 17. The Week; Wheat, 24. Signal Service Weather Case; A General Business Revival; National Forecast of Crops; The Forestry Investigators, 25. Notices of Recent Patents, 28.

ILLUSTRATIONS.—Thaer's Electro Escorial Ram of 1845. Kaunenberg's Rambouillet-Negreth Ram of 1873, 17. Corn Cockerle, 24. Weather Case or Farmer's Weather Indicator, 25.

QUERIES AND REPLIES.—Corn Cockerle in Odessa Wheat; The Olive in Tulare County; Experience with Defiance Wheat; Windmills, 24.

ENTOMOLOGICAL.—Are Ants Friends or Foes, 24.

CORRESPONDENCE.—El Dorado County Notes; Lassen County Notes, 18.

HORTICULTURE.—California Lemons; Guarding Strawberries from Dry Winds, 18.

FLORICULTURE.—Old-Fashioned Flowers, 19.

SHEEP AND WOOL.—The Half-Year's Wool Trade, 19-26.

PATRONS OF HUSBANDRY.—Union Meeting at Alhambra Grange; Carry on the Work, 20.

AGRICULTURAL NOTES from the various counties of California, 20-21.

NEWS IN BRIEF, on page 21 and other pages.

HOME CIRCLE.—A Noble Toast (poetry); A Sylvan Sermon; "A Woman at the Bottom of It"; What Christianity Has Done; A Visit to Mt. Vernon; Marrying for Love; California Homes and Women; A Lecture for Young Women, 22. Chaff; Perfect Work; Our Boys, 23.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; Botany—No. 2, 23.

GOOD HEALTH.—Climate in Consumption; Sanitary Errors; Weeping, 23.

DOMESTIC ECONOMY.—Sweet Jars; Asparagus Soup; To Wash Shetland Shawls; Care of Milk; Gooseberry Trifle, 23.

POULTRY YARD.—Value of Poultry Manure; Ridding Poultry of Vermin, 26.

Business Announcements.

Irrigated Land Triumphant—M. Theo. Kearney, S. F. Badges—Eureka Trick and Novelty Co., New York City. Gopher Trap—G. W. Jolly, Paraiso Springs, Cal. Washing Machines—Bissell Mfg. Co., New York City. Veterinary Surgeon—Dr. A. de Labrousse, S. F. Hooper's Grain Warehouses—John Jennings, S. F. Washington College—S. S. Harmon, Principal. Dividend Notice—The German Savings and Loan Society. Berkeley Gymnasium, John F. Burris, Superintendent. To Seedsmen—Jos. Hale, Stockton, Cal.

The Week.

The noisy holiday has come and gone, and the city is slowly returning to its usual business activity. Many of our business men took advantage of the three off days to run into the country, and their city offices are rather dismal places after the taste which they have had of sea side scenes, and rock-ribbed canyons, and bubbling springs, and leafy nooks beside murmuring brooks. It will take several days to get these cent-per-cent. and profit-and-loss chaps down again into the hard lines of their business. There is enough poetry in most of them to keep them yearning for the God-made country rather than the man-made town, and we cannot blame them. And there is a lesson in this bounding of man's nature toward the invigorating and entrancing influences of rural scenes. Let it convince those who have the country always around them that they enjoy a boon which most city people envy. Certainly all those who once have known country life long for a return to it. Those who have what others long for should be happy. Build up the country. Surround yourself with all the comforts which industry can secure. Make your country home the abode of taste and culture, and gratify the human longing for the excellent by improving everything about you from a race of calves to a neighborhood. Then you will have a home and accomplish a work which will yield more true joy and satisfaction than the coining of a million in exhausting city strife.

The flight of the Fourth reminds us that the Fair season is at hand. First will come the Mechanics' fair in this city, which will open the doors of the grand pavilion on Aug. 10th. There seems to be an unusually wide interest taken in this year's fair, and rightly so, for general prosperity attends our legitimate industries. We expect to see an exhibition which will be worth a long journey to visit. Those who intend to prepare meritorious articles for display should lose no time. Let everything be just as good as art or nature can make it.

Wheat.

Harvesting is now in full swing in most parts of the State, although there is considerable grain not yet ready for the knives. In most parts there is reported a scarcity of really good harvest hands, and the cool weather which has been so long continued, is most favorable by holding back fields until the force of men can catch up with the ripening, as well as by giving the grain a chance to fill out finely after the pinch of the May northers. This latter service the wheat plant has been discharging splendidly during the last two or three weeks, and a most pleasant reaction has taken place in farmers' feelings, as they have seen fields which they despaired of, coming forward and finishing up a good article of wheat. The result will be the ingathering of a much better crop than was expected, and a proportionate return of money to meet growers' wants. The season has been a most peculiar one throughout, and it is well that its closing will atone for much of the anxiety and apprehension which its progress excited.

This week the market abroad for California wheat is reported firmer, and there is also a better local feeling. It is reasonable to believe that a moderate advance in value now will be of good effect, but a sharp increase would not be desirable. As the stock of old wheat abroad is becoming reduced, the price for immediate use naturally rises, and if a price is now offered which will call out the grain gradually, it will be of benefit to the whole year's trade. Any influence, however, which would lead producers to hold back too generally would result in final loss. For there are good harvests this year in most wheat-supplying regions. The English home crop will be larger than for three years. Australia has experienced an unusually good harvest. France is having a good season, and, consequently, will not need so much foreign wheat. The Russian and adjoining wheat regions are enjoying a fair harvest. This would indicate a generally abundant year, and a fairly remunerative rather than a high price. Hence, it would be better for the trade to proceed quietly and steadily rather than feel the ups and downs of speculation.

It is likely that the shrunken wheat, of which there will be considerable harvested this year, will come first into the market, and will thus be got out of the way. It ripens soonest, is threshed first, and it is good property to get rid of if a fair price is offered. The fine lots will be the safer to hold if growers do not secure favorable figures from buyers.

There will be much uneven wheat sacked this year. In the same fields there will be patches, subject to peculiar influences, which will be pinched, and other parts will yield plump grain. All will, of necessity, be harvested together, and sacked as it comes from the machine. This being the case, it will be especially desirable for all who store their grain in warehouses to draw samples as the grain goes into the piles, taking a sample from each fifth sack, and throwing them all together in a sack or box. When grain is piled up in the warehouse the buyer can only get access to the outer row of sacks, and sampling these may misrepresent the true average quality of the whole lot. Hence sampling as the sacks go into the pile gives a true average of the whole, and the grower will not lose either by having too good or too poor a sample taken. We are informed that some warehouse keepers will urge this method of sampling upon their patrons this year.

Another important matter at this time is the issuing of legal warehouse receipts. Hitherto there has not been proper style or uniformity in these receipts to conform with the law or to facilitate business under the new warehouse law. In order that our readers may know what is the proper form and wording of the receipts, we have printed and described them on page 21 of this issue. These receipts should be issued with all the care and safeguard of a bank bill. They represent large values; they are negotiable, and there should not be the slightest flaw in the quality or character. Some of the owners of the new warehouses in the interior are now arranging to issue such receipts in good style and their example should be followed by all.

CALIFORNIA MEAT PRODUCTS.—All meat producers will be glad to hear of steps of progress in the introduction of our meat products into new channels of consumption. The *Commercial Herald* has the following item of trade news: The Russian government has just concluded a contract with Merry, Faull & Co., of this city, for a round lot of beef, say, 2,250 bbls. or 450,000 lbs. of mess beef, which is the largest contract of the kind ever made on this coast. The meat, barrels and salt used in filling the contract are all of California production. A sale is also reported by the same parties, for U. S. Army supplies, of 50 bbls. mess pork at \$20.25 per bbl., and 15,000 lbs. extra clear bacon, in cases of 200 lbs. each, at \$11.60 per cwt. This is certainly a pleasant feature. For years we have maintained that we could supply the Government with beef and pork of better quality and upon more advantageous terms than it could be purchased for at the East, and sent to this coast via Cape Horn. The percentage of loss by sea through the tropics is always large, and now by experience it is found that our own Government, as well as that of Russia, find it for their interest to purchase their meats in California.

QUERIES AND REPLIES.

Corn Cockerle in Odessa Wheat.

EDITORS PRESS:—The farmers, and others, who are showing laudable zeal in increasing profitable grain raising in California, by importing and propagating new varieties of cereals, should take special care not to import and spread weeds. In response to the demand for rust-proof wheats, one of our enterprising merchants imported during the past winter a quantity of the "Ghirka" variety direct from Odessa, in southern Russia. When it arrived it was found to be very foul with weed seeds, particularly those of the corn cockle.

Some of the wheat in question was bought for experiments in broadcast and drill culture by the College of Agriculture. The importance of keeping the cockle out of our grounds being recognized, there arose serious difficulties as to separating the seed from the wheat. The cockle seed having about the same diameter as the wheat, it could not be screened out, and it was too heavy to blow out in the fanning mill; neither could it be floated off in brine, as it sank with the wheat. Possibly it might be separated by floating, if care were taken to find some liquid of just the right density, as described in a similar case in your paper some years ago.

As the quantity to be used was small, hand-picking was resorted to, and a note made that no cockle plant should be allowed to ripen seed. But few have appeared, and we anticipate no serious trouble. There may be some, among the many purchasers of wheat from this shipment, who did not separate the cockle seed before sowing, and who are not familiar with the growing plant. If so, a brief description and illustration may be welcome, as enabling them to recognize a pest that should be destroyed at all hazards.

Although a native of Europe or the west of Asia, the weed has been carried to almost every part of the globe. This is the first year that we have known of it in California. The corn cockle or rose-campion is known to botanists as *Agrostemma Githago*, and belongs to the pink

CORN COCKLE.—*Agrostemma Githago*.

family. It has a straight, white root, and grows to a height of from two to four feet, with many branches above. The leaves are from three to five inches long, narrow, and like the stems, covered with long, fine hairs. The numerous flowers average about one and three-fourths inches across, and have five petals of a reddish or pale violet-purple color. There are ten stamens and five styles. The numerous seeds are what particularly concern the farmer. They are of a purplish-black color, and covered with ribs armed with projecting points. At maturity the seed pod opens at the top by five points. The cut on this page is after Darlington. A branch of the cockle is shown, much reduced in size; the section of a seed pod is of natural dimensions, but the single seed is considerably enlarged. If cockle seeds are very numerous in wheat that is ground, the flour produced has a dark tint. A glance at the wheat in question will show why Odessa rules lower in the Liverpool market than our best grades. It is not so much the quality of the berry, as the foul seeds in it that keep it down. All who have sown wheat from a foreign country should immediately examine their crop, and if corn cockle is found no pains should be spared to destroy it. If any of the pods have opened, they should be gathered in such a way as to avoid scattering the seed. When land has cockle seed in it, their germination should be secured by harrowing before the fall rains, and the young plants killed by thorough cultivation.—C. H. DWINELLE, University of California, Berkeley, Cal.

The Olive in Tulare County.

EDITORS PRESS:—Will olives grow in Tulare county?—OLD SUBSCRIBER, Hanford, Cal.

EDITORS PRESS:—Humboldt found that the most favorable climate for the successful and profitable growth of the olive was that in which the mean temperature for the year was as warm as 57.17° F., and the mean of the coldest month not lower than 40.05°. This tree, however, bears great changes of temperature without injury. It withstands the almost tropical heats of northern Africa, and is not killed in the south of France until the thermometer falls below 15° or 17° below the point at which water freezes. It will grow in various climates where it cannot be profitably cultivated. The more

nearly the climate approximates that found by Humboldt to be best adapted to it, the more certain will be its profitable cultivation.

All of the favorable conditions of climate are found in Tulare county in the foothills from an elevation of 400 ft. up to 3,000 ft. above the sea. About Tulare lake and in the vicinity of Visalia and the town of Tulare, the mean of the coldest month is, I think, slightly below 40°. Experiment may show, however, that this tree will produce abundantly in these situations. Leaving out those portions of the mountains above 3,000 ft., and the cold region of the shores of the lake, and there would remain more than one-half of the area of the county, with more favorable conditions of climate and soil for the successful and profitable growth of the olive, than can be found in any one space of equal area in Spain and Italy.—B. B. R., San Francisco.

Experience with Defiance Wheat.

EDITORS PRESS:—In answer to your call for information I send you a few heads of Defiance wheat. I procured one pound of B. K. Bliss & Sons on the 12th of March, 1878, and sowed it on the 14th. On the 15th of July I harvested 146 pounds of clean wheat, after its being visited twice by seven horses for over an hour at a time. Last year I got 20 sacks from the 146 pounds, with which I sowed about 25 acres, of which those heads are fair samples. It appears to have stood the blasting winds better than the White Chile sown beside it, and remained green after the other became quite yellow. Another good property which it possesses is that it does not rust. The pound sown in 1878 was free from rust, while other wheats sown beside it were quite rusty.—T. A. PERLEY, Woodbridge, San Joaquin Co., Cal.

In consonance with the report of our correspondent is the testimony of A. M. Southworth, in the last issue of the *Los Angeles Herald*. From one pound of seed sown grain by grain in drills, in 1879, he raised 508 lbs of wheat. He reports the Defiance this year free from rust. The same is true of the Champlain wheat, which, it will be remembered, was sent out at the same time by Bliss & Sons, of N. Y. Mr. Southworth sowed some of the original Champlain from the East, and some of the California Champlain, grown by A. J. Scroggins, of Tulare Co., who, it will be remembered, took one of the Bliss prizes. The California Champlain was nearly twice as good in all respects as the other. Mr. Southworth pronounces both the Defiance and Champlain adapted to the rich bottom lands of Los Angeles county. What have other growers to say of these wheats?

Windmills.

EDITORS PRESS:—I want to make two acres of garden, and I shall have to get the water out of a well. What kind of windmill must I get, and what will it cost? There are so many kinds of windmills that I do not know what kind to get or what it will cost.—OLD SUBSCRIBER, Hanford, Tulare Co., Cal.

We cannot decide between rival windmills. The best we can do is to advise our correspondent to write to all those advertising windmills in the PRESS, asking for prices and what evidence they can give of the quality of their mills. It would also be worth while to visit the men who own windmills in the neighborhood, and see what each one says of the one he has used. By employing both these methods one can get some data for a decision.

ENTOMOLOGICAL.

Are Ants Friends or Foes.

EDITORS PRESS:—At one of the earlier meetings of the State Horticultural Society, a very valuable and interesting paper was read before the society, by Dr. Behr, on the "Insects Injurious to Vegetation." I wish to draw the attention of those who were present then, or those who may have seen a published synopsis of the paper, to that very interesting portion of his essay referring to the habits of the ant in capturing and colonizing the aphids. There were two sides as to the motive of the ants, but one thing was conclusive: that they captured the *Aphides* for the purpose of living on their excretions. It was suggested in this connection that perhaps the ants may sometimes pay their attention to some other "insects injurious to vegetation." At that meeting the coddling moth was also a subject under discussion. My present remarks are in connection with the matter under discussion at that meeting.

I am vigorously engaged in a warfare against the coddling moth, and successfully at that, by keeping the trees clean by scraping off the rough bark (their hiding places), and placing paper bands upon every apple and pear tree in fruit bearing, and carefully examining each paper every six or eight days. We noticed upon cutting open many of the affected young fruit that it contained no worm, but the work showed that the worm had not finished its work of complete destruction. This led to further investigation, and finally discovering in an apple a couple of ants and a half-dead worm. Mark this down for the learned doctor, and call on your readers for their observations in this direction.—J. B. SAUL, Davisville, Cal.

The point is an interesting one. That the ants cherish the aphides as the source of a sweetish excretion, which they enjoy, is well established by observation. That they are vigorous fighters when such disposition serves them well is also established. How far they may go in attacking insects which are injurious to vegetation is a point upon which facts should be collected. In connection with the apparent destruction of coddling moth larvae which our correspondent describes, we may mention that a correspondent of the *Ohio Farmer* finds the common black ant an efficient protection against the plague of currant worms. He has several colonies of ants close to his currant bushes, and enjoys an abundance of currants, while his neighbors' bushes are overrun with worms. Formerly he took pains to destroy the ant colonies, but on witnessing their attacks upon the worms he has taken great pains to protect and encourage them. These currant worms are leaf-eating caterpillars about half an inch in length and of greenish color. We remember well their evil work in central New York. We have never heard of the insect in this State. What do our readers know of the behavior of ants toward other insects?

Signal Service Weather Case.

The extension of the U. S. Signal Service has proved of great value to all our outdoor industries. The great trouble in bringing its results to bear upon agriculture has been the difficulty of making known forecasts, etc., to those remote from the cities or large towns. Gen. Myer, Chief of the Service, now has it in mind to issue a compact arrangement of meteorological devices so that those distant from centers of information may have some means for arriving at better judgments of coming weather than they now have. Of course it is not pretended that any device will give infallible forecasts, but the design is to bring the best modern means of judging within the reach of all, that the benefits of the government service may be widely disseminated.

Our engraving on this page represents the "weather case or farmers' weather indicator," which will be set up ere long in rural postoffices throughout the country. The case is 31 inches high, 13½ inches wide and 4½ inches thick. The front is covered with a glass door, which is kept closed except when making observations and adjusting the different instruments. The engraving, which of course presents the weather case in miniature, is worthy of careful study and a leisure hour will be required to arrive at a full understanding of its plan and details. We shall give as full a description of the different parts and their uses as we have space for at this time, as we deem the subject one of general importance. We understand that the cases are not for sale, but are to be erected here and there at government expense for the public benefit.

The pointer or index at the top of the case (No. 1) slides on the brass arc; it is known as the "sunset barometer index," and indicates, when set, by the figures to which it points on the "main barometer scale," which is just below it, the reading of the barometer at the time of the sunset yesterday. The "main barometer scale" (No. 2) exhibits all the barometric readings likely to be used with this instrument. The pointer (No. 3) just below the "main barometer scale" is called the "reference index," and indicates by the figures to which it points on the main barometer scale, when the instrument is set, the mean or average reading of the barometer at the place at which the instrument is set and for each separate month. When the barometer reads above or below this reading at any place, such reading is said to be "above the mean" or "below the mean" for that place in that month. This reference index is established in the exact central line of the face of the case. The long brass hand over the glass face of the barometer is known as the "long pointer," and indicates, by the figures of the "main barometer scale" to which it points when set, the reading of the barometer when last set. The black pointer on the face of the barometer under the glass face is known as the "short pointer," and indicates the existing pressure of the atmosphere at any time the instrument may be examined.

There are for each place and each month two kinds of winds: First—Winds which, blowing from certain directions, are at that place and in that month more likely than other winds to be followed by rain. These are called "rain winds." Second—Winds which, blowing from certain directions, are at that place and in that month less likely than other winds to be followed by rain. These are called "dry winds." The wind direction for any day or time must be seen and taken at each place or station by a vane as well located as practicable. The "wind disk" (No. 8) consists of a brass circle, on which slide freely two arcs—a red arc, called the "dry wind arc" (No. 9), and a blue arc, called the "rain wind arc" (No. 11). In the center of the disk is a pointer turning with a turning-screw, and called the "wind disk pointer" (No. 10). Around the disk are letters to show directions, as N. for north, E. for east, NE. for northeast, etc.

The pointer and scale (No. 5) on the right of and below the barometer are called the dry-wind time record, and the pointer (No. 7) is called the "record pointer," and indicates, when set, the length of time the wind has been blowing continuously from a "dry" direction, by the figures showing the number of hours on the scale to which it points.

The pointer and scale (No. 4) on the left of and below the barometer are called the rain-wind time record, and the record pointer (No. 6) indicates, when set, the length of time the wind has been blowing continuously from a "rain" direction, by the figures showing the number of hours on the scale to which it points.

The record pointer on the rain-wind time record (No. 6) is always turned by the thumb-screw, and set pointing at the figure 0 on the scale when the wind is not blowing in the rain-wind direction. In the same way the "record pointer" on the dry-wind time record (No. 7) is always set pointing at the figure 0 when the wind is not blowing in the dry direction.

The sunset disk (No. 12) consists of a circular disk one-half of which is colored red and one-half of which is colored blue. The disk turns upon a central turning screw in such a manner that half of the disk shows through a semi-circular opening in the face of the weather case. The sunset disk is set as follows: At the exact time of every sunset the western sky and the character of the sunset is carefully observed. The examination ought to be minute and careful, lasting for about fifteen minutes. If the sunset sky is clear or red, or markedly what is known as a "fair weather sunset"—a sunset

such as is generally held to indicate a clear or fair day to follow on the next day—a day on which it will not rain—the sunset disk is turned by the turning screw until the semi-circular opening shows all red. The sunset disk, thus turned, is described as set for a "fair weather sunset."

If the sunset sky (the western) is cloudy or foul, or markedly what is known as a "foul weather sunset," a sunset such as is generally held to indicate foul weather to follow on the next day—a day on which it will rain—the sunset disk is turned by the turning screw until the semi-circular opening shows all blue. The sunset disk thus turned is described as set for a "foul weather sunset." If the appearance of the western sky and the character of the sunset are neither markedly those of a "fair weather sunset" or of a "foul weather sunset," but such as to leave the observer in doubt how to style it, the sunset disk is turned to show half red and half blue, or "doubtful." The sunset disk,

slides on the brass slide (No. 16). In the center of the case is the "dry and wet bulb scale," marked on the paper on which is the central brass slide bar (No. 19), and on this slide move the dry bulb keeper (No. 17) and the wet bulb keeper (No. 18). To set the thermometers examine first the dry bulb thermometer and move the "dry bulb pointer" (No. 15) on the slide until the outside point is exactly level with the top of the mercury in the thermometers—as near to it as practicable. Examine next the wet bulb thermometer, and move the wet bulb pointer (No. 16) on the slide until the outside pointer is exactly level with the top of the mercury in the wet bulb thermometer, or as near to it as practicable, then turn to the dry and wet bulb scale, and on the "central brass slide bar" (No. 19) move one of the keepers until it touches as nearly as possible—is on an exact level with the inside pointer of the "dry bulb pointer," then move the other keeper until it touches, as nearly as practicable—is on an

information. It is intended especially for use at farmers' postoffices and places reached with difficulty by the printed reports. It will supplement often whatever knowledge there be of local signs, with the indications of the instrument. Its careful use, taken either with the furnished reports or even without them (if they chance to fail) will often enable the character of the coming weather on the coming day to be so judged as to determine what kind of work or undertaking it is wise to plan for or to omit. The case gives the local instrumental indications, and will frequently aid in making fair forecasts for the next day.

A General Business Revival.

There are cheering signs all around of a general revival of business. The depression which prevailed in this city and State and throughout the coast for the last two years has very generally abated. Two years of comparative stagnation in business is a severe ordeal for a phenomenally-active people; but it is a short time compared to the periodical crises which convulse the commercial and manufacturing communities of the Atlantic seaboard. There the depression is all-pervading and prolonged, and causes widespread misery. Fortunately, California is not subject to the major evils which follow over-production and financial derangement. It is true the stupendous speculative wave which rolled over the country at the close of the civil war, and stimulated inflation and over-production, reached California at last and caused a gradual but severe check to industry and enterprise.

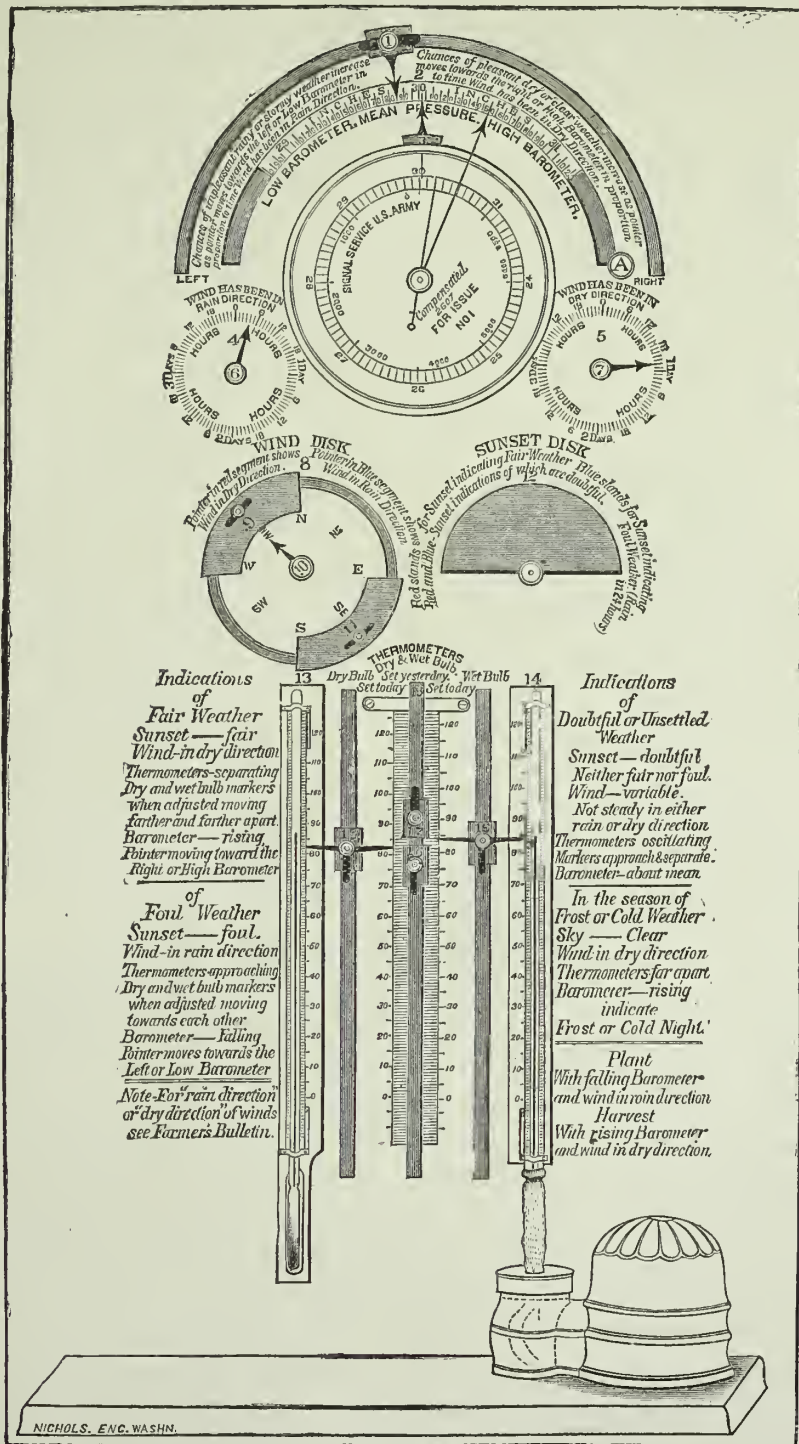
It will be conceded, we believe, that in the relation of things, an industrial depression in California can only be temporary. For the resources of the great young State are as varied as they are vast. Gold, wheat, wine—her present great products—alone yield annually about \$100,000,000, to make no mention of various lesser but growing industries which contribute greatly to swell the annual product. Her products are, too, equal to coined gold, and are in demand in the markets of the world. In addition to these home industries, the contiguous States and Territories are largely tributary to this city, and literally pour their treasures into her lap. In all of them, mining for gold and silver is the chief industry. They get a large percentage of the required capital here, and here also they buy their machinery, tools, and supplies, and as soon as their mills produce bullion it is shipped to this city. These large sums enter into the general circulation and their distribution quickens every branch of business.

While the revival of business is general, the reaction in this city has been perhaps a little slower than in the considerable towns of the interior. But it is apparent here in almost every department; for the demand alone for goods for countless mining camps has stimulated the business pulse, and enterprise is once more afoot.

NATIONAL FORECAST OF CROPS.—A dispatch from Washington gives the following notes derived from the returns to the Department of Agriculture for June: The acreage of oats shows an increase over 1879 of 2%. The condition of crops is much better than last year as 79 against 51 in June, 1879. For several years there has been a general reduction area devoted to the rice crop. Its condition June 1st averaged 95 against 91 last year. The present promise of the crops is about equal in the aggregate production to that of last year, notwithstanding the reduced acreage. The area in barley decreased about 10% compared with last year. Average condition June 1st was 92 against 91 1879 and 12 in 1878. The acreage of clover shows no very material change from last year, the only change being a noticeable increase in the cotton-growing States and the Pacific slope. The condition is low for all the country, except in the New England and the Gulf States and the Pacific slope. The prospect for a good fruit season is very good.

THE FORESTRY INVESTIGATORS.—We have had the pleasure of meeting Prof. C. S. Sargent, of Harvard University, and Drs. Engelmann and Parry, his associates, who are now on our coast in pursuit of knowledge concerning our forest resources and lumbering interest, for use in the census reports of 1880. We have made several allusions to the special work in which these able botanists are engaged. They will betake themselves at once to the forests of the north coast, and on their return will make special studies of California and Arizona forests and influences affecting them. We trust they may be speeded in their work by all our people with whom they may come in contact. Great interest will await the reports of their investigations, which will come ere long, and form one of the most valuable features of what promises to be the best census ever taken in this country.

APRICOTS.—We have received from Isaac H. Thomas, of Visalia, a good sample of Moorpark apricots, which are just ripe in that region. This fact, as shown by the specimens received, demonstrates the early ripening of the Eureka, which we received from Mr. Thomas two weeks ago. The apricots submitted show clearly the excellence of the fruit grown in Tulare county.



WEATHER CASE OR FARMER'S WEATHER INDICATOR.

thus set, is described as set for a "doubtful weather sunset."

In the lower part of the weather case there are two thermometers, a dry bulb thermometer (No. 13) on the left hand side of the case, and a wet bulb thermometer (No. 14) on the right hand side. The dry bulb thermometer is like any other thermometer, and shows by its readings the temperature of the air. The wet bulb thermometer is one, the bulb of which is kept constantly moist by the water passing up from the glass reservoir, through the wicking which covers the thermometer bulb. The readings of the dry bulb thermometer and those of the wet bulb thermometer are more and more unlike, or farther and farther "apart," as it is called, in proportion as the air contains less and less moisture, that is, is becoming drier. The readings of the dry bulb thermometer and those of the wet bulb thermometer become more and more alike—as are nearer and nearer together—in proportion as the air contains more and more moisture. That is, is becoming saturated or wet.

By the side of the dry bulb thermometer (No. 13) is the dry bulb pointer which slides on the brass slide (No. 15). By the side of the wet bulb thermometer is the wet bulb pointer which

exact level with the inside pointer of the "wet bulb pointer." The thermometers are now set and the difference between their readings can be known by counting on the "dry and wet bulb scale" the number of degrees between the keepers.

When the thermometers are examined and set again, following the same plan, it will be easily seen whether the "keepers" are, when set, farther apart than they were at the previous setting, or whether they are, when set, nearer together than at the previous setting.

If they are further apart, the thermometers are said to be "separating"; if they are nearer together, the thermometers are said to be "approaching." Other things being equal, the thermometers show, when they are "separating," that the air is becoming more dry, one sign of approaching fair weather. The thermometers show, when they are "approaching," that the air is becoming more moist or damp, one sign of approaching rain.

The weather case is not intended to be used independently of the official weather reports. It is to be used always in connection with them. The weather case is for the purpose of supplementing the official reports by showing the local instrumental indications and giving other

The Half-Year's Wool Trade.

[CONTINUED FROM PAGE 19.]

ports, owing to the continued dullness in the consuming markets.

Wool Production.

Receipts at San Francisco:

January.....	243 bags.
February.....	211 "
March.....	1,838 "
April.....	16,400 "
May.....	24,828 "
June.....	18,081 "

Total..... 61,601 " weighing 19,404,315 lbs.
Shipped exclusive of above..... 645,600 "

Total..... 20,049,915 "
On hand, January 1st, about..... 300,000 "

Total..... 20,349,915 "
Oregon, 7,913 bags..... 2,873,900 "

Foreign, 389..... 151,710 "
Grand Total..... 22,875,525 "

Comparison of Exports.

January 1st to June 30th, 1877.....	20,855,198 lbs.
January 1st to June 30th, 1878.....	19,120,316 "
January 1st to June 30th, 1879.....	23,291,472 "
January 1st to June 30th, 1880.....	12,234,632 "

On hand July 1st, 8,000 bags, partially sold.
The weights of receipts and exports are gross.
The usual tare of bags received is about three lbs. each; on pressed bales shipped, 14 to 16 lbs., each.

Comparison With Former Years.

1880, California fleece.....	20,049,915 lbs.
1879, ".....	20,651,039 "
1878, ".....	18,842,920 "
1877, ".....	23,289,640 "
1876, ".....	27,895,314 "
1875, ".....	23,642,880 "
1874, ".....	19,355,682 "
1873, ".....	14,658,497 "
1872, ".....	12,007,280 "
1871, ".....	13,381,390 "

A SHEEP-WORRYING DOG BURYING ITS PREY ALIVE.—Many sheep and lambs have recently been worried on sheep farms in the neighborhood of Dundee, Scotland. An unusual method of sheep worrying was recently perpetrated on the farm of Pickstone, tenanted by Mr. Campbell. One morning a lamb was heard bleating in one of the fields on the farm, and, as no lamb could be seen on a casual inspection, a more careful search was made, when it was found that the bleating proceeded from a lamb that was buried in the laud, the only part left exposed being the head. It was at once evident that this had been the work of a dog. The lamb was taken out, and was, strange to say, little the worse of its burial. A diligent watch was instituted, with the result that the depredator—a collie dog—was captured in the act of burying another lamb, which was also alive.

POULTRY YARD.

Value of Poultry Manure.

The following report to Mr. L. Wright by Dr. A. Voelcker, F. R. S., appears in the London *Live Stock Journal*: Enclosed you will find analyses of the two samples of chicken manure which Mr. O. E. Cresswell, of Hereford, sent me on March 19, 1880:

	Fresh Manure.	Partially dried Manure.
Moisture.....	61.63	41.06
*Organic matter and salts of ammonia.....	20.19	38.19
Tribasic phosphate of lime (bone phosphate).....	2.97	5.13
Magnesia, alkaline salts, etc.....	2.63	3.13
Insoluble siliceous matter (sand).....	12.58	12.49
	100.00	100.00
*Containing nitrogen.....	1.71	3.78
Equal to ammonia.....	2.09	4.59

You will notice that in a fresh condition the sample of chicken manure analyzed by me contained 61½% of water in round numbers, and 12½% of sand, while the sample of partially dried manure contained 41% of water, and about the same proportion of sand as the fresh dung. Judging from the appearance of the manure, the greater proportion of the sand, it appears to me, arises from earthy matter which the fowls picked up with their food, and is not due to sand merely adhering to the excrements externally.

I need hardly say that the large proportion of moisture and the considerable amount of useless siliceous matter in fresh chickens' dung, detract much from its value as a manure. However, chicken dung, although greatly inferior to Peruvian guano, is a much more concentrated fertilizer than the best description of ordinary farmyard manure, which seldom yields more than three-fourths per cent. of ammonia, whereas the sample of fresh chicken manure analyzed by me contained an amount of nitrogenous organic matter and salts of ammonia, capable of yielding, on final decomposition, 2% of ammonia. The agricultural and commercial value of the dung of horses, cows, sheep, pigs, pigeons, fowls, and of concentrated artificial manures, such as Peruvian and other varieties of ammoniacal guanos, depend mainly upon the percentage of phosphate of lime and of nitrogen, or its equivalent of ammonia, which these various fertilizers contain.

In former years, when Peruvian guano was exclusively imported into England from the Chincha islands, in the north of the Peruvian coast, the guano deposited on these islands in a rainless country and rapidly dried by a boiling sun heat, generally yielded from 16% to 18% of ammonia. The southern Peruvian guano deposits, from which our supplies have been drawn

for the last few years, vary much in composition. The best cargoes of Peruvian guano at present seldom contain more than 10% or 11% of ammonia; those of a medium quality from 6% to 8%, and cargoes selling at about £8 per ton, from 3% to 4%. The latter, however, are much richer in phosphate of lime than high ammoniacal Peruvian guanos, and not infrequently contain over 40% of phosphate of lime.

Compared with Peruvian guano, and adopting the same rates by which the official price of different cargoes of Peruvian guano is regulated, I find fresh chicken manure of the quality of the sample analyzed by me is worth, in round numbers, about £2 a ton, and the sample of partially dried manure about £4 4s. per ton. Pigeon dung, I find, is rather more valuable than fowls' dung.

With regard to the application of chicken manure, I would observe that the least expensive, and probably the best way of using it is to make it with dry earth, burnt clay, wood ashes, and such like matters, into a compost. Mixed with about twice its weight of dry earthy matters of this kind, it will soon be reduced into a fairly dry and powdery state, in which it may be readily spread broadcast on the land, or be sown by the manure drill, and be found a useful general manure for every kind of garden produce.

For root crops—turnips, carrots, kohl rabi, mangels—chicken manure, reduced into a dry and powdery state, should be mixed with an equal weight of superphosphate of lime, and the mixture be drilled in with the seed at the rate of 5 cwt. per acre. In making the earth compost, quicklime, in my judgment, should not be mixed with the chicken dung, for the effect of quicklime upon fowls' excrement is to liberate ammonia, which would escape and be lost in a great measure. On the other hand, there is no harm, but every advantage, in mixing good soot with chicken dung, for unadulterated soot generally contains from 3½% to 4% of ammonia, or nearly twice as much as I found in the sample of fresh chicken dung which Mr. Cresswell sent me.

Soot, when it can be procured, is a good drier for chicken manure, and at the same time adds ammonia to it. In the absence of soot, I would recommend to mix the fresh chicken manure with some burnt gypsum, to which a small quantity of superphosphate of lime may be added, the free acid of which will effectually prevent the escape of ammonia from the chicken dung. A mixture of two parts of burnt gypsum and one part of mineral superphosphate may be kept ready for the purpose of absorbing the excess of moisture in fresh chicken dung, and facilitating its reduction into a fairly dry and friable manure. Three parts of fresh chicken manure and one part of the preceding mixture of burnt gypsum and superphosphate, when kept for a short time under cover, and turned over once or twice, and finally passed through a screen or sieve, I believe will be found a useful and good manure for most crops, when used at the rate of 8 or 10 cwt. per acre.

Preparation of the Manure.

We find in the *American Cultivator* the following account of experience:

I took my shovel and spread a thin layer of the manure on the barn floor and thoroughly wet it; then another in the same way on top of that, until I had the whole in a compact pile, and, as I thought, perfectly wet. The next morning I began to turn it over to see the result. I found a great part of it dry, but I liked the way it was working, so put on more water. After working it over three or four times, and applying water as needed, I had a pile of as nice looking fertilizer as you would wish to see, almost as fine as powder. In 48 hours it was very hot, requiring to be turned over every 12 hours until used. I dropped a large handful in each hill for corn, covering it with a hoe as I would corn, then platted the corn in the hill thus made. Not one hill on the piece failed to come up, and it is growing the best of any corn I ever had.

You may ask the use of the water. Why not put the manure in the hill dry and cover the same? The reason is, it won't accomplish its object. I have tried it and know. The corn will come up all right, but after a little time it ceases to grow. Dig to the root and you will find it completely eaten up by the manure. The reason everyone can understand by a few moments of thought. I used some mixed with meadow mud, about three parts mud to one manure, using a little more to each hill, and dropping the corn upon it without covering it (the manure). The result was that nearly one-half of the seed never came up.

Ridding Poultry of Vermin.

EDITORS PRESS:—I send you a very simple, very cheap, long-tried and perfectly successful remedy for mites, fleas or any kind of vermin on sitting hens: Put plenty of tobacco in the nest under and next to the eggs. Stems from the cigar factory are as good as anything. Fifty cents will get a barley sack full.

I grow the tobacco in my garden and use the dry leaves. One application is sufficient usually, though a renewal where the insects are bad, say in 10 or 12 days, may be necessary. Chickens thus hatched will usually grow up healthy and free from vermin.

A supply of tobacco stems under the chicks where they roost will surely keep them free

from vermin. If already infested, a little kerosene rubbed on the outside of the feathers of the mother hen will kill the mites.

Scald roosts infested with mites just before night, and wet the roosts, before quite dry, with kerosene, so the fowls will go onto the roosts before the kerosene is dry, and it is a sure clearance of all vermin that may be on the fowls. I have used these remedies for many years and know them to be unfailing. Sulphur does very well when rightly used, but the above treatment is far better. FARMER.

Saticoy, Ventura Co.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. MCMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

OXYGEN.

What is it? Everybody knows it is as essential to life as food itself. Yet when people are ill for the very want of revitalization through respiration, they dose themselves with drugs and bitters to the effect of demoralization! All Invalids should read, Drs. STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*, which is sent free to all who may ask for it. The subject is worthy of investigation. References to physicians in San Francisco, who use and prescribe Compound Oxygen in practice. As prepared for home use (conveniently sent to any address) it may be obtained of H. E. MATHEWS, 606 Montgomery street, S. F., upon the same terms as furnished by Drs. Starkey & Palen, Philadelphia, Penn. Complete instructions with each package.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS
BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$60, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$8.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

A. AITKEN.

AITKEN & FISH,

F. N. FISHER

Premium Pioneer Marble Works,

617 K St., Bet. Sixth & Seventh, - SACRAMENTO, CAL.

AGENTS WANTED Everywhere, to sell the *Best Family Knitting Machine* ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.**, 409 Washington St., Boston, Mass.

CHOICE

Irrigated Vineyard Lands.

PLEASANT HOMES,

Good Society and Good Schools!

THE WASHINGTON IRRIGATED COLONY,

In Fresno Co., Cal., presents

GREAT INDUCEMENTS

To those seeking HOMES and PROFITABLE INVESTMENTS. This Colony, situated within five miles of the Railroad and County Seat, contains over

7,000 Acres

Of Rich Irrigable Lands, subdivided into lots with Streets and Avenues with ABUNDANT WATER RIGHTS and IRRIGATING CANALS CONSTRUCTED, and with

Perfect Title to both Land and Water.

Fresno County is already recognized as the best in the State for Vineyards; and the abundant facilities for Irrigation affords

Complete Protection from Phylloxera, Which is already so destructive to the dry vineyards of the State. These lands are being sold at

Low Prices and on Liberal Terms.

Nearly 3,000 Acres are already purchased, and are being improved by excellent families, whose numerous Alfalfa fields, fine cows, and FLOURISHING CHEESE FACTORY attest the industry and sagacity with which they cultivate a support, while they cultivate their Fruits and ample Vineyards. For full information apply for Circulars at the office of the

WASHINGTON IRRIGATED COLONY.

22 Montgomery St., S. F. or at the Colony.
WENDRELL EASTON, Treas. J. W. NORTH, Genl. Agt.

CRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING.....Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
L. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES of DEPOSIT issued for Gold and Silver.

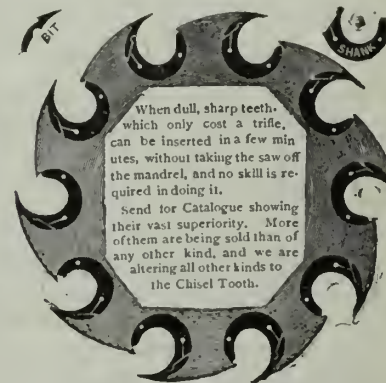
TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.



Stearns' Mfg Co.'s Unequaled Pacific

SAW MILL MACHINERY.

Automatic Slide Valve, Universal Automatic Corliss and Cheap Hoisting ENGINES and BOILERS.

TATUM & BOWEN,

329 Market Street, 3 Fremont Street

PACIFIC WATER CURE

— AND —

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,

Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca

GILES H. GRAY.

JAMES M. HAYEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

630 California St., - SAN FRANCISCO

M. W. DUNHAM

Just Imported 36 Head

FOR HIS OAKLAWN STUD OF
Percheron-Norman Horses.
ANOTHER IMPORTATION
Arrived April. 1, 1880.



Largest and Most Complete Establishment
of the Kind in the World.

More than 200 Stallions and Mares

Imported from Best Stud Stables of France.

Winners of First Prizes in Europe and America, awarded
First Prizes and Gold Medals at the Universal Exposition
at Paris, 1878, over all. First Prizes and Grand Medals at
Centennial Exhibition, 1876.

The public appreciation of its merits is indicated by the
great demand for stock from every part of the country.
During the past twelve months, the provinces of New
Brunswick, Canada, and the States of New York, Penn-
sylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin,
Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana,
Colorado, Nevada, California and Oregon, and Utah,
Washington and Idaho Territories have drawn supplies
from its Stables.

100-page Catalogue—finest thing of the kind ever issued;
25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,

Wayne, DuPage County, Illinois.

N. B.—All Imported and Pure Native
Bred Animals Recorded in Percheron-Nor-
man Stud Book.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.
CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for
gentlemen and ladies visiting the city from the interior. No
dark rooms. Gas and running water in each room. The floors
are covered with body Brussels carpet, and all of the furniture
is made of solid black walnut. Each bed has a spring mat-
tress, with an additional hair top mattress, making them the
most luxurious and healthy beds in the world. Ladies wish-
ing to cook for themselves or families, are allowed the free
use of a large public kitchen and dining room, with dishes.
Servants wash the dishes and keep up a constant fire from
6 A. M. to 7 P. M. Hot and cold baths, a large parlor and read-
ing room, containing a Grand Piano—all free to guests. Price
single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars
to corner Third and Howard.

DIVIDEND NOTICE.

The German Savings and Loan Society.

For the half year ending this date, the Board of Di-
rectors of THE GERMAN SAVINGS AND LOAN SO-
CIETY has declared a dividend on Term Deposits at the
rate of six (6) per cent. per annum; and on Ordinary De-
posits at the rate of five (5) per cent. per annum, free
from Federal Taxes, and payable on and after the 15th
day of July, 1880. By order.

GEO. LETTE, Secretary.

San Francisco, June 30, 1880.

DIVIDEND NOTICE.

San Francisco Savings Union, 533 California street, cor-
ner Webb. For the half year ending with June 30, 1880,
a dividend has been declared at the rate of six (6) per
cent. per annum on Term Deposits, and (5) per cent. per
annum on Ordinary Deposits, free of Federal Tax, pay-
able on and after Wednesday, July 14, 1880.

LOVELL WHITE, Cashier.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits;
half mile east upper Stockton road; 800 Fruit trees, one acre
Grapevines, two acres Blackberries. Sixty-five acres in Grain
will be sold with or without crop. Good House and Out-
Buildings. Farm well fenced; five Windmills and Horse
Power; Fish Pond; three-quarters of a mile from good
School. This property will be sold cheap. Terms cash.
Apply at the ranch. J. K. HOUSTON.

LAND

Good land that will raise a crop every
year. Over 14,000 acres for sale in lots to
suit. Climate healthy. No drouths, bad
floods, nor malaria. Wood and water
convenient. U. S. Title, perfect. Send stamp for illus-
trated circular, to EDWARD FRISBIE, Proprietor of
Reading Ranch, Anderson, Shasta County, Cal.

FRUIT DRYER & BAKER

OVER 11,000 IN USE
THE BEST IN THE MARKET
MADE ENTIRELY OF GALVANIZED IRON
AGENTS WANTED
ZIMMERMAN FRUIT DRYER CO.
Send for Circular. Cincinnati, O.

A KEY THAT AND NOT
WILL WIND ANY WATCH WEAR OUT.
SOLD by Watchmakers. By mail, 30 cts. Circulars
FREE. J. S. BIRCH & CO., 38 Dey St., N.Y.

Poultry.

THOROUGHbred POULTRY.

SAFE UNLIMITED
ARRIVAL RANGE.
OF
FOWLS Healthy Stock
AND 116 ACRES
EGGS Devoted to the
Guaranteed Business.



LANGSHANS. I now breed this justly celebrated
Fowl. Send 3c. stamp for price list and circular describ-
ing the different breeds I keep. Incubators.

M. EYRE, Napa, Cal.

Pamphlet on Breeding, Hatching, Diseases, etc.,
adapted especially to Pacific Coast, sent for 15c.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown
Leghorns, Spangled Hamburgs and Partridge Cochins.
All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested.
Young Queens ready April 1st. Also, Wintered-over
Queens. Purity and safety guaranteed. Comb founda-
tion, smokers, knives, bee-books, etc. Sample Premium
Hive. Address with stamp.

JOS. D. ENAS,

Sunny Side, Napa Co., Cal.



Fig. 1

PATENT ELASTIC HINGE
FILEHOLDER
A. T. DEWEY, S. F. CAL.

A sample File-
holder sent post
paid, from this
office on receipt
of 50 cents.

Five sizes are made to suit the dimensions of different
papers, viz.: 18, 22, 26, 30 and 34 inches, inside measure.

For Sale by DEWEY & CO.,

No. 202 Sansome St., S. F.

COPP'S AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township
and Section Corners; How to Homestead and Pre-empt
land; How to Enter land under Timber Culture, Desert,
Townsite and other Laws. Sent by mail postpaid for 50
cents.

DEWEY & CO.,

202 Sansome St., S. F.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. Proprietors.

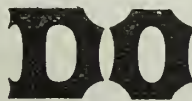
Office—318 California Street, Room 3.

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for
use. Also Veterinary cases and books. Send for cata-
logue. Address BOERICKE & TAFEL,
Homœopathic Pharmacy, San Francisco.



NOT FAIL to send
for our Price List for
1880. Free to any
address upon ap-
plication. Contains
descriptions of every-
thing required for
personal or family use,
with over 1,200 illustrations. We sell all
goods at wholesale prices in quantities to suit
the purchaser. The only institution in America
who make this their special business. Address,
MONTGOMERY WARD & CO.,
227 & 229 Wabash Ave., Chicago, Ill.

REMOVAL.

John F. Ceary, M. D.

For the last 18 years at 632 Howard street, San Francisco,
has

REMOVED TO OAKLAND.

Consulting rooms, Erie House, 1113 Broadway.

Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.

Diseases of women and children a specialty for 25 years.

The New Beekeepers' Text Book.

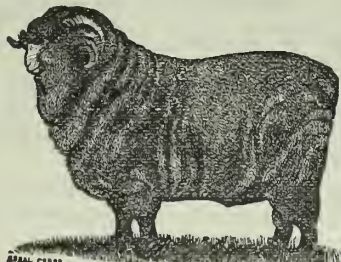
By A. J. KING. The latest work on the Apiary,
embodying accounts of all the newest methods
and appliances. Fully illustrated. Sent by mail, post-
paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc.
15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHbred



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Ver-
mont and California. Unsurpassed in quality and condi-
tion. Purchasers are invited to examine. We are cultivating
the style of wool pre-eminently required on this coast.
Berkeley, Alameda County, Cal.

HALF-BREED JERSEY HEIFERS FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at
San Bruno Station S. P. R. R.

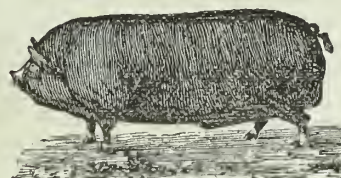
PRICES:

One Week Old.....\$ 5.00
One Month Old.....10.00
Two Months Old.....15.00
Three Months Old.....20.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with
great care from the best herds of imported stock in the
United States and Canada, and for individual merit can-
not be excelled. My breeding stock are recorded in the
"American Berkshire Record," where none but pure bred
Hogs are admitted. Pigs sold at reasonable rates. Cor-
respondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

RAMS FOR SALE.

300 THOROUGHbred

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first import-
ation of Spanish Merino
Sheep to California, in 1854.
Prices to suit the times. Residence, one mile north of
McConnell's Station, Western Pacific Division C. P. R. R.
P. O. address, MRS. E. MCCONNELL-WILSON,
Elk Grove, Sacramento Co., Cal.

ANGORA GOATS.

FIVE HUNDRED HEAD OF GRADED ANGORAS
from 1 to 15-16, for sale for cash or exchange for cattle.

Apply to D. F. NEWSON,

Arroyo Grande, Cal.

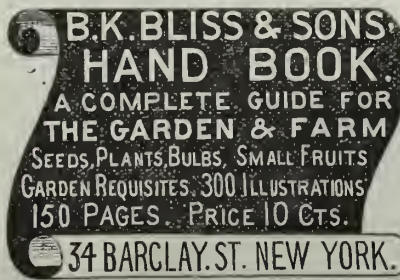
Seedsman.

BUY DIRECT! SEEDS, TREES, Etc.

5 Cents per lb.—Egyptian Corn (white and brown);
Broom Corn; Extra Early Vermont, Snowflake and Bree-
see's Prolific Potatoes; Pop-Corn. 10 Cts. per lb.—Pearl
Millet in heads; Sorghum; Evergreen Imphee (for feed);
Evergreen or Golden and Dwarf Broom-Corn; Golden
Millet. 20 Cts. per lb.—Liberian, Kenney's, Amber,
Oomseana and Neacana Sugar Canes; Best Spanish Chufas;
Pearl Millet in hulls. 40 Cts. per lb.—Chinese Imp-
hee, largest and richest in sugar. (See page 250 Report
of Commissioner of Agriculture for 1877).

TREES at 5 to 10 Cts. each—Chestnut, Walnut,
Maples (sugar, red and silver); Catalpas, Ailanthus, Fir,
Pine, etc. 25 Cts. per 100—Strawberry Plants, Poplar,
Osier and Hop Root Cuttings. At 1 Ct. each—Arbor
Vite trees (1 foot high); Prickley Comfrey and Panicum
Spectabile Root-cuttings; Pomegranate, Fig and Black
Mulberry Cuttings.

Semi-tropical and other Fruit Trees, CHEAP.
Trees, Seeds, etc., packed and delivered on cars
without extra charge, or sent by mail for 16 cts. per lb.
additional. Send for illustrated catalogue free. Address
W. A. SANDERS, SANDERS P. O., Fresno Co., Cal.



50 Perfumed, Snowflake, Chromo, Motto Cards, name in
gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Lands for Sale and to Let.

Rare Opportunity

— FOR A —

COLONY

— OR —

Farming Enterprise!

A tract of land, comprising 20,000 acres, lying in Town
ship 16, south, range 19 and 20 east, in

FRESNO COUNTY,

Is offered in whole or in part, as a very desirable location
for a Colony or extensive farming enterprise.

This land is in the immediate vicinity of several Colo-
nies, which are already in successful progress.
Work for bringing water upon the land has already
been commenced, and the land is so situated that it can
be irrigated at very little outlay. It is also convenient for
Railroad transportation.

Terms Reasonable.

For further particulars inquire of FRANKLIN D.
COTTELL, No. 932 Howard Street, San Francisco, or
COTTELL & LUCE on the premises, or at Fresno
City, Cal.

FRUIT FARM

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for
\$25,000. Is offered for \$20,000 and
will pay a Good Interest on the in-
vestment.

There are 118 acres of choice land—40 acres in Straw-
berries, 7 acres in Blackberries, 700 young Pear Trees,
and an Old Orchard. Has several flowing wells, a large
house of 10 rooms, marble mantels, etc. The house is
completely finished, Brussels carpets on most of the floors;
parlor, sitting-room and bed-room furniture all nearly
new.

With Stock consisting of Horses, Cattle, Hogs, Farming
Implements, etc., sufficient for the place, all for the price
above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Dairy Farm For Sale.

Four miles west of Watsonville, in Santa Cruz county,
Cal. One Thousand Acres of first-class Dairy Land,
which will be sold in whole, or in part to suit purchaser,
very cheap. The place can be divided into 10 or more
small Farms, with

Lasting Springs of Pure Water,

On each 50 acres. All under fence, and 400 acres under
cultivation. Living water, enough to irrigate nearly all
the place.

Plenty of Firewood.

For particulars enquire of

FRANK LARKIN, on the place.

Pajaro Valley Nursery

FOR SALE.

Situated in the Town of Watsonville.
WAS ESTABLISHED IN 1867.

Contains 27 acres of land. There is about 60,000 trees
under cultivation, embracing all the leading varieties of
Fruits, with Shade and Ornamental Trees, 7 acres of the
best varieties of Strawberries, Raspberries and Blackber-
ries, together with all the necessary Tools, Buildings,
etc., for conducting a first-class business. An abundance
of water for irrigation.

The proprietor being compelled to sell for the reason
that he is about to leave the State, offers to any one wish-
ing to engage in a profitable and well-established business
a very great bargain. For further particulars apply to
JAMES WATERS, Prop.,
Watsonville, Santa Cruz Co., Cal.

Sheep Range For Sale.

About 3,169 acres of deeded land, four cabins
and corrals; plenty of good water. Has a front-
age of four miles on Elder Creek, and is situated
in Tehama county, in T. 25 and 26 N., R. 6 W., M.
D. M. will keep 6,000 Sheep. I have a good summer range
which I will let go with it. For further particulars apply at
the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California.
March 24th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in
the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING JUNE 29TH, 1880.

229,383.—GUN-LOCK—W. N. Crabtree, Porterville, Cal.
229,387.—ORE CRUSHER—J. T. Davis, S. F.
229,408.—AIR COMPRESSOR—H. Richmond, S. F.
229,509.—DESULPHURIZING ORES—H. F. Williams, S. F.

NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

VELOCIPEDE.—F. Langmaak and Peter Streiff, S. F. Patented June 15, 1880. No. 228,908. This invention consists in placing within the open hub of a single wheel, a carriage provided with driving and guide wheels moving in an annular groove inside the hub, this carriage being provided with a saddle upon which the rider sits astride, combined with operating foot-levers, which, by means of cords, rotate alternately clutches on the shaft of the central driving-wheel of the carriage. These clutches are so arranged that they engage with the driving-shaft on the forward motion, but release it when the foot is drawn back for the return stroke. By having a pair of the levers an alternate motion is kept up and a continuous revolution of the driving-wheel maintained. A velocipede of this form will not be as difficult to ride as those where the rider has to sit in a saddle over the wheel, owing to the weight being below instead of above the center of gravity.

GUIDING-HEADER.—Walter H. Keen, Woodbridge, San Joaquin Co., Cal. Patented June 1, 1880. No. 228,260. This invention contemplates forming a peculiar jack-staff, carrying the caster guide-wheel below, and arranged above as a guide for the cutter-bar level, the whole being in front of the driver, so that a seat may be provided at the rear end of the beam, upon which the driver may sit during his work. The tiller for steering the header is swiveled on the rear end of the cutter-bar level, and so combined with it as to serve also as a means of raising or lowering said lever. It further consists in forming in a peculiar manner an automatically movable fulcrum for the cutter-bar lever, to keep the header on an equal balance, so that the cutter-bar is raised with little friction, and the strain relieved from the links connecting the cutter-bar frame with the pole carrying the guide-wheel and driver.

HAME RING.—A. J. Larsen, 420 Jackson St., S. F. Patented May 25, 1880. No. 227,982. This invention relates to improvements in what are known as the "hame-rings" upon working harness; and it consists in a rein-leading ring for hames, consisting of the slotted, swiveled rod provided with the semi-circular extension, the sliding-ring section provided with the hook or loop, and a coiled spring, all attached to the hames. In driving horses to or from their work without the vehicle it is customary to double the reins up and push them through the hame-ring upon the near side, or to hang them upon the end of the hame itself, and when the bridle is removed for the purpose of feeding it is hung upon the hame. In either case the reins or bridle are liable to become displaced and fall to the ground, and this invention prevents such accidents, besides making it very easy to introduce or remove the reins.

FLOWSHARE FASTENER.—Jacob P. Patery, Dunnigan, Yolo Co., Cal. Patented May 25, 1880. No. 227,991. The mold-board and land-side are fastened to the share by levers provided with cams or catches. The mold-board is secured to the curved beam and the land-side by means of braces, the lower edge of said mold-board resting on a flange on the upper edge of the land-side. On the end of the brace is a fulcrum of a compound lever, the smaller arm of said lever being pivoted on a swinging arm. On the end of this smaller arm is found a hook which grasps a stud on the under side of the share. A slot is found in the end of the brace and another in the end of the land-side, into which fit the studs found on the share, thus steadying the share.

ANIMAL TRAP.—W. J. Webber, Hollister, San Benito Co., Cal. Patented May 25, 1880. No. 227,935. This trap is intended for the capture of animals, birds, etc., and it consists in the employment of one or more needles or sharpened spears, moving in guides and provided with an elastic spring by which the needle is forced forward when released by the action of a trigger. This trigger is operated by the attempt of the animal to pass its free end, and this end is concealed by a stalk, weed, or any natural object. In combination with these devices a guard or protector is employed to be used while the trap is being set or carried about.

OVERALLS.—Samuel R. Krouse, S. F. Patented May 25, 1880. No. 227,981. This invention relates to certain improvements in the manufacture of overalls and that class of garments intended for outside wear; and it consists in an improved construction and application of strengthening-strips, stays, and re-enforce pieces by which the body of the fabric, pocket corners and seams are strengthened, the parts are united to form a more complete mutual band or support, while from their form a considerable economy of material is effected in the cutting of these parts.

BELT-TIGHTENING ATTACHMENT FOR SEWING MACHINES.—Joseph H. Allen, Sacramento, Cal. Patented, June 15, 1880. No. 228,850. This invention consists in providing a swiveled adjustable arm carrying an adjustable extension with a friction-roller, by means of which the pressure on the belt, and the angle of said pressure may be regulated at will. The device is so simple that it is readily changed, so as to be adjusted for light or heavy work.

PREPARATION OF LIME-JUICE.—John and Thomas D. Douglas, S. F. This invention relates to a compound which is intended for making lemonade, seasoning etc., to take the place of limes. The compound is useful for making lemonade, being designed to take the place of limes or lemons. It is agreeable to the taste, will not decompose with age, and is always ready for use. It is put up in bottles of convenient size, and has the appearance of ordinary lime-juice.

WHAT CAN YOU SHOW?—The announcement of the coming exhibition in charge of the Horticultural Society of the Mechanics' fair next month should suggest to all the question, What can you show? For the credit of our horticulture, and for the information of the thousands interested in fruit and plant growth who will visit the fair, there should be a full exhibit of the best that every section of our State can produce. Everything good that is in condition for show during the fair should be forwarded. Among other things, our raisin progress should be made apparent; and, although it will be too early for this year's crop, most growers have no doubt choice specimens of last year's curing. Let these be entered, and let the competition be so general that it may be truly representative of our new interest. As with raisins so with all fresh fruits. Each premium should be awarded after viewing a full display in its class. The premium may be a small object, but the other results of a fine display will be great for the State and for the producers. What can you show?

SEEDLING FRUITS.—We enjoyed a call from Prof. W. A. Sanders, of Fresno county, on Tuesday. He brought us some interesting samples of what Fresno county has done in the line of seedling fruits. The most notable, perhaps, was a seedling apricot originated by Andrew Jackson, of Kingsburg, and known as the "Jackson Seedling." It is a large and handsome fruit, probably a seedling from one of our best varieties. Aside from the excellence of the fruit the tree has good points, being a very regular and heavy bearer. The tree from which the specimens were brought was eight years old, and it has yielded about \$20 worth of fruit per year for several years. Prof. Sanders brought us also a seedling peach of his own growing, medium sized, handsome in form and color and with a sprightly flavor. He had also a seedling plum of the Chickasaw persuasion, in which he takes great pride.

WASHINGTON COLLEGE.—The attention of parents desiring a thoroughly good institution for the education of their children, is invited to the advertisement of Washington College in another column. Youth of both sexes are received, separate buildings having been erected for each. Mr. and Mrs. Harmon are well known as educators throughout this coast, as their 20 years of good work have spread their fame abroad. Students attend Washington College from nearly all the rural districts of the coast, north, south, and beyond the Sierras, and find a home-school which wins their love and esteem. The teachers of the college are selected with care, and its general reputation is thoroughly good.

CALIFORNIA TREE IN AUSTRALIA.—An article in the Melbourne Times gives notes of the growth of a California tree in the Melbourne botanic garden. We read that a fine specimen of our redwood may be seen towering up far above the roof of the brush sheds in the propagating department. This specimen is about 55 ft. in height, the circumference of stem at the base being 7 ft. 5 in. It has made rapid growth during the past four or five years, and is supposed to have been planted by Mr. John Dal-lachy when curator of the gardens, some 25 years ago.

AT THE GEYSERS.—From a party that visited the Geysers from Anderson Springs we learn that 160 persons were there on the Fourth, the largest collection of visitors ever known there. A large number of bathers and spectators were at the warm swimming baths in the forenoon. The road from Anderson Springs to the Geysers, some nine miles, is a wild and picturesque route.

THE FILBERT IN SOUTHERN CALIFORNIA.—The theory that the filbert will not do well in southern California seems likely to be exploded, that is if we may judge from the appearance of nearly 100 three-year-old bushes on the ranch of William Niles on Washington street, Los Angeles. These bushes are about nine ft. in height, have a dense foliage of a beautiful light green, and give promise of a good and profitable crop. We would be glad to learn the success of any others who have been experimenting with the filbert in this section.—*Semi-Tropic California.*

SALES OF FINE STOCK.—Messrs. Peter Saxe & Son inform us of several sales since our last notice: To C. K. Lawton, Esq., of Santa Barbara, five "Jerseys," viz.: "Olema," "Yellow Rose," "Verity," "Snurprise," and the bull "Mariposa;" this is an exceptionally fine herd of thoroughbreds. Also the Short Horn bull "Oliver," to Sidney Cushing, of Marin county. Also the Jersey bull "Invincible," to Sylvester Gould, of San Benito county. Also Berkshire pig, one pair each, to L. H. Phillips, of Shasta county; and Chas. H. Allen, of Santa Clara county.

CHERRIES.—Our full force has been regaled with a liberal shipment of cherries from the well-known orchard of W. H. Jessup, of Haywards. Mr. Jessup's trees have outdone themselves this year, and show the results of the intelligent attention which he has given them. His remembrance of our force of workers shows his heart as well as his fruit, and both are appreciated by us.

EVERY new subscriber who does not receive the paper, and every old subscriber not credited on the label, within two weeks after paying for this paper, should write personally to the publishers without delay, to secure proper credit. This is necessary to protect ourselves and subscribers against the acts and mistakes of others.

The Prescott House,

Corner of Kearny St. and Montgomery Avenue, is certainly one of the best for the price in S. F. A good table set, and the accommodations for lodgers are comfortable and commendable. The waiters are attentive, and their courtesy is exceeded only by that of the hospitable proprietor, Mr. Becker, who is obliging and attentive to all his patrons. The hotel is well situated, both for the convenience of business men in the city and visitors from the country. The latter will find it especially so, as the hotel is situated near the business center of the city, but yet in rather a quiet locality. Horse cars pass by the door every few minutes, which transfer to all parts of the city. A free coach to the hotel. Give this house a call, and without doubt you will get your money's worth and continue your patronage.

Quinine and Arsenic

Form the basis of many of the Acute Remedies in the market, and are the last resort of physicians and people who know no better medicine to employ for this distressing complaint. The effects of either of these drugs are destructive to the system, producing headache, intestinal disorders, vertigo, dizziness, ringing in the ears, and depression of the constitutional health. AYER'S AGUE CURE is a vegetable discovery, containing neither quinine, arsenic, nor any deleterious ingredient, and is an infallible and rapid cure for every form of Fever and Ague. Its effects are permanent and certain, and no injury can result from its use. Besides being a positive cure for Fever and Ague in all its forms, it is also a superior remedy for Liver Complaints. It is an excellent tonic and preventive, as well as cure, of all complaints peculiar to malarious, marshy and miasmatic districts. By direct action on the liver and biliary apparatus, it stimulates the system to a vigorous, healthy condition.

FOR SALE BY ALL DEALERS.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove, to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

CITIZENS OF SAN JOSE and vicinity, who wish thoroughly good dress making, at reasonable prices, are recommended to call at the establishment of Mrs. N. A. Sanders, just west of the Farmers' Union.

FRESH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

THE YOSEMITE is strictly first class and the leading hotel in Stockton. Prices moderate. JAS. CATEN, Prop.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, July 7, 1880.

There is more direct interest manifested in the Wheat market, and a little more is being done. As shown by the Liverpool quotations below, there came a slight advance on Tuesday, and another point upward to-day. This makes a firmer feeling all around. General trade has hardly recovered from the Fourth of July holidays, which really began on Saturday and continued until Tuesday. There was a general exit of business men to the various country resorts.

Range of Cable Prices of Wheat.

The course of the Liverpool quotation for Wheat to the Produce Exchange during the days of last week has been as recorded in the following table:

	CAL. AVERAGE.				CLUB.			
Thursday....	8s	4d@9s	1d	9s	3d@ 9s	9d		
Friday.....	8s	3d@9s	1d	9s	2d@ 9s	8d		
Saturday....	8s	4d@9s	1d	9s	3d@ 9s	9d		
Monday.....	8s	4d@9s	1d	9s	3d@ 9s	9d		
Tuesday....	8s	5d@9s	2d	9s	3d@ 9s	9d		
Wednesday..	8s	5d@9s	2d	9s	4d@ 9s	10d		

To-day's cable quotations to the Produce Exchange compare with same date in former years as follows:

	Average.				Club.			
1878.....	9s	11d@10s	2d	10s	3d@10s	9d		
1879.....	8s	6d@ 9s	3d	9s	2d@ 9s	6d		
1880.....	8s	5d@ 9s	2d	9s	4d@ 9s	10d		

The Foreign Review.

LONDON, July 5.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: The weather has been fairly seasonable and crops have made further steady progress, though advices relative to Oats are somewhat variable. The supply of English Wheat is very small, but difficult to sell, though holders willingly offered a concession of 1s, and sometimes 2s, 3d quarter. Imports of foreign Wheat were fair, not excessive, though granary stocks are reduced to almost an unprecedented point; yet as long as the arrivals suffice to meet the immediate wants of buyers they can afford to disregard the present moderate extent of arrivals, in confident anticipation of future abundance, to which everything seems to point. The large continental demand has hitherto been the chief influence in favor of sellers, but as the French harvest is now almost due, continental needs must shortly cease to affect the situation. In short, the weather, despite some rain, has been too fine for trade. Wheat has declined 1s to 2s on the week. Even Russian Wheat has fallen, despite the extreme scarcity. Business of all descriptions is very limited. Maize remains 23s 6d ex ship. Arrivals at ports of call were moderate, and business was quiet, with a declining tendency until Friday, when 44s was accepted for Red Winter cargoes. Since then, in consequence of broken weather, prices have decidedly improved in tone. A fair amount of business was done in Red Winters at 40s 6d for continent, and 40s@40s 4d for United Kingdom. With more cargoes of Maize off the coast, prices declined to 1s 6d@2s 3d quarter. Very little business was done in Wheat for shipment until the end of the week, when low prices brought buyers. Trade closes at an improvement of 6d from lowest point. There is a moderate inquiry for Maize at a decline of about 6d 3d quarter.

Freights and Charters.

There is little being openly done in ships. As nearly as can be ascertained the Cork rates for wooden ships ranges from £2 15s to £2 17s 6d, and the price for iron ships is £3.

Eastern Grain and Provision Markets.

NEW YORK, July 4.—While there has been no unusual fluctuations in value, the general markets are somewhat irregular with an advantage in favor of buyers. Breadstuffs, especially Wheat, is unsettled and higher, on continued unfavorable crop reports which are received from the northwest and on the line of St. Paul and its connections, where winter Wheat which was sown more this than in former years is suffering as much as spring Wheat did two years ago from blight and rust. The market closed less firm. Exports of Grain from this port still continue to increase, the shipment on Thursday being the heaviest on record, amounting in all to 1,254,477 bushels, of which 298,454 were Wheat. Provisions continue to advance under a speculative movement.

Eastern Wool Markets.

NEW YORK, July 4.—Wool remains very quiet—sales include 140,000 bales California Fall 21 1/2@35c.

Receipts of Domestic Produce.

The following table shows the San Francisco receipts of Domestic Produce for the week ending at noon to-day, as compared with the receipts of previous weeks:

ARTICLES.	WEEK. June 16.	WEEK. June 23.	WEEK. June 30.	WEEK. July 7.
Flour, quartersacks..	80,174	65,104	38,834	25,315
Wheat, centals.....	56,321	41,354	40,451	26,737
Barley, centals.....	25,029	9,007	16,055	4,542
Beans, sacks.....	3,002	10,606	1,474	101
Corn, centals.....	14,235	6,624	9,256	835
Oats, centals.....	10,367	4,165	2,873	1,327
Potatoes, sacks.....	7,950	8,802	9,855	1,411
Onions, sacks.....	1,850	1,658	1,700	7,227
Wool, bales.....	5,858	4,938	7,012	3,113
Hops, bales.....	4	18	18	
Hay, bales.....	760	945	952	936

BAGS—Grain Bags are a fraction lower, as shown in our list. There is but little life in the trade this week.

BARLEY—Our Feed Barley prices are raised 2 1/2c @ ctl. We note sales: 700 sks good Brewing, 85c; 847 sks do, 83 1/2c; 600 and 450 sks Bay Feed, 72 1/2c; 500 sks Coast, 70c; and 250 sks dark do at 68 1/2c.

BEANS—There is no change in rates.

CORN—White Corn is a shade higher, the best lots having sold as high as \$1.42. There is however but very little doing.

DAIRY PRODUCE—Considerable Butter arriving during the holidays rather overstocked the market, and the tone is rather weak to-day, although there is no change in rates. Probably a day or two will clear up the surplus. Cheese is unchanged.

EGGS—Eggs are quiet and unchanged.

FRESH MEAT—Supplies are quite large, and the tone of the market is weak. A slight reduction will be noticed in Beef and Veal.

HOPS—There is nothing new. Reports from the yard on this coast continue favorable. In New York the trade is dull, and brewers well stocked for the present.

FRUIT—Our Fruit list shows a general cheapening of common Fruits, except where prices are sustained by the better qualities which are now arriving. California Lemons have advanced to \$3.24 per box.

OATS—Oats are 5c lower, and they continue dull.

ONIONS—All good Onions are now 60c per cwt—a reduction of 5c since last week.

POTATOES—There are but few old Potatoes, and prices are nominal. New Potatoes are in good supply, and prices unchanged from last week.

POULTRY AND GAME—There is no change in Fowls. A little Venison has come in, but no price is fixed yet. Rabbits and Hares are higher, but the market could soon be overstocked if the weather should turn warm.

PROVISIONS—Cured Meats are quite firm, and in some brands of Eastern Hams there has been a slight advance.

VEGETABLES—Our list shows a general change this week, mainly in the line of cheapening through abundance of the new things. Asparagus, Rhubarb and Green Peas have, however, arisen from their low estate.

WHEAT—Our prices in the table represent old Wheat, as it is still too early to change. New Wheat is, however, quoted by dealers as follows: No. 1, \$1.50@1.55; No. 2, \$1.40@1.45. Shippers are, however, slow to buy, and their bids of \$1.40@1.42, do not secure much Grain. There have been sales of 200 cts old Sonora for Cracked Wheat, 1,300 sks and 40 tons choice Milling at \$1.55, and 1,700 sks fair Milling at \$1.47 1/2 cts.

WOOL—The trade in the city has proceeded upon the basis established last week, and there has been no change in rates. An account of the Wool sales at Cloverdale may be found in our "Agricultural Notes" under Sonoma county.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., July 7, 1880.

BEANS & PEAS.

Mayo, cts.	55 @ 105
Buher, ...	1 10 @ 15
Castor, ...	3 25 @ 35
Pea, ...	25 @ 35
Red, ...	95 @ 105
Pink, ...	95 @ 105
Sm'l White, ...	1 05 @ 115
Lima, ...	50 @ 60
Field Peas, b/w cypel	25 @ 50
do, green, 1 10 @ 125	

BROOM CORN.

Southern, ...	1 10 @ 2
Northern, ...	2 10 @ 3 1/2

CHICORY.

California, ...	4 @ 4 1/2
German, ...	5 1/2 @ 7

DAIRY PRODUCE, ETC.

Cal. Fresh Roll, lb.	20 @ 22 1/2
Fancy Brands, ...	— @ 23
Pickle Roll, ...	— @ 23
Firkin, new, ...	— @ 22 1/2
Western, ...	— @ 22
New York, ...	— @ 22

CHEESE.

Cheese, Cal. lb.	8 @ 10
N. Y. State, ...	— @ 10

EGGS.

Cal. fresh, doz.	20 @ 22
Ducks, ...	17 @ 18
Oregon, ...	16 @ 17
Eastern, by expts.	— @ 18
Pickled here, ...	— @ 18
Utah, ...	— @ 18

FEED.

Brn, ton, ...	12 50 @ 13 00
Corn Meal, ...	— @ 25 00
Hay, ...	6 00 @ 12 00
Middlings, ...	— @ 16 00
Oil Cake Meal, ...	30 00 @ —
Straw, bale, ...	40 @ 47 1/2

FLOUR.

Extra, City Mills, 5 25 @ 55 50	
do, Country Mills, 4 50 @ 55 00	
do, Oregon, ...	4 50 @ 54 75
do, Walla Walla, 4 50 @ 54 75	
Superfine, ...	3 50 @ 40 00

FRESH MEAT.

Beef, 1st quality, lb	6 @ 6 1/2
Second, ...	5 @ 6
Third, ...	4 @ 5
Mutton, ...	3 @ 4
Spring Lamb, ...	4 @ 5
Pork, undressed, ...	— @ 5
Dressed, ...	7 1/2 @ 7 3/4

MEAT.

Veal, ...	6 @ 7
Milk Calves, ...	6 1/2 @ 6 3/4
do, choice, ...	6 3/4 @ 6 1/2

GRAIN, ETC.

Barley, feed, cts.	67 1/2 @ 72 1/2
do, Brewing, ...	75 @ 87 1/2
Chevalier, ...	1 20 @ 15
do, Coast, 1 00 @ 15	
Buckwheat, ...	2 25 @ 50
Corn, White, ...	1 30 @ 42 1/2
Yellow, ...	1 10 @ 12 1/2
Small Round, ...	— @ 15
Oats, ...	1 30 @ 45
Milling, ...	— @ 55
Rye, ...	65 @ 100
Wheat, No. 1, ...	57 1/2 @ 62 1/2
do, No. 2, ...	40 @ 45
do, No. 3, ...	— @ 40
Choice Milling, ...	— @ 62 1/2

HIDES.

Hides, dry, ...	17 1/2 @ 18
Wet salted, ...	10 @ 10 1/2

HONEY, ETC.

Beeswax, lb., ...	22 1/2 @ 25
Honey in comb, ...	11 @ 12 1/2
do, No. 2, ...	— @ —
Dark, ...	— @ —
Extracted, ...	5 1/2 @ 6 1/2

HOPS.

Oregon, ...	25 @ 30
California, new, ...	35 @ 40
Wash. Ter, ...	25 @ 30
Old Hops, ...	6 @ 10

NUTS—Jobbing.

Walnuts, Cal., ...	12 @ 15
do Chile, ...	8 @ 10
Almonds, hd shd lb	8 @ 10
Soft sh'l, ...	18 @ 20
Brazil, ...	14 @ 15
Pecans, ...	16 @ 17
Peanuts, ...	9 @ 10

BAGS AND BAGGING.

[JOBBER PRICES.]

WEDNESDAY M., July 7, 1880.

Eng Standard Wheat, 10 1/2 @ 10 1/2	
California Manufacture, ...	45 inch, ...
Hand Sewed, 22x36, 10 1/2 @ 10 1/2	
22x40, ...	12 @ 12 1/2
23x40, ...	13 @ 13 1/2
24x40, ...	13 1/2 @ 14
Machine Sewed, 22x36, 10 1/2 @ 10 1/2	
Flour Sacks, halves, ...	9 @ 10 1/2
Quarters, ...	6 @ 7
Eighths, ...	4 @ 4 1/2
Hessian, 60 inch, ...	— @ 14

Gold, Legal Tenders, Exchange, Etc.

[Corrected Weekly by SUTRO & CO.]

SAN FRANCISCO, July 7, 3 P. M.

SILVER, 1. GOLD BARS, \$90@910. SILVER BARS, 10@18 per cent. Is. count. EXCHANGE on New York, 15, on London bankers, 49 1/2 @ 49 3/4. Commercial, 50; Paris, five francs \$1 dollar; Mexican dollars, 22@23 1/2. LONDON Consols, 93 7/16; Bonds (4 1/2), 110 1/4. QUICKSILVER in S. F., by the flask, 1 lb, 42 1/2 @ 45c.

FRUITS AND VEGETABLES.

[WHOLESALE.]

WEDNESDAY M., July 7, 1880.

FRUIT MARKET.			
Apples, basket, ...	40 @ 50	Pears, sliced, ...	18 @ 20
do, box, ...	75 @ 90	do, peeled, ...	9 @ 10
do, Ast' can, bx 1 00 @ 1 25		Plums, ...	9 @ 11
Apricots, hx, ...	1 00 @ 1 12 1/2	Pitted, ...	15 @ 17
do Royal, 1 15 @ 1 25		Prunes, ...	12 1/2 @ 13
Bananas, hnd, ...	2 50 @ 4 00	Raisins, Cal, bx	— @ 1 50
Blackberry, chst, 7 00 @ 13 00		do, Halves, ...	1 75 @ 2 00
Cherries, ...	5 @ 6	do, Quarters, ...	2 00 @ 2 25
do, B. Tartan, ...	7 @ 8	do, Eighths, ...	2 25 @ 2 50
Cherry Plums, hx, ...	50 @ 75	London Lay's bx	— @ 2 00
Citrons, Cal, 100	— @ —	do, Halves, ...	2 25 @ 2 50
Cocoanuts, 100, 7 00 @ 8 00		do, Quarters, ...	2 50 @ 2 75
Currents, chest, 6 00 @ 6 50		do, Eighths, ...	2 75 @ 3 00
Figs, black, ...	10 @ 12 1/2	Zante Currants, ...	8 @ 10
Gooseberries, ...	5 @ 8	VEGETABLES.	
Limes, Mex., ...	7 00 @ 8 00	Asparagus, hx, ...	75 @ 1 00
do, Cal, box, ...	1 75 @ 2 25	Beets, cts, ...	— @ 1 00
do, large, box, ...	5 00 @ 7 00	Brussels, doz, ...	3 @ 3 1/2
Lemons, Cal, bx 3 50 @ 4 00		do, Fountain, ...	4 @ 5
Sicily, box, ...	8 00 @ 9 00	do Wax, ...	5 @ 6
Australian, ...	— @ —	Cabbage, 100 lbs, ...	— @ 75
Oranges, Cal, M. 25 00 @ 35 00		Carrots, sk., ...	40 @ 50
do, Tahiti, ...	30 00 @ 35 00	Cauliflower, doz, ...	50 @ 60
do, Mexican, ...	— @ —	Chile Peppers, lb., ...	15 @ 20
Peaches, box, ...	1 00 @ 1 75	do, doz, ...	20 @ 30
Pears, basket, ...	1 00 @ 1 50	Egg Plants, lb., ...	10 @ 12
do, box, ...	1 00 @ 1 50	Garlic, New, lb., ...	3 @ 4
Pineapples, doz, 7 00 @ 8 00		Green Corn, doz, ...	12 1/2 @ 20
Raspberries, ch't, 4 50 @ 6 00		Green Peas, lb., ...	2 1/2 @ 3
Strawberry, ch't, 8 00 @ 10 00		Lettuce, doz, ...	10 @ 12
Sugar Cane, bbl., ...	2 50 @ —	Mushrooms, lb., ...	— @ —
DRIED FRUIT.		Parsnips, lb., ...	6 @ 8
Apples, sliced, lb 10 @ 11		Rhubarb, hx, ...	50 @ 75
do, quartered, ...	8 @ 9	do fat, lb., ...	— @ —
Apricots, ...	15 @ 18	Squash, Marrow	— @ —
Blackberries, ...	— @ 15	do Summer, 1 25 @ 1 50	
Citron, ...	23 @ 24	do Valencia, ...	75 @ 85
Dates, ...	9 @ 10	do Tomato, lb., ...	8 @ 10
Figs, pressed, ...	4 @ 6	do Turnips, cts, ...	50 @ 60
do, loose, ...	4 @ 6	do White, ...	50 @ 60
Peaches, ...	12 @ 13		

The Mechanics' Fair Daily.

By authority of the BOARD OF MANAGERS OF THE MECHANICS' INSTITUTE Fair the publishers of the MINING AND SCIENTIFIC PRESS will issue a large edition of the ELEVENTH VOLUME of the MECHANICS' FAIR DAILY during the FIFTEENTH INDUSTRIAL EXHIBITION, which opens in San Francisco, Tuesday, August 10th, 1880. It will be of large size, printed and circulated FREE in the Pavilion, and contain the day and evening programme, a list of exhibits, and official bulletin of the Institute.

Its columns will embrace a large variety of important industrial and scientific information, illustrations and well written descriptions of the general features and most deserving and novel exhibits in the Fair, a record of the Fair and incidents of its daily progress—gay, serious and comic—as they occur.

The best of editorial, reportorial and corresponding talent will be employed, with a view to make the paper of live interest in all its departments and of standard value as a full record of the great exhibition, the wonderful inventions, rich resources and rapid progress of our great Western Community.

More than ONE HUNDRED THOUSAND different individuals will read copies of our paper during the Fair. The novel character of the journal—the specially attractive features of its free issue in the Pavilion, and its absorbing interest to visitors at the Fair, the attention its columns command when brought into the shop and family circle by those who receive it freely at the Fair, make the paper a powerful advertising medium.

The Managers have granted us the exclusive advertising and printing privileges, and will receive no advertising in the official catalogue and reports.

Our ten previous volumes have met with unrivaled success and gratifying results to advertisers, nearly all of whom were leading and first-class business firms.

Many thousands of marked copies were sent by mail and otherwise to friends near and distant, giving the FAIR DAILY a mere broadcast and universal circulation than any other newspaper published.

Its columns are more closely examined throughout than those of any ordinary publication.

By past experience, ample facilities, and a fair reputation of doing business in our line, we expect, with the reasonable support of all naturally interested in the success of our enterprise, to make the coming volume superior to its predecessors, and eminently satisfactory to the Institute, to our patrons and to the general public, who are more or less benefited by such an advocate of the substantial advancement of the grand and worthy industries of our coast.

DEWEY & CO., Publishers.

Office, MINING AND SCIENTIFIC PRESS, No. 202 Sansome street, N. E. corner Pine, San Francisco.

Commission Merchants.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

CHAS. RYHNER, (Member of the S. F. Produce Exchange.)

GENERAL COMMISSION MERCHANT.

— Dealer in —

FLOUR, GRAIN, FEED AND PRODUCE.

216 Davis Street,

Between Clay and Commercial, - - SAN FRANCISCO.

Consignments of all kinds of Produce solicited.

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Traders' National Bank, N. Y.; Eli Wanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, FELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA AND OREGON PRODUCE OF ALL KINDS.

227 & 229 Washington St., San Francisco.

Consignments Solicited.

JAMES B. SHEAT,

(Member of the S. F. Produce Exchange.)

Commission Merchant and General Purchasing Agent.

416 & 418 Davis Street, S. F.

Consignments of Grain, Wool and all Country Produce solicited. Also orders for purchasing Merchandise, Sacks, Implements, etc., promptly attended to. References—Wm. T. Coleman & Co., The Grangers' Bank, J. W. Grace & Co., Lynde & Hough.

M. VULICEVICH,

Importer and Commission Merchant

IN

FOREIGN AND DOMESTIC FRUIT.

Removed from 520 & 522 Sansome St., to

504 Front St., S. F.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE AND PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour

Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

RECORD OF SUPERIORITY.

1878—AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5—Breeding Ewes, ...	\$22.50
Pen 5—Yearling Ewes, ...	22.50
Pen 5—Ewe Lambs, ...	22.50
Pen 3—Ram Lambs, ...	22.50
Yearling Ram (1st and 2d), ...	38.50
Two-year-old Ram, ...	22.50
Ram and five of his Lambs, ...	30.00

Sweepstakes:

For best Ram of any age or breed, and five of his Lambs, ...



1879—AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5—Breeding Ewes, ...	\$22.50
Pen 5—Yearling Ewes, ...	22.50
Pen 5—Ewe Lambs, ...	22.50
Two-year-old Ram, ...	22.50
Yearling Ram, ...	22.50
Ram and five Lambs, ...	30.00
Pen of 3 Ram Lambs, ...	22.50

Sweepstakes:

For best Ram and five of his Lambs, of any age or breed, ...

THOROUGHBRED SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda, Co., Cal. E. W. PEET, Agent.



Liberal advances on consignments. Wool Sacks, Twine, Shears, and Ranch Supplies furnished

BADGES!

Beautiful Campaign Badges of the Democratic and Republican Presidential Candidates nominated at Cincinnati and Chicago. These campaign Badges contain life-like photographs of the candidates enclosed in pretty miniature gilt frames, with pin for attaching to the vest or lapel of coat. Everybody should wear one during the coming campaign. Active agents can make \$10 per day selling them, as hundreds can be sold in every town and village of the country. Price, 6 cts. each (or two 3 cts. stamps). 2 for 10 cts. 12 for 40 cts. 100, \$3. 500, \$12.50. 1,000 for \$20. Sent by mail post-paid. Photographs of either candidates, mounted on fine cards, full album size, at same prices as the Badges; full cabinet size, 6 1/2 x 4 1/2 inches, beautifully furnished, 15 cts. each, 2 for 25 cts. \$1 per doz. \$7 per hundred, mailed post-paid. Make your own selections, and send us clean postage stamps of any denomination, as we prefer them to silver. Address all orders to

Eureka Trick and Novelty Co., P. O. Box 4614. 39 Ann St., New York.

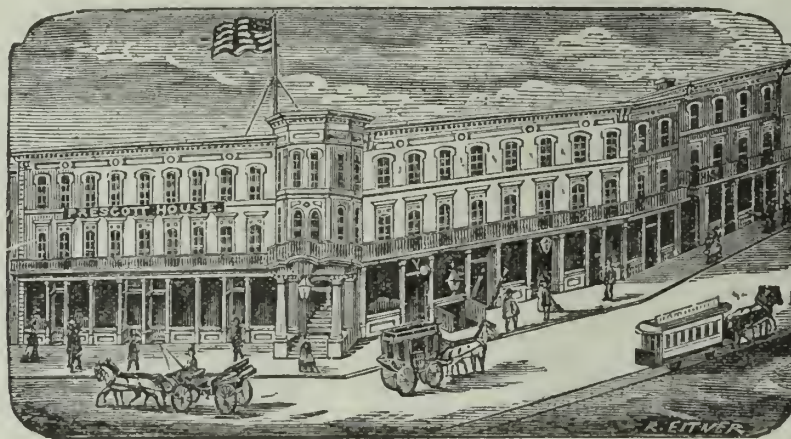
\$1,000 REWARD

FOR ANY WASHING MACHINE that will wash cleaner, quicker, with less labor and wear and tear of clothes, than the ROBBINS FAMILY WASHER AND BLEACHER, patented October

Educational.

THE
BERKELEY GYMNASIUM.A BOARDING AND DAY SCHOOL.
Classical, Literary and Scientific.This institution has the patronage of the
BEST FAMILIES OF THE COAST.The Fourth School Year Begins on
MONDAY, JULY 12th.For list of References and full discussion of Depart-
ments of EducationAPPLY FOR CATALOGUE TO
JOHN F. BURRIS, Superintendent.
BERKELEY, CAL.**CALIFORNIA
MILITARY ACADEMY**
AT OAKLAND.The Next Session Will Begin
July 19th, 1880.Rev. DAVID McCLURE, Ph. D., Principal.
Oakland, Cal.**THE DEGEN**
Classical & English School,
1265 Franklin St., Oakland Cal.
The Sixth Year Begins July 14th.This School prepares boys for the State University or
Eastern Colleges. None of our students has ever failed
to pass the entrance examinations. There are no board-
ers, but board will be found in select private families,
for those who may desire it. Many of our best students
have been from the country.For Catalogues address the Principal,
GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.**SACKETT**
BOARDING SCHOOL FOR BOYS.
Fits Boys thoroughly for the
University of California, for College or for
Business.The best instruction is provided by Teachers of Expe-
rience and ability.
Location most healthful and home equipment un-
equalled by any Boys' School in the State.For Catalogue, address the
Principal, D. P. SACKETT, A. M.
No. 529 Hobart St., Oakland, Cal.

W. E. CHAMBERLAIN, JR. THOS. A. ROBINSON

Life Scholarships, \$70.
SEND FOR CIRCULAR.**HOME SCHOOL**— FOR —
YOUNG LADIES,1825 Telegraph Avenue, Oakland, California.
The next Year will begin on Wednesday, July 21, 1880.
MISS H. N. FIELD, Principal.**MISS COCHRANE'S SCHOOL**FOR YOUNG LADIES AND CHILDREN.
No. 1036 Valencia St., S. F.
The next session will open August 4, 1880. Boarding
Pupils limited to Ten. For terms apply to
M. B. COCHRANE, Principal.**MRS. POSTON'S SEMINARY,**Oak St., bet. Tenth & Eleventh, Oakland.
THE NEXT SCHOOL YEAR BEGINS
Wednesday, July 28th, 1880.
E. C. POSTON, Principal.**Agricultural Books.**Orders for Agricultural and Scientific Books in general
will be supplied through this office, at published rates.**Dewey & Co.** { 202 Sansome St. } Patent Ag'ts**Prescott House.**

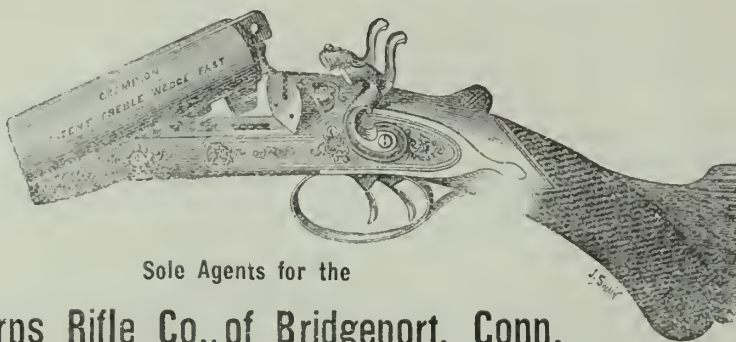
S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

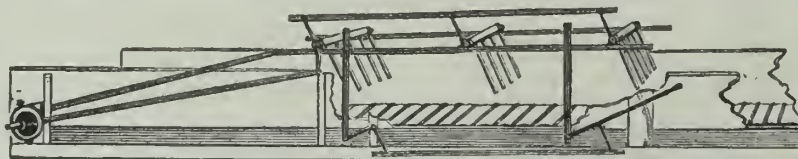
FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and
all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America.
AMMUNITION of all kinds in quantities to suit.**BAYLEY'S IMPROVED SPREADER.**

MANUFACTURED AT

Jackson's Agricultural Works,

Sixth and Bluxome Streets, - - - San Francisco, Cal.

This improvement was invented by T. S. Bayley a practical Thresher, and used by him and several of his neighbors
during the season of 1879, in Colusa and adjacent counties, giving entire satisfaction to both the Threshermen and Farmers
in all kinds of Grain.I have conducted a series of experiments during the past winter, to determine the proper proportions, size and strength
required, and to provide some means of adjustment within the immediate control of the operators, with most flattering
results.The above cut is a good illustration of the Distributor, showing how it can be raised and lowered instantly while in motion
by a simple lever within reach of the separator man or the hauldowns.It will spread any kind of grain, save the labor of one man, and do more and better work than three men, because it
never tires or gets dizzy looking at the grain pass it. Will make ten motions to a man's one, and always just deep, and
never too deep, in short, it will do just what is required.Sold at \$90. Guaranteed to satisfy the purchaser, if not it can be returned after ten days' trial, provided it is packed in a
snug package and delivered at the nearest freight depot properly addressed.**BYRON JACKSON,**

Sixth and Bluxome Streets, San Francisco, Cal.

PETER SAXE & SON,

IMPORTERS AND BREEDERS OF

Thoroughbred Live Stock,

Horses, Cattle, Berkshire Hogs and Pigs. and Sheep.

We can fill orders at any
time for the best families
of PURE BERKSHIRES,
"Short Horns," and "Jer-
sey or "Alderney" Cattle,
Jacks and Mules, Spanish
and French Merino, Cots-
wold and SHROPSHIRE
SHEEP.All at moderate prices
and perfectly pedigreed.

Importing to and breeding on this coast has been a specialty with us for the past 10 years. Satisfaction guaranteed.

PETER SAXE,
H. POLK SAXE,

Address Lick House, San Francisco.

ALBERT DICKINSON,Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.**POP CORN.**

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

SEEDS.52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name
in gold and jet, 10c. Clinton Bros., Clintonville, Ct. YOUR NAME PRINTED on Forty Mixed Cards for
Ten Cents. STEVENS BROS., Northford, Conn.

THE

BEST NEW MUSIC BOOKS.

For High Schools.

The Welcome Chorus. \$1.00

By W. S. TILLEN. Just out.

For Seashore or Mountains.

Gems of English Song;
Cluster of Gems. (\$2.00.) Or one of 30
instrumental Bound Volumes of Sheet Music. All the
same price.

For Sunday School Conventions.

White Robes. (30 cts.)

By ABBEY and MUNGER. Very popular.

For Choirs, Conventions, Singing Classes.

Voice of Worship. (\$1.) L. O. EMERSON.**The Temple.** (\$1.) By W. O. PERKINS.

Examine for your Fall Classes.

For Amateur Performers.

Sorcerer. (\$1.00) **Bells of Corneville.** (\$1.50).
Pinafore. (50c.), and many other Operas and Cantatas.
Any book sent, post-free, for the retail price.**OLIVER DITSON & CO., BOSTON.**

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.
SPRINGFIELD, O.
MANUFACTURERS OF THE**IRON TURBINE
WIND
ENGINES**

Strong and Durable

WILL NOT
SHRINK, SWELL,
WARP, OR
RATTLE in the WindALSO, THE
**BUCKEYE
FORCE
PUMP**Never Freezes in
Winter Time.
Send for our
Circulars and
Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

419 Sansome Street. - SAN FRANCISCO.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.Portraits in Oil at all prices from \$15 to \$1,000, to suit
the customer. Satisfaction guaranteed in all cases.P. S.—Special attention is called to our Portraits from
Photographs of deceased persons.Come in and see our work, everybody.
San Francisco, Cal.**Books on Agriculture, Etc.**The following among other books will be sent post-paid on
receipt of publishers' prices, annexed:—Tobacco, its culture,
manufacture and use, 500 pages, \$3.50;—The Patrons of Hus-
bandry, 500 pages, \$3.75;—The Women of the Bible, 77 en-
gravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages,
\$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricult-
ural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's
Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;
New Bee-Keepers' Text Book, \$1;—Pacific Rural Hand-
book, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law,
50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from
Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layre's
Belles Lettres, \$1;—Holt's Map of California and Ne-
vada, to subscribers, \$1;—Back Volumes PACIFIC RURAL
PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2
Address DEWEY & CO., Publishers, 202 Sansome St., S. F.**Traveling Agents.**We want several canvassing agents who will
make it their business to solicit subscriptions
and advertising for our first-class progressive
newspapers. Men of ability and experience can
secure good pay and permanent employment.
Send references and state your past occupation,
etc., to the publishers of this paper.**California Inventors**Should consult DEWEY
& CO., AMER-
ICAN AND FOREIGN PATENT SOLICITORS, for obtaining
Patents and Caveats. Established in 1860. Their long
experience as journalists and large practice as patent
attorneys enables them to offer Pacific Coast Inventors
far better service than they can obtain elsewhere. Send
for free circulars of information. Office of the MINING
AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202
Sansome St., San Francisco.INVENTORS, and others interested, will receive DEWEY
& Co.'s MINING AND SCIENTIFIC PRESS PATENT AGENCY
Circular free on application at this office. It contains 42
pages of hints and information about Patents, Patent
Laws, Patent Office Regulations, and how to obtain valid
patents.

Agricultural Articles.

W. H. CARSON. JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.
Also TOP DRAVER for Header Spout. This Draper prevents the wind from blowing the straw away and wasting wheat. No reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned on a run in babbitted boxes.
Positively self regulating with no coiled spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1879.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day. Combining strength and durability. Easily moved. Will be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE, Eureka Warehouse, Box 1,122, or of DAVID N. HAWLEY, 201 and 203 Market St., cor Main, S. F.

TRADE MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

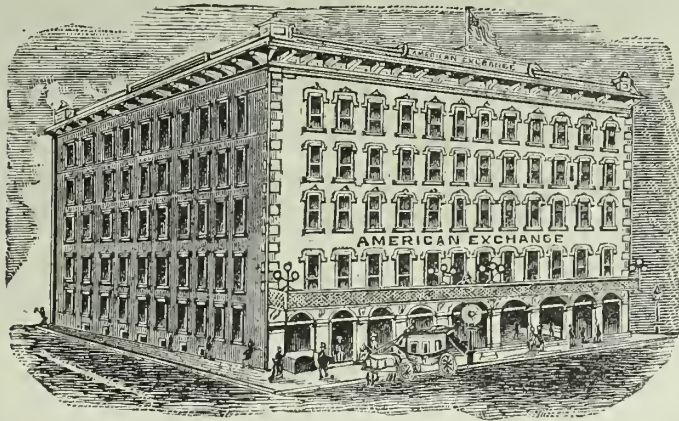
50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.

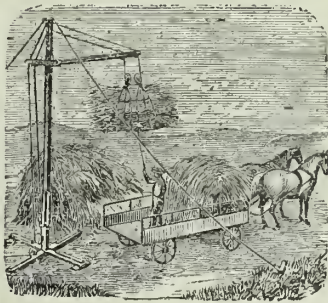


The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

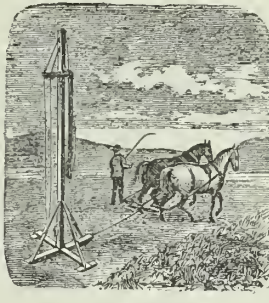
THOS. POWELL'S ELECTRIC ELEVATOR.



AT WORK

The greatest labor-saving Machine now in use. Scatters no Grain out while unloading. Large stacks can be made. Men work cheap with this Machine, and a boy can do a man's labor. The time is one and a half minutes to unload. A header will cut five acres more in a day by not waiting for a wagon. There are fewer stack bottoms in a field. The ground for stacks is not cut up by the wagon, and no Grain is lost. Several Hundred are now in use. Send for Circular and Price List. Address

THOS. POWELL, Patentee,
AT
H. C. SHAW PLOW WORKS,
Stockton, Cal.



MOVING.

Fairbanks' Scales.

PORTABLE PLATFORM SCALES,

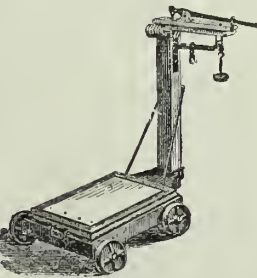
SUITABLE FOR

Weighing Hay, Grain, Dairy Produce, Etc.

All Sizes. 240 to 3,000 lbs. Capacity.

FAIRBANKS & HUTCHINSON,

417 Market street, San Francisco.



In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

Save Money by Using THE CALIFORNIA SPRING TOOTH HARROW.

Read the Following Testimonials:

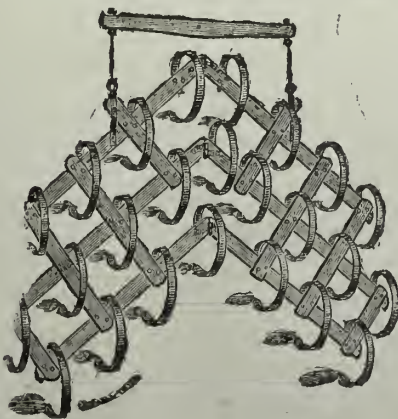
SACRAMENTO, Jan. 29, 1880.
Messrs. Batchelor, Van Gelder & Co.:

Gents:—This is to certify that I have tried the Spring Tooth Harrow on summer-fallow volunteer and winter-plowed land, and am pleased to say that it does better work than any Harrow that I have used, especially on land that has been plowed for a length of time and has become compact. Respectfully yours,

H. M. LA RUE.
Pres. State Ag'l Society.

SAN JOSE, Dec. 30, 1879.
Batchelor, Van Gelder & Co.:

Gents:—This certifies that I have this day purchased a Spring Tooth Harrow, after having tested it to my entire satisfaction; and cheerfully say



that I consider it superior to any implement I have ever seen for thorough cultivation of the earth, and that they are just what every man with an orchard, vineyard or wheat field needs.
Yours truly,
JOSEPH ARAM.

I fully concur with the above.
MARK FARNEY.

Send for Circulars and Testimonials or come to our office, and we will occupy your time for a day with similar matter.

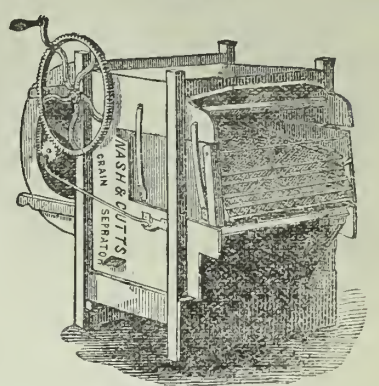
Batchelor,
Van Gelder & Co.,
MANUFACTURERS.

902 K Street SACRAMENTO.

STILL AHEAD!

Trade Mark.

"The Improved Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly.
Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal.

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,
905 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

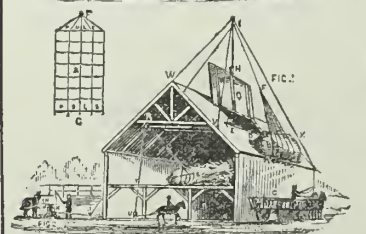
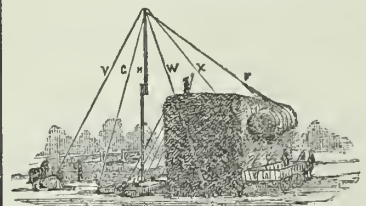
4th. We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

A Valuable Invention.

TYLER'S PATENT
Hay and Grain Unloader, Stacker, Barn Filler and Distributer.

THE HAYMAKER'S FRIEND.



JERRY TYLER, Sole Prop., Milford, Lassen Co., Cal.

It dispenses with a great amount of labor connected with unloading hay from stacks, and stacking it in a neat and satisfactory manner. You can try the method, and if you are not satisfied no charges will be made. Farm rights will be sold all over the country during the coming summer.

M. COOKE. R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

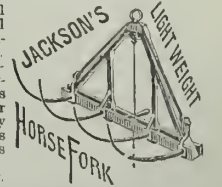
Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader. Horse Forks for Haystacks or Hay. Folding Driveways. Roadway Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address
BYRON JACKSON, Prop'r.



IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager**, 12 Montgomery St. (up stairs), S. F.

DEWEY & CO'S
SCIENTIFIC PRESS
Patent Agency.

PATENTS OBTAINED IN ALL CIVILIZED COUNTRIES

SCIENTIFIC PRESS—Mining and Mechanical.
PACIFIC RURAL PRESS—Agricultural.

PATENTS obtained promptly; Caveats filed expeditiously. Patent re-issues taken out; Assignments made and recorded, in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Soliciting Business promptly and thoroughly conducted.

Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons, and our success and business are constantly increasing.

The ablest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.
Office—202 Sansome St., N. E. Cor. Pine, S. F.
A. T. DEWEY. W. B. EWER. O. H. STROEN.

FIRST PREMIUM JERSEY BULL FOR SALE.

Having bred to my Jersey bull, "Blythe," for the past three years, I now offer him for sale at a moderate price. He is out of "Fantail," 4168, she from "Frankie 3d," 781, by imported "Quaker," 887. The sire of "Blythe" is "Prince of Staatsburgh," 2398, imported from the Island of Jersey by W. B. Dinmore. "Blythe" was dropped April, 1877. He is a solid, light silver gray; black switch and tongue; very yellow skin and hams, and shows very high breeding. In 1878, as a yearling, he was awarded the first premium at the State fair, and at two District fairs. Also in 1879 as a two-year-old, at the State Fair and at three District fairs, making in all seven times that he has been exhibited, taking the FIRST PREMIUM every time. He is a fine breeder, and his calves which are largely heifers, take after him in color and points. I will sell him for THREE HUNDRED DOLLARS (\$300) on cash, in Downey. Not one-quarter the cost of importing his sire. And he will no doubt nearly pay for himself if exhibited at the coming fairs.

F. J. BARRETTO, Downey, Cal.

Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



THRASHING MACHINERY FOR SALE.

Rice Engine, Ames Engine 8x10 Straw Burners, 40-inch Separator, Jackson Feeder, Derrick Spools and Derrick complete, all 2d hand. Wanted, to buy a 9-inch Hoadley Wood-Burning Engine, or will exchange. Address J. W. RILEY, 460 Sixth St., S. F.

This Cut Illustrates the
GIANT RIDING SAW MACHINE
SAWING THE LOG.



THE GREAT SUCCESS of this WONDERFUL IMPROVED LABOR-SAVING GIANT RIDING SAW MACHINE is fully demonstrated by the number in use and the present demand for them. It saws Logs of any size. **One man can saw more logs or cord wood in one day, and easier, than two men can the old way.** It will saw a two-foot log in three minutes. **Every Farmer needs one.** Township agents wanted. Send for Illustrated Circular and Terms.

IMPORTANT. Beware of all imitators and infringers. We are an old reliable house, and own and control five perfect patents on these Giant Riding Saw Machines. We warrant every Machine.

THE NEW ALTHOUSE VANELESS MILL.

RAYMOND PATENT.

More Being Sold than of any other Kind.

RECENTLY IMPROVED,
And Manufactured
Expressly for the Pacific Coast Trade.

The Bearings are Wood and Babbitt. It is the BEST MADE, the MOST PERFECT, MOST DURABLE and the

Cheapest First-Class Windmill in Use.

Our new Vaneless Mill will last a life-time with reasonable care. Mills set up in any part of the State. Contracts taken for the erection of Water Works. Buy the

NEW ALTHOUSE,

The Cheapest and least liable to get out of Order.

Orders for Windmills, Pumps, Brass Cylinders, Tanks and Frames, promptly filled at Cheapest Rates. For further particulars call on or address

L. H. WOODIN,

Office with Baker & Hamilton, 17 Front St., San Francisco.

INSURANCE AGENCY. Hutchinson & Mann,

N. E. Corner Sansome and California Sts., San Francisco.

LA CAISSE GENERALE (of Paris.)	REVERE INSURANCE CO. (of Boston.)
Assets, January 1st, 1879.....\$4,636,302	Assets, January 1st, 1879.....\$274,573
Surplus, as to policy holders.....\$2,127,953	Surplus, as to policy holders.....\$206,655
GIRARD INSURANCE CO. (of Philadelphia.)	TEUTONIA INSURANCE CO. (New Orleans.)
Assets, January 1st, 1879.....\$1,131,838	Assets, January 1st, 1879.....\$358,893
Surplus, as to policy holders.....\$829,340	Surplus, as to policy holders.....\$295,468
ST. PAUL INSURANCE CO. (of St. Paul.)	DWELLING HOUSE UNDERWRITERS (N. Y.)
Assets, January 1st, 1879.....\$841,900	Assets, January 1st, 1879.....\$1,948,925
Surplus, as to policy holders.....\$561,172	Surplus, as to policy holders.....\$1,852,772
WATERTOWN FIRE INS. CO. (of New York.)	LA CONFIANCE INSURANCE CO. (of Paris.)
Assets, January 1st, 1879.....\$764,816	Capital and Assets.....\$5,329,321
Surplus, as to policy holders.....\$536,166	Surplus, as to policy holders.....\$2,265,112
HOME INSURANCE CO. (of Columbus, O.)	BERLIN-COLOGNE INS. CO. (of Berlin.)
Assets, January 1st, 1879.....\$271,271	Capital and Assets.....\$2,064,966
Surplus, as to policy holders.....\$253,681	
NEW ORLEANS INS. ASS'N (of New Orleans.)	
Assets, January 1st, 1879.....\$564,162	
Surplus, as to policy holders.....\$365,907	
PEOPLE'S INSURANCE CO. (of Newark.)	
Assets, January 1st, 1879.....\$503,040	
Surplus, as to policy holders.....\$358,207	

Cash Assets Represented, \$25,715,540.

HUTCHINSON & MANN, Gen'l Agents for the Pacific Coast.

W. L. CHALMER, Z. P. CLARK and J. C. STAPLES, Special Agents and Adjusters.

Baling Fencing Telegraph Telephone Galvanized WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.
SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,
Washington Corners, Alameda Co.

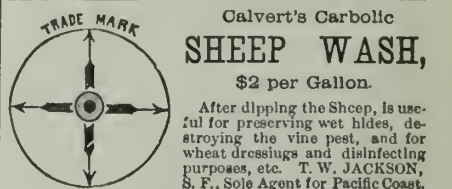
Dr. A. de Labrousse, VETERINARY SURGEON.

(Graduate of Alfort's College, Paris)

Blisters, Ointments, Blood Purifying and Restorative Powders and Medicines for horses, Cattle, Hogs and Sheep, sent on application. Cure guaranteed. Address, giving full particulars INFIRMARY and LABORATORY, 1125 Market St., S. F.

Calvert's Carbolic SHEEP WASH,
\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.



SADDLES, HARNESS, LEATHER, WHIPS.
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in ALL GOODS in this line.
Send for Catalogue.

MARBLE WORKS.

Monuments and Headstones

—IN—
Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. McCORMICK.
861 Market St., opposite Baldwin's Hotel.

This paper is printed with ink furnished by Chas. Ene Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorsey, 120 Sutter St., S. F.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.



Volume XX.]

SAN FRANCISCO, SATURDAY, JULY 17, 1880.

Number 3

Bermuda Grass.

We have had frequent notes during the last two years on the persistent Bermuda grass which is now growing in different parts of the State, and which it is next to impossible to eradicate when the roots have once taken hold upon the soil. In order that those who have never seen the plant may learn its appearance and manner of growth, we reproduce from the Report of the Department of Agriculture an engraving and descriptive notes:

Bermuda grass (*Cynodon dactylon*) is a low, creeping, perennial grass, with abundant short leaves at the base, sparingly sending up slender, nearly leafless flower stalks, with three to five slender, diverging spikes at the summit. The flowers are arranged in a close row along one side of these spikes. The spikelets are one-flowered, with a short pedicelled rudiment of a second flower. The glumes are pointed, but without awns; the lower palea boat-shaped.

This grass is a native of Europe, and is abundantly naturalized in many other countries. It is said to be a common pasture grass in the West Indies. In the Southern States it has long been the chief reliance for pasture, and has been extravagantly praised by some, and cursed by others, who find it difficult to eradicate it when once established. Its properties have been very fully discussed in Southern journals, particularly in the "Manual of Grasses," by Mr. C. W. Howard, and in the "Grasses of Tennessee," by Prof. Killebrew. Mr. C. Mohr says: "It thrives in the arid, barren drift sands of the sea-shore, covering them by its long, creeping stems, whose deeply penetrating roots impart firmness to a soil which else would remain devoid of vegetation. It is esteemed one of the most valuable of our grasses, either in the pasture or cured as hay." Col. T. C. Howard, of Georgia, says: "The desideratum to the South is a grass that is perennial, nutritious, and adapted to the climate. While we have grasses and forage plants that do well when nursed, we have few that live and thrive here as in their native habitat. The Bermuda and Crab grasses are at home in the South. They not only live, but live in spite of neglect, and when petted and encouraged they make such grateful returns as astonish the benefactor."

It seems that it rarely ripens any seed, and the usual method of reproduction is to chop up the roots with a cutting-knife, sow them broadcast, and plow under shallow. Col. Lane says: "Upon our ordinary upland I have found no difficulty in destroying it by close cultivation in cotton for two years. It requires a few extra plowings to get the sod thoroughly broken to pieces." Prof. Killebrew writes: "In Louisiana, Texas, and the South generally, it is, and has been, the chief reliance for pasture for a long time, and the immense herds of cattle on the Southern prairies subsist principally on this food. It revels on sandy soils, and has been grown extensively on the sandy hills of Virginia and North and South Carolina. It is used extensively on the Southern rivers to hold the levees and the embankments of the roads. It will throw its runners over a rock six feet across, and soon hide it from view, or it will run down the sides of the steepest gully, and stop its washing. Hogs thrive upon its succulent roots, and horses and cattle upon its foliage. It has the capacity to withstand any amount of beat and drouth, and months that are so dry as to check the growth of Blue grass will only make the Bermuda greener and more thrifty."

PERSONAL.—One of our publishers who has been pursuing health in the rich counties north of the bay, reports a pleasant meeting with Mrs. Julia H. S. Bugeia, a lady of wide accomplishments and literary fame, who is now living in a rural nook near the base of St. Helena. Mrs. Bugeia is a contributor to the *Californian* and other publications, and we are pleased to announce that she may be expected to enter the list of the *RURAL* contributors.

A GENEVA dispatch, July 11th, reports great alarm in western Switzerland, owing to the appearance of phylloxera in several parts of the canton of Vaud.

THE LARGE IN FARM MACHINERY.—The operations of Henry Dewey, of Plainsburg, Merced Co., give good illustrations of the large in farm machinery. Mr. Dewey has been increasing the size of his headers from year to year, until he is now using one which cuts a swath 34 ft. wide. This is without doubt the widest cut ever made by a piece of harvesting machinery.

A New Race of Pears.

The fact that our pear trees this year have shown themselves susceptible to the peculiar conditions which seem to be creeping into our climatology, will make our horticulturists more interested in the Eastern studies into the uncertainty of pear trees than they have been hitherto. This State has been regarded as a

summarize, as we believe they will be of general interest.

The Kieffers originated near Philadelphia from seed of the China sand pear, which is supposed to have been fertilized by the Bartlett or Flemish Beauty; but these are mere theories, as nothing authentic of this cross can be ascertained. All that is patent of this supposition is that the fruit, while retaining the peculiar brittle texture of the China sand, combines at the same time much juice and a well-marked musky aroma peculiar to the Bartlett, and a fine red cheek resembling the Flemish Beauty. Its shape is ovoid, and very much like the China sand; the color of the skin is yellow, with a bright vermilion cheek, and, unlike its parent, is smooth. In quality it is superior to the LeConte, and more attractive in appearance. Judging from a dozen specimens tested at various times, and coming from various sources, its size is, on an average, a little smaller. Taking the standard of the American Pomological Society as a base, LeConte would rank as good, and Kieffer as very good. In point of habit and vigor of growth, both rank as uncommonly strong and healthy growers, their foliage and general habit being quite alike. The Kieffer's leaves are a little more narrow.

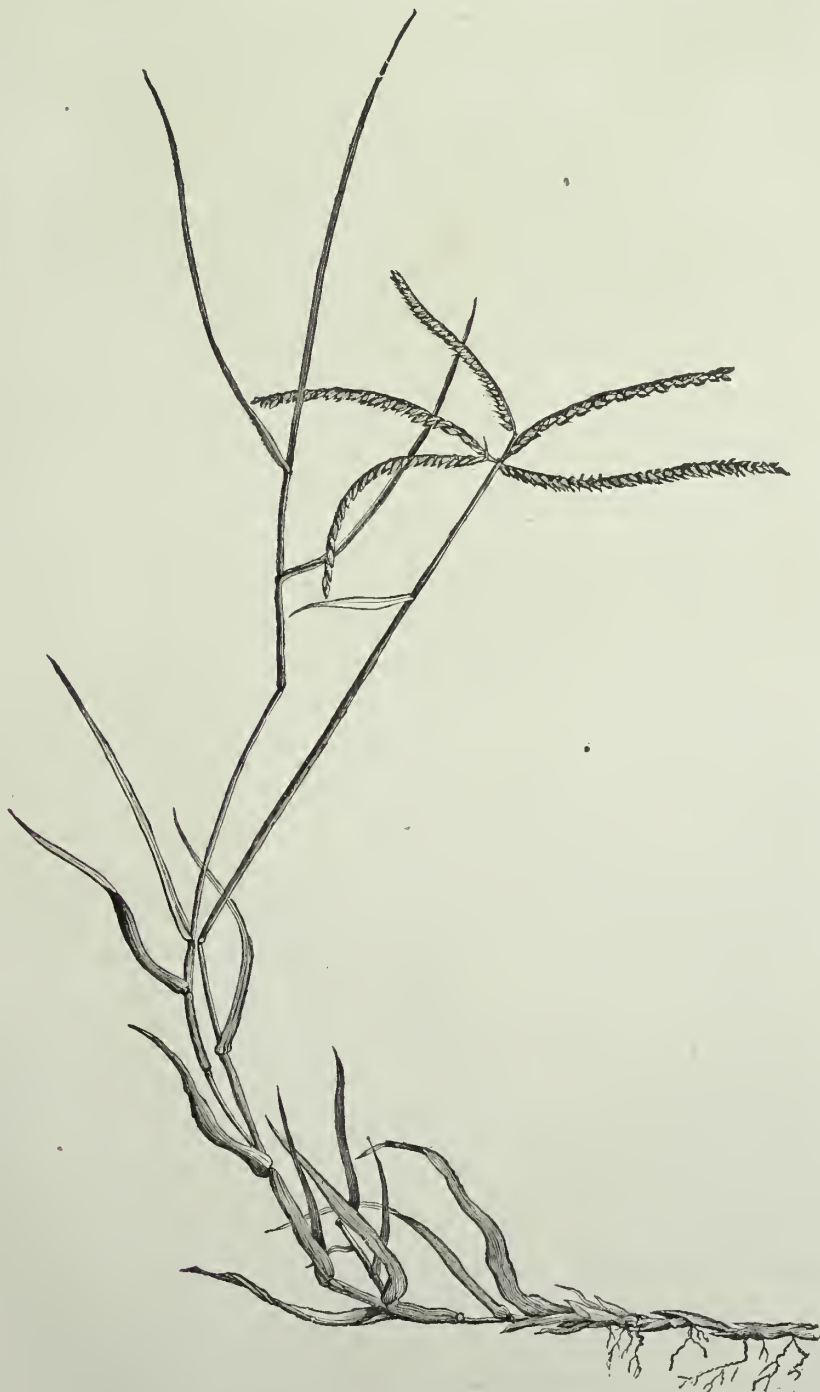
The origin of the LeConte is somewhat obscure. It may be a distinct Japanese variety, but the production of the Kieffer from seed of the China sand leads to the supposition that both have a similar origin, and are crosses between the old China sand and some cultivated varieties. Both varieties grow readily from cuttings, a peculiarity well defined in the parent; both also grow remarkably well upon quince. Their growth upon that stock seems to be fully equal to that of the standard, and, as demonstrated in several instances, fruit is produced the second year from the bud when worked upon quince stocks. These two varieties are, in our opinion, the pioneers of a new race of pears, which may, ere many years, change our present list of popular kinds. They possess the most remarkable vigor, and, so far as known, total freedom from blight. Our efforts to improve our pears should, in a great measure, be based upon this strain; no doubt many valuable seedlings will ensue from this race, as from the two varieties now introduced there is a tendency to variations.

In this connection it would, perhaps, not be uninteresting to mention a few varieties of pears lately introduced into America, but of Japanese and Chinese origin. While none of these varieties are, so far as fruited, of a quality that will admit them among our table sorts, yet they are wonderfully healthy and of robust growth, as well as prolific in fruit bearing. These varieties may be used in the production of seedlings, from which improved varieties will doubtless be derived. If, as is now well demonstrated, they are capable of crossing with our leading sorts, we may, in the near future, expect a new race of pears, combining excessive vigor of growth, freedom from blight, with great fertility and good quality of their products,—a consummation which would be of untold value to our fruit growers.

The Japanese varieties referred to are Daimyo, Mikado and Madam Von Siebold, all producing medium to large fruit of the type of the old China sand, and fit only for kitchen use. These fruits were illustrated in the *PRESS* of December 6, 1879, and January 10, 1880. The trees have already been introduced in this State, and our chance for developing something good from them is as good as our Eastern friends. The whole question promises to be one of great pomological interest.

GOOD NEWS.—A dispatch from Dublin, July 6th, conveys the cheering intelligence that the weather all over Ireland, up to the present time, has been most favorable for the crops. It is expected that the crop of potatoes will be enormous; indeed, it gives full promise of exceeding any crop of potatoes seen in Ireland since a period anterior to the blighting famine of 1847. The crops of cereals and of roots generally are also said to be luxuriant. Even the meadows, which alone were backward, have been quickened by generous rains, and give promise of a fine yield.

News has been received from the west coast of Africa that trade has been greatly interfered with by the withdrawal from circulation on the gold coast of all American dollars.



BERMUDA GRASS—(*Cynodon dactylon*).

Such machines, of course, only have their special adaptations, but in Mr. Dewey's case there is apparently a good profit in them. He is a mechanical genius as well as a farmer, and his machines, harness, etc., are made upon the ranch. We hear also that a canvas-sided dining-room wagon for threshers has been lately constructed in Mr. Dewey's shops. Another portable concern is a horse-feed car for 30 horses with boxes around the outside for feeding grain, and a rick for feeding hay.

THE President has appointed Orange Judd of New York, of the *American Agriculturist*, to be a member of the Board of Indian Commissioners.

sort of a pear paradise, into which no thought of evil could enter. This year's partial failure of the pear crop invites a review and revision of former judgments.

We gave some months ago engravings of Chinese and Japanese pears, and one of the prominent hybrids produced therefrom by Eastern propagators. It was stated at that time that the hope of the East was to produce from these Asiatic varieties some new pears which would be more hardy, more productive and free from the diseases which attack the pear race which has hitherto been propagated in this country. This use of the Asiatic trees seems to be gaining ground at the East. Mr. Berckmans, the well-known Georgia propagator, has recently published his opinions on the subject, which we

THE VINEYARD.

Mr. L. J. Rose's Wine Grapes.

Mr. L. J. Rose, the well-known viniculturist of Los Angeles, gives the *Herald* of that city an account of his experience, the chief idea being to show the superiority of some imported grapes over the old Mission variety for wine making. He concludes with descriptions of some of the varieties he prefers and which largely comprise his vineyard stock. He mentions the Zinfandel which is quite generally known, and then describes others which are but little known in this State. We quote the latter parts for the information of our readers:

I will give you a description of some new varieties of grapes which I have grown for some years and which have special adaptabilities for special kinds of wine, all being heavy producers. They will, too, bear younger than the Mission, and, ripening early, they lengthen out the season for wine making, which is an item of much importance in itself.

Blaue Elba.

Bunches medium length and size, shouldered and about as compact as the Mission. Berries round, inclined in some specimens to oval. Skin thin, dark purple, with heavy bloom. Juice sub-acid and pleasant, and a pleasant, piquant flavored table grape.

It is a vigorous grower, and the young wood has a very clean, pleasing, red look, which distinguishes it even at a distance. It is a regular and heavy bearer, free from all diseases, and standing drouth remarkably well. It makes a white wine of some body, perhaps in that respect similar to the Reisling, but carries too much tartar, and is much like the celebrated Hock "Liebfrauenmilch" of the Germans. It is a white wine of the highest bouquet and quality, and is admired and is a favorite with every white-wine drinker. It is pronounced the equal, by all German connoisseurs, of the better qualities of Rhine wine; and it is believed by many of these that, if shipped to Germany, it would command a sufficient price to pay for producing and shipping. It will, too, make a brandy of the highest bouquet.

This grape was introduced by Jacob Keller (now dead), of Anaheim, who brought it from Germany. He gave me a small lot of cuttings which, from year to year, I increased, until now it is the leading variety in my vineyard. It has, too, been tried for some years in my neighborhood, and all who have planted it join in its praise for thrift and productiveness.

It makes a red press wine which, however, is inferior, yet which is better than the Mission red wine. Since Mr. Keller's death this grape has been lost sight of and is scarcely known there.

Berger.

Bunches long, large, shouldered and very compact; berries round, fair size, skin thin greenish yellow, with some bloom. Juice acid and the poorest table grape as yet tried by me, of all the foreign grapes. It is a vigorous grower, and the leaves are large with white cotton down on the under side. I believe it to be the heaviest bearer of all the grapes and think it doubles the production of the Mission. It is, however, a matter of doubt with me whether it would do on low localities; for the bunches being so compact, in wet places it would be almost sure to rot and mildew. It makes, to my mind, the most pleasant light table wine in California, being more of the character of German Sauterne than any other wine. This wine is used one-third, and two-thirds Zinfandel, to make the best of Haraszthy's champagne. I believe it especially adapted for this country, for our table lands. It was introduced to Anaheim from Germany and Berger is the German name. I am inclined to the belief that it is the same grape as that known in France as Fole Blanche, for it is identical with the description of that grape there. The Fole Blanche is used in France almost entirely as a brandy grape, making the celebrated cognacs. It has too much acidity there; and makes, in consequence, an inferior wine; whereas, with our perpetual sunshine, the grape attains a fuller maturity and makes a wine that, for a light wine for daily drinking, has no equal, to my taste. This shows that we can only find by experimenting what grape is best for our locality, for what may be worthless in a wet, cold locality, in our dry and warm climate will give entirely different results.

Burgundy.

Gen. Naglee, of San Jose, introduced from France the Charbonneux and Trouseaux. These are mixed together and both belong to the Pinean family of grapes. Here in California they have acquired the general name of Burgundy, probably from the fact that they come from that district, and are used to make that celebrated wine. The two varieties of grapes are so much alike in wood, foliage and fruit that I for a long time believed them to be one variety, until, some years ago, the bees taught me the difference between them, for they would make their attack on one vine and another vine by its side they would not touch. I then found, by tasting, one much sweeter than the other. The grapes of either are small, very black, small bunches, the leaf but little lobed or serrated, and round, much like some of our wild grapes, grown in this neighborhood. It has a great many bunches and is a heavy bearer. Gen. Naglee assured me that the year I was there they had averaged 33 pounds to the vine, and it is from this grape that he makes his best

brandy. He also told me it made a very superior black (he named it) wine. I have not tried it sufficiently here to speak with certainty about the quality of the wine, but I know it is a heavier bearer and believe it will make the best heavy red wine (Burgundy) in the State. As yet it is not generally introduced in this State, it being confined to San Jose and Santa Clara county, but such wine as has reached the San Francisco market has been pronounced the best red wine in the State. I have not had it long enough, or in sufficient quantity to make wine from it, except in an experimental way. I believe in it. It is a fair eating grape.

I could add Muscat of Alexandria, which, I am inclined to think, will make a popular brandy, and West St. Peter's, which is said to be the best sherry grape as yet tried in California.

Tuolumne and the Grape Interest.

EDITORS PRESS:—As the season advances we gain a better idea regarding cereal and fruit crops. From observations made by farmers, I should judge that the grain crop is really better than appearances indicated a few weeks ago, both in quantity and quality. Of course some sections may be the reverse, but when the sum total shall be told, the result will astonish the faithless. In fruit, the only full crop amongst the foothills will be grapes and figs. The apple shows signs of the "coddling moth." As Mr. Winchester remarked in his last letter: "The worm is doing a splendid business amongst the apples." The grape crop is really good, only we amongst the foothills neglect this branch of horticulture. A tourist from Napa remarked, a few days ago, that everywhere he met with neglected vineyards. While grape fields in Napa are worth \$300 per acre, and cultivated artistically, land in these foothills, capable of raising the best of grapes and abundant crops, is almost worthless for lack of enterprise and cultivation. Now how is this? There must be a cause. Some say: "Too much alcohol;" others that it does not pay to make wine; while others lay blame to irrigation. A little of each may be mixed in with the present apathy. But I believe that the real cause lies in the fact, that the best locations for grape-growing and orchards generally, are held by men the very least adapted for such a business. Some wine company will find it for their interest in the near future to make purchases of choice locations, and commence the cultivation of the wine and raisin grape on an extensive scale. The present population will never move in the matter, except in rare instances, not having capital or ambition sufficient for success, both of which are necessary.

This friend gave such a glowing account of the business in Napa and Sonoma counties that I began to think that the foothills were surely asleep in this progressive age. We can successfully compete with the above counties in raising a superior quality of fruit. Why should we not try for quantity? How soon our mountain and valley lands would rise in value if once farmed for their excellence in wine and raisin culture. Instead of \$4 (present average) per acre, it would soon reach \$400 where irrigation was plentiful and convenient.

There is a science in wine-making, and that science we are strangers to. We require some of the Sonoma and Napa experts to settle amongst us. It would give an impetus to the business and prosperity to the county. A large manufactory might even now be established, as grapes can be bought from \$10 to \$15 per ton—so I am informed by a party who has sold at the above lowest figure. Lands to be valuable must be made so. Nothing will enhance these foothill valleys so rapidly as grape and fruit culture. Wine will be sought for in California in years to come, same as France in the past. Why not prepare for the harvest which is sure to follow the failures of Europe? I am not an advocate of wine-drinking as a beverage; medicinally it is good; and if wine is to be used, let that wine be pure and good.

Raisin culture requires less capital than wine making; hence our county produces a fair showing in quantity and quality. John Purvis, Goodwin, Quinn, Jarvis, Parsons and others are noted for producing a superior article. I have dwelt on this branch of business more than usual. By comparison I find that we are far behind the bay counties, while we have within ourselves every element of success. Wine manufacturers should make us a visit to find out our natural resources. JOHN TAYLOR.

Mount Pleasant, July 7, 1880.

PUBLIC LAND SURVEYS.—On the last day of June the Commissioner of the General Land Office, with the approval of Secretary Schurz, made the following apportionment of the sum of \$300,000 appropriated by Congress for surveys of the public land under the fiscal year, which began July 1st: To Arizona, \$10,000; California, \$35,000; Colorado, \$30,000; Dakota, \$30,000; Florida, \$8,000; Idaho, \$12,000; Louisiana, \$12,000; Minnesota, \$16,000; Montana, \$15,000; Nebraska and Iowa, \$15,000; Nevada, \$12,000; New Mexico, \$12,000; Oregon, \$16,000; Utah, \$12,000; Washington, \$16,000; Wyoming, \$10,000; leaving \$39,000 to be used according to the exigencies of the service during the fiscal year.

SULPHUR crystals may be obtained by dissolving sulphur in hot concentrated acetic acid, and evaporating the solution at ordinary temperature.

FLORICULTURE.

Ferns of Southern California.

The southernmost part of California possesses a great diversity of climate. There are low hills whose sunny recesses are unvisited by frost, and mountain peaks 12,000 ft. high, whose summits are white with snow till late in the summer. The waters which descend from the western slope of these mountains find their way through steep and wooded canyons, abounding in water-falls, to fertile valleys; on the eastern side the scanty streams wind through barren hills, and hardly reach the edge of the thirsty desert whose lowest part is 70 ft. beneath the sea level.

These varied conditions of heat and cold, of moisture and dryness, favor the production of a widely varied flora, extending from the pine and the oak to the palm, the agave and the cactus. From the same causes, there are to be found grouped together in the same natural order, plants which require very different conditions for their growth, as is well seen in the great number and variety of the native ferns. In rapidly passing these in review, it is not proposed to enter into any scientific description, but mainly to give a few notes concerning their manner and places of growth, and their general appearance. If we enter one of the many ravines, or canyons which cut the mountain sides, we soon see some sunny or half shaded bank thinly covered with the common brake, *Pteris aquilina*, var. *lanuginosa*; but even higher up in the mountains it does not show the size and luxuriance it attains in more northern climates. On drier and poorer soil are found the scattered tufts of the Bird Rock-brake (*Pellaea ornithopus*), its roots often hidden under a stone or sheltered by the heath-like chimizo bushes, but its stiff fronds thrust out to the sunshine. While young it is graceful, and of a soft glaucous green, but it is soon scorched to a dull olive color, and to a rigidity not at all in accordance with the grace looked for in a fern. Higher up in the hills there is to be found in a few places the rare *Pellaea Wrightiana*, so like in appearance to the Bird Rock-brake that a close examination is needed to detect the botanical characters which distinguish them. It has, perhaps, a somewhat more elegant appearance than its commoner relative, as it stands shouldering up against a half-buried boulder, and looking like a bunch of little dingy pine twigs. Both of these ferns when cultivated in the shade, acquire a brighter color, and a more graceful manner of growth than they have in their native homes. But before going so high up, let us look for a handsomer member of this genus, *Pellaea andromedaefolia*. It is to be sought in places partially shaded and not entirely dry, although it is by no means notional, and will grow under almost any conditions. In cultivation it is very satisfactory, doing well either in the house, or out in the sun among the smaller border plants. Its few long and branching fronds are gracefully curved, or, in the shade, drooping, and the small ovate pinnules, although thick in texture, are of a pleasing green, or sometimes of quite a bright purple. Growing in the same places, is the California Polypod, *Polypodium Californicum*, its single deeply pinnatifid frond illuminated on the back with rows of bright golden fruit dots. It is a winter grower, shooting up with wonderful rapidity after the first rains, and withering when the moisture fails in the summer. It is a very easy and good fern for house cultivation. In the same places, but loving a little more sunshine, is seen the *Gymnogramme triangularis*, its polished brown stipes supporting handsome triangular fronds, the backs of which are covered with the bright yellow powder from which it gets its name of Gold Fern. Nearer the coast, and on the edge of the desert, they are found coated with a shining white powder, and are then called Silver Ferns, but botanists do not recognize them as distinct varieties.

By this time we have ascended the ravine far enough to find a few oaks and pines on the steep sides, mingling their shade with that of the alders and cottonwood which border the stream. Here and there on these acclivities are seen the sturdy clumps of two shield ferns, *Aspidium rigidum* var. *argutum* and *A. munitum*. Both of them prefer a gravelly soil, and, although requiring very little moisture, keep bright and fresh the whole year. The ample, wide-based bipinnate fronds of the former are usually strongly curving, and about three ft. in length; the other is of the same height, but more rigid in habit, and its narrow lanceolate fronds are simply pinnate, with auricled leaflets. High in the mountains has been found a rare variety of this fern (*A. munitum* var. *imbricans*).

Our canyon now becomes narrower, and shut in by high rock walls, and we come to a place where the little stream leaps down a precipice 50 or even 100 ft. high; the thick pines help to shut out the rays of the sun, and the water broken into spray, drenches the rocks with a perpetual mist, and maintains a refreshing coolness. Look up and see how the whole face of the cliff is fluttering with feathery maiden hair. Every crevice is full of them; here is *Adiantum pedatum*,* its shaft of shining ebony bearing aloft a broad crescent frond of the most

delicate texture and color; here *A. emarginatum* and *A. Cappillus-veneris* wear their long drooping plumes, and with them are mingled the beautiful *Cystopteris fragilis*, its fronds of tender green, set off with black fruit dots, and sporting into an infinite variety of form. A little away from the mist of the fall the majestic Woodwardia (*W. radicans* var. *Americana*) curves its grand fronds and dips them into the pool below. These are five or six, and even ten ft. in length, and have a tropical luxuriance that forms a beautiful contrast to the grace of the delicate ferns above.

If we climb around the falls and follow our stream to its source, we will find, rooted in the miry black soil, the handsome Lady Fern (*Asplenium Filix-femina*), so widely distributed through the country. Not so high up there is occasionally found another Spleenwort (*A. Trichomanes* var. *incisum*), its small dark green pinnate fronds clustered at the base of some dry crag. It is quite rare.

The ferns already mentioned, except those noted as rare, are very generally distributed, and may be confidently sought whenever there is found the conditions suited to their growth. But there are others more restricted in their distribution, and some are even confined to a single tract a few acres in extent. They belong to the drouth-resisting genera *Cheilanthes* and *Northolena*, which in summer become entirely dry, their curious fronds rolled up into compact balls, and showing the colored powders, the scales, or the felted hairs of the different species. But although so dry that they crumble in the fingers, and the roots snap like dry twigs, yet they are not dead, and at the first shower the old fronds unroll bright and fresh, and new ones begin to push up around them. The writer has taken them up when in the dry stage and kept them hanging in an open shed for six months, and when planted they started into vigorous growth.

One of the commonest of them is *Cheilanthes Fendleri*; its lanceolate frond, six or eight inches long by two wide, is subdivided into minute segments, bright green on the face, and on the back covered with an abundant coating of chaffy scales, white on the young fronds, and passing through different shades of brown until it becomes ashy-gray on the old ones. In some places it is quite abundant, growing in the crevices of partially shaded rocks. Nearer the sea coast there are two somewhat similar species, *C. myriophylla* and *C. Clevelandii*. There also grows the most beautiful of the genus, the Lace Fern (*C. Californica*), whose well proportioned triangular frond, supported on a polished brown stipe, is divided and subdivided into thread-like segments. It is remarkable in being quite free from the hairs or other appendages so common in members of this genus. On our small hills, *Cheilanthes Cooperi* hides itself from the sun at the bottom of deep fissures in the rocks. It is a delicate fern, seldom six inches high, and the fronds have on both sides a light coat of fine long hairs. Still rarer, perhaps the rarest of all North American ferns, is *Cheilanthes viscida*. It grows, but not at all abundantly, in a few rocky ravines near the mouth of the Arroyo Blanco, a little stream that loses itself in the desert. It clings to seams in the rocks, in positions entirely shielded from the sunshine. Its fronds are almost as finely divided as those of the Lace Fern, but are narrowly lanceolate in outline, and about six by one and a half inches. They are covered with a viscid secretion, so abundant as to cause them to strongly adhere to the paper when drying them.

On all the mountain slopes of this desert region, there is an abundant growth of the pretty little *Notholena candida*. Its elegant triangular frond is subdivided into numerous, closely set pinnules, and the white powder that is lightly dusted over the frond is more abundant around the edges of them, so that they are set off with a faint silvery border; on the reverse, this powder is very plentiful, and in the successive phases of growth, changes from white to yellow, and then brown, and is finally hidden by the rich chocolate of the spore cases. When seen in the summer time closely rolled up, and projected in serrated lines from the narrow cracks in which they are rooted, they look like rows of little white and brown fists thrust out in the face of the sun; for they choose a place exposed to the fullest rigor of his glare, and flourish on bare rocks that become uncomfortably warm to the hand. Yet they are the easiest to cultivate of all the genus, and if kept moist will remain expanded all the year. In the same neighborhood there is a plentiful supply of *Notholena Parryi*, a curious little fern, clothed above and beneath with a close felt of fine, long hairs, white in the young growth, and light brown in age. Its favorite place is the shady side of a large, firmly-bedded boulder, but it sometimes grows on the shady side of a rocky bluff. The closely related Cottony Fern (*N. Newberryi*), has the same preferences, but finds them in a different region, the dry hills south of the Santa Ana river. It bears a general resemblance to Parry's Fern, but is a little larger (six by one and a half inches); and the tomentum, which exhibits nearly the same range of color, is of a different nature, having in the former a kind of wood-like appearance, while that of the present one resembles cotton. It is especially pleasing in early spring, when the milk-white young fronds curl about the bases of the rough stones in a charmingly graceful manner.

Besides the ferns already mentioned, *Cryptogramme achrostichoides* has been found in this region, and last year added *Woodia Oregana*; but as the writer has not yet had the good fortune to see them growing, he can only add their names to complete the list.

*This fern is sometimes said to be deciduous, but it seems with us to be evergreen.

[CONTINUED ON PAGE 42.]

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department.

The Mythical History of Ceres, Pomona and Flora.

[Written for RURAL PRESS by D. M. S.]

Belief is an excellent thing to lay upon the altars of the musty past; so I would gladly believe the heathen story of these goddess patrons of grain, fruit and flowers. I am quite willing to accept all that is supernatural in the ancient pagan account of the three feminine deities. I must confess to a little curiosity in the matter of mythical lore, which led me to look up the origin of the fanciful personages that agriculturists have ever delighted to honor.

Mount Olympus, in Macedonia, is famous as the residence of the most distinguished of the celestial deities, and the clouds which concealed the summit of this mountain were believed to hide the entrance to heaven. There must have been some communication between the two worlds, else how could all those gods and goddesses troop back and forth at their own sweet will. Ceres, the most celebrated of the trio—the goddess of grain and harvest among the Greeks and Romans—dwelt for a time upon this terrestrial elevation. She was the daughter of Saturn and Rhea. Her father was the son of Heaven and Earth—one of the oldest and principal deities, and the sire, also, of Jupiter, Pluto and Neptune. Having considered the ancestry, I am sorry to be obliged to record that the family connections of the ancient damo were considerably mixed. Even Mormonism, in the 19th century, furnishes no parallel case of doubled and twisted relationship. Her husband, Jupiter, and her son-in-law, Pluto, were her brothers. This masterful Jupiter had de-throned his own and her father, and obtained the empire of the universe, which he condescended to share with his brothers, Neptune and Pluto. He was the mightiest of all the Greek and Roman gods—the supreme deity. He was a much-married god, and Ceres was the fourth of his seven wives. He should have been a canonized saint, instead of a heathen god, after all these matrimonial ventures. Juno, his seventh and last wife, presided over marriages, and was supposed to afford protection to married women. I suspect that the pagan mind inclined to the belief that the wedded sisterhood were in need of protection, but whether from their own husbands or from other women's husbands, is not stated.

In her maternal instincts, Ceres resembled the mothers of the present time. She did not favor Pluto's wooing; and her family troubles commenced with the abduction of her daughter, Proserpine, by this same god, with the knowledge and connivance of Jupiter. It is no wonder that poor Ceres was disgusted with the gods, and quite willing to abandon their abode. Like a devoted mother, she followed her child to the earth, where she established her seats of worship in Rome, Attica, Arcadia and Sicily, and was adored under the name of Demeter. Her great festivals, in Greece, were the Thesmophoria and Eleusinia. The rites and mysteries of the latter, she shared with her beloved daughter. Her Roman festival was called the Cerealia.

Pluto forcibly carried off Proserpine to Hades, where she became queen of the infernal regions. It is evident that Ceres did not feel honored by this new dignity conferred upon her daughter. She proceeded to argue the case with impetuous Pluto, and persuaded him to consent to Proserpine's spending part of every year with her in the upper world. Hence, she too became a symbol of vegetation. Pluto, whom Homer called Hades, continued to be the god of the lower world.

Ceres finally returned to her mountain; but her Jupiter had consoled himself with another spouse. In her earthly wanderings in search of Proserpine, she had conferred presents and blessings upon all who received her kindly, which shows that she was a grateful creature. There was also a spice of vindictiveness in her character; for on those who slighted her gifts and treated her inhospitably, she inflicted severe punishment. She has been represented in a variety of attitudes, sitting, walking and sometimes riding in a chariot drawn by horses or dragons. She made herself fantastic, and perhaps bewitching, with a head-gear composed of garlands of corn and bands of ribbon. In her hand she carried a scepter, a bunch of corn, a poppy flower, and sometimes a torch or mystic basket. It is related of Ceres, that she occasionally sought forgetfulness from her sorrows and family afflictions in soothing drops, from the seeds of her favorite white poppy. She should be pardoned for wishing to forget such a history.

Pomona, the goddess of fruit trees and gardens, also has her mythological story. She was a married woman, and had her temple in Rome, in partnership with a priest. I have never heard whether it was the honors or the fruits which they divided between them. Their temple was called *flamen Pomonalis*. Her husband, Vertumnus, was of divine origin, and presided over the seasons, and the blossoming and hearing of trees and plants. In their pursuits there must have been a congeniality of spirit and com-

munity of interests. No domestic infelicity disgraces this pagan romance. It may be presumed that they were a lovely and exemplary couple. Pomona's husband, Vertumnus, was a Sabine divinity. He belonged to an ancient people in Italy, who were conspicuous in the legends and history of Rome. His festival day came upon the 23d of August, and was called the Vertumnalia.

Flora is the last, loveliest and least known or mentioned of the feminine deities. She stands the Roman goddess of spring and flowers, too sweet and pure for mortal experiences. She is no myth, but a beautiful reality. There is no place for scepticism concerning her origin and mission. The last three days of April were her festival days in the olden time. Every day in the year might be her festival day in California.

San Luis Obispo, Cal.

Visits of the Worthy Master.

Amos Adams, Sec'y State Grange, makes the following announcement in the *Patron*: The W. M. of the State Grange, Bro. B. R. Spilman, who has devoted himself so uselessly for the last two months to the work of the Order of which he is the official head in this State, has yielded to the solicitations of many friends of the Order and consented to devote most of the time up to the meeting of the State Grange (which takes place on the first Tuesday in October) in visiting the Subordinate Granges. I repeat the suggestion made in the announcement of the last series of meetings: That a closed meeting of the Grange be held at 10 o'clock A. M., Harvest Feast at 12 M., and an open meeting in the afternoon. Meetings will be held as follows:

Petaluma, Tuesday, July 20th.
Two Rock, Wednesday, July 21st.
Santa Rosa, Thursday, July 22d.
Healdsburg, Saturday, July 24th.

THE REVISED MANUAL.—W. M. Ireland, Sec'y of the National Grange, No. 602 D street, Washington City, D. C., announces as follows: In compliance with the instructions of the National Grange, given at Canandaigua, N. Y., November 28, 1879 (see page 140, Proceedings Thirtieth Session), the Executive Committee has had printed the Revised Manual, which is now the "authoritative and official Manual of the Order," and has placed the same in the hands of the Sec'y for issue to Granges. The following prices have been fixed for this Manual: \$14 per hundred copies; \$1.75 per dozen copies, and 25 cents each for less than one dozen. Unless orders are given to the contrary, the books will be shipped by express, the party ordering to pay the cost. If so desired, the books will be sent by mail, registered, in which case the postage and registration fee must accompany the order. The postage on 12 copies is 18 cents, and, with 10 cents additional for registration, the cost of mailing is 28 cents. In no case will a Manual be sold to an individual; and all orders for them must bear the seal of the Grange, whether State or Subordinate, for which it is ordered.

THE COLLISION ON THE SOUND.—One of the theories of the cause of the fatal collision of the steamers *Narragansett* and *Stonington* on Long Island sound recently, is that the meaning of one of the prescribed signals was misunderstood. The provision of law is that when two vessels are approaching each other each shall pass to the right, giving as a signal that they will take that course one blast of the whistle; and if, for any cause, either shall desire to pass to the left, it must signal by two short blasts in quick succession. The inspectors have received information that the *Narragansett*, when in the fog at the time of the disaster, blew her whistle continuously at intervals of half a minute, and that this prescribed fog signal was mistaken by the *Stonington* to mean that the *Narragansett*, which could not be seen at the time, meant to her left. If these statements are true they will explain in part the cause of the fatal blunder. Referring to this disaster, the New York *Mail* makes these pertinent suggestions: "The crash of the *Stonington* and *Narragansett* was followed by an outburst of flames which forced the bewildered passengers into the water almost without time to secure life-preservers. Had there been no fire the passengers could have been removed in the life-boats and there might have been no loss of life. The fire was caused by gas. Is gas a safe illuminator for passenger vessels? That question is worth consideration by travelers and by owners of steamboats. Let the latter inquire whether it is not possible to adopt a generator which will both furnish their vessels with electric headlights, and illuminate the cabins with a light which will be perfectly safe."

THE WASHINGTON MONUMENT.—We unfortunately omitted to say in our notice of the design for a National Washington Monument, which appeared in our issue of July 3d, that the design was the work of a Californian, Mr. Frank Mathews, of Oakland, a young man who makes architectural drafting his specialty, and whose work appears on the pages of the *California Illustrated News*. We intended to have used with the engraving Mr. Mathews' explanation of the several features of his design, but unfortunately the manuscript was not available at the time the cut was used. We trust this statement will aid our readers in giving credit where credit is due.

AGRICULTURAL NOTES.

CALIFORNIA.

CONTRA COSTA.

FINE GRAIN.—Antioch *Ledger*, July 10: We have received from a gentleman who recently made a visit to Ygnacio valley, several samples of wheat which indicate that farmers in that section of the county have been particularly fortunate in that their fields escaped the blighting effects of the hot northers which occasioned so much damage in many portions of the State, and especially in the San Joaquin and Sacramento valleys. The samples of grain received were from the farms of Isaac J. Smith, Munson Gregory and R. S. Potwin, well-known and prosperous farmers who have been residents of that valley many years. Our informant says that hundreds of acres of wheat stand five ft. in height and some fields even better, with long, well filled heads, the kernel being plump and beyond danger. The grain in that section is not as forward as on this side the Diablo hills. Figs, nectarines, olives, peaches, and other varieties of fruit grow to perfection in Ygnacio valley and are plentiful on the Smith and Gregory ranches. We have never seen finer specimens of wheat than those received, as above mentioned.

DEL NORTE.

FRUIT.—*Courier*, June 30: A few weeks ago fruit prospects in this county never seemed more favorable. The trees were covered with blossoms, which in due time were shed, leaving the young fruit looking well. But, being visited by a few seemingly light frosts, they probably had the effect of deadening much of the young fruit, and thus making the present outlook very unfavorable for a large amount of fruit. This is particularly the case with apples, but perhaps when they become larger they will look thicker upon the trees, and after all this will be a better year for fruit than is now hoped.

EL DORADO.

NEW WINERY.—*Republican*, July 8: J. H. Carroll & Co. are about to build an extensive winery at Shingle Springs, to be completed in time for this season's crop. The building is to be 40x80, three stories high, with a capacity to work up all the grapes that may be offered. This will be good news to our grape producers, as it will make a ready cash market for their product at the very highest market rates, there being no middle man in the transaction.

FRESNO.

NEW WHEAT.—*Republican*, July 11: We were a few days ago shown a few heads of White Australian wheat, grown on the San Joaquin river bottom land, about 12 miles above the railroad bridge, by W. J. McNeill. The grain came up in a field of Propo wheat, and every head has been carefully gathered for seed. They are from 6 to 9 inches in length, the kernels growing in small leaf-like meshes arranged regularly on the two sides of the stem, each mesh containing from 6 to 10 kernels of wheat. Single heads have yielded over 160 kernels of large, beautiful wheat. Mr. McNeill prizes his accidental find highly, and anticipates a new departure in wheat culture in this county.

CANES.—Mr. Geo. H. Eggers, of the noted Eggers rancho, brought to town this week some samples of Sandwich Island sugar cane, which he is cultivating in considerable quantity as an experiment and test of its adaptability and profitability in this locality. The growth of this cane does not seem to be rapid enough to be entirely satisfactory, although there is plenty of time yet for it to fully mature. Mr. E. also exhibited several canes of the amber variety, which has made a wonderful growth, the canes all over the fields reaching a height of over 12 ft., and the yield of tons per acre of canes promises to be enormous. Messrs. Eggers & Co. propose to fully test the practicability of its culture, and also the growing of hemp. Of the latter, a small patch was planted this spring, which is now maturing and is pronounced equal in fiber to the best imported article.

KERN.

IRRIGATION.—*Kern County Californian*, July 10: Mr. J. D. Schuyler, of the State Engineer Department, whose official duties have required him to examine irrigation works in various other localities of California, expresses the opinion that in many respects the canals and methods of irrigation of Kern valley are decidedly superior. He says that the canals have generally been constructed at less cost per acre irrigated than in other parts of the State, and that irrigation is conducted with more exact system than in most districts he has visited. This is particularly the case on the new works constructed on the north side of the river. In the economical use of water, Mr. Schuyler says there is no section to compare with this except Los Angeles and San Bernardino counties, where the soil naturally requires less, and where the scarcity of water compels the irrigator to use it frugally.

WEEDS AND IRRIGATION DITCHES.—It must be admitted that there are some drawbacks in an irrigated country, and one of the most serious is the transportation and distribution of the seeds of weeds by the canals. A man may have his land ever so free from weeds, but when he irrigates he is sure to get a fresh seeding. The bad effect of this is seen in many otherwise promising grain fields, where the weeds have almost taken possession, and tower above the grain. There should be stringent regulations

requiring canal companies to clear the banks of their canals, for some distance back, of all weeds, willows included. By sowing and irrigating early the difficulty can be partially overcome, as the grain can thus get a start before the weeds and maintain its prestige through the season.

COTTON GROWING.—All experiments that have ever been tried in Kern county have amply demonstrated that the soil and climate of this valley is perfectly adapted to the successful growth of cotton, that great staple upon which the wealth and prosperity of the Southern States depend. Some 30 acres of cotton have been planted at Haggins & Carr's Poso ranch this year, and it is looking as well as possible. On the Belle View ranch quite a large tract has been planted in cotton, but the army worm has damaged it there to some extent. With irrigating ditches, however, it is always possible to head off the army worm.

LOS ANGELES.

NEW DAIRY HOUSE.—*Express*: The most striking feature of the dairy ranch of F. S. Clough, in San Mateo canyon, is the new dairy house which Mr. Clough recently completed at a cost of \$1,500. It is 18x36 ft. in ground dimensions, finished externally in rustic style, and inside is as trim and cleanly as the thrifty house-wife's "best room." The hutter-room, an apartment 10x15 ft. in dimensions, is carpeted (!) and as inviting as a parlor. The apparatus for handling the milk and making the butter is complete in every detail, and is designed throughout for the saving of labor. A receiving vessel, fitted with a strainer, is located in the milking yard, and this communicates by a pipe with the dairy house. The milkers pour their milk into this receiver and that is the end of their duties. The milk passes down through the pipe to a 200 gallon tank in the dairy house, whence it is drawn by the dairymen, undergoing, meanwhile, a second straining process. It is then placed in pans to cool and raise the cream. Water is brought in pipes through the house from a mountain spring. The churn holds 52 gallons of cream and turns out from 100 to 120 lbs. of butter at each churning. It is worked by goat-power, the appliance being a treading wheel 18 ft. in diameter, which connects with and operates a shaft running into the dairy house, and this in turn connecting with cog-wheels working the dashers. Mr. Gow says that the goats, in operating the wheel, indulge their natural propensity for climbing, and they apply themselves to the work with great gusto. The herd consists of some 8 or 10 animals, ranging from the grandmother and old Billy with the whiskers down to the youngling not over a foot high. When released from their pen they one and all, great and small, run hleating for the wheel, and the only trouble to contend with thereafter is the excess of power which they are apt to give it in the course of their frolicsome gambols.

THE SUGAR-BEET CROP.—Mr. Genuett informs us that the sugar-beet crop will be harvested at the end of this month. It is maturing now very rapidly and the beets are developing into great proportions. The analysis of the specimens brought to his laboratory a few weeks ago showed that they contained a very satisfactory percentage of sugar. The average yield of Nadeau's 700 acres of beets near Florence will be about 15 tons to the acre. There has been some damage done to the crop by gophers, but not to any serious extent. The sugarie will be ready for the beets as soon as they are harvested. The machinery is all in place, and the finishing touches are being put to the building.

MARIN.

NEW WHARF.—*Journal* July 8: The dairy-men of Point Reyes, in the vicinity of the "Chicken Ranch," turned out in large numbers with their horse and ox teams a short time ago, and in one day built a good substantial wharf at the landing, much to the joy of the men who do the freighting between the Point and San Francisco. The vessels were away at the time and all hands were agreeably surprised on their arrival back from the city.

NAPA.

A PROLIFIC CHERRY ORCHARD.—*Register*, July 10: The largest cherry orchard in this valley, now in bearing, owned by W. H. Chapman, and situated one mile west of the Court House, is also the most productive, and cannot be excelled by any in the State. The orchard consists of three acres of fine healthy trees, planted 20 ft. apart in a light, loamy and very deep soil, in a bend of Napa creek. Many of the trees are 15 years old. The principal varieties raised are Black Tartarians, Bigarreans and Pontiacs. The former is in greater demand as table fruit, always commanding good prices. For canning purposes, the firm-meated Bigarreans and other white varieties are fast growing in popularity. Owing to the favorable location of this orchard, the trees have yielded abundantly every year but one since it was planted. The crop this year is larger than in any previous season. One bough, 30 inches long, cut from a Bigarrean tree yesterday, had 160 cherries thereon, and this was but one of hundreds. The oldest trees yielded this year from 300 to 400 lbs. each. Seven persons are at present engaged in picking and packing the fruit, the latter operation being done in a very neat manner, so the fruit may present an attractive appearance in the market. They are put in five-pound drawers, 12 of which fill a chest. The range of prices for Black Tartarians during the season is from \$1 to \$1.50 per drawer. The season commenced about the middle of May,

and will close about July 15th. One of the finest varieties found in this orchard is the Centennial, a seedling raised by Mr. Chapman, much resembling the Bigarreau, which it excels in every way. It is a beautiful cherry. After repeated experiments in this orchard, it has been found that grafts on Mahaleb stocks do not thrive, whereas those on the Mazzard and Standard stocks make vigorous, hardy, productive trees. Mr. Chapman smokes his orchard in the spring to prevent injury by frost. He says he will smoke in the future, when the trees are in blossom, whether there is danger from frost or not, as from past experience he is confident the operation is very beneficial to the trees, causing the fruit to sell better. Cherries from Napa valley are in large demand in the markets, and always command the highest prices.

SAN BERNARDINO.

RIVERSIDE FRUIT PACKING Co.—*Press*, July 10: On Tuesday, July 6th, the work of canning fruit was commenced at the cannery just established by the Riverside Fruit Co. This company is composed of San Jose capitalists and the works here are under the management of W. H. Wright, Supt. Mr. W., has been connected at San Jose for some 10 years and is thoroughly conversant with the business. Temporary buildings are used this year, as work was commenced too late a date to allow of erecting permanent buildings. The cannery is located in the adobe building on Eighth street just west of Lyon & Rosenthal's store. Adjoining this adobe has been put up temporary sheds for use this season. Mr. W. expects to be able soon to put up about 5,000 cans of fruit per day, which is equal to about five tons. The stock of cans on hand now is something over 50,000 and each week turns out 15,000 more. They have on hand two car-loads of sugar with which to make syrup for the fruit and enough material for cans to put up all the surplus fruit of San Bernardino county, which will aggregate this year probably 200 tons, or 200,000 cans. Were it not for this cannery this great fruit surplus, which is worth to the producers \$10,000, would mostly go to waste; much of it would be dried and some would be canned, but a greater portion would as heretofore rot on the ground.

SAN DIEGO.

HONEY.—*News*: Harbison & Dowling were again among the shippers of honey yesterday. Young Mr. Harbison said to us that the honey was coming in rather slowly, and we agreed. The fact is, for the last two weeks flowers seem barren of the usual sweets, and it threatens the crop with a cut down to under our previous guess at the average of a half crop. An Atkinson correspondent says: The honey crop in this county will be fully fifty per centum below the crop of year before last.

SAN JOAQUIN.

EXPERIMENTS IN WHEAT CULTURE.—*Stockton Independent*: David Dodge brought to this office yesterday samples of two varieties of wheat raised by him this year on his farm on the Calaveras river bottom lands, about 10 miles from the city. The Australian white wheat, heavy headed and slightly bearded variety, will, it is estimated, yield at a rate of about 30 bushels to the acre this season. He has only about one-eighth of an acre, having sown only two pounds of seed. It was sown in January last and is perfectly ripe. From the two pounds of seed he expects a yield of not less than 300 lbs. The other is called Mold's White Winter wheat, a small quantity of which he received from the Agricultural Department at Washington several years ago. The first sowing was disappointing in its results. The young plants spread over the surface of the ground, matted together and failed to send up more than a few stalks, the seed produced on which he carefully preserved for future experiment. Next time he had better luck, and the best developed heads only were preserved for seed. That now ready for harvesting was sown on the 27th of December. The grain is entirely beardless and the heads long and heavy. Mr. D. believes that it will yield at the rate of 40 or 45 bushels to the acre. The straw is taller and stronger than that of the Australian white wheat, but the berry of the latter is a little larger than the former. Both are beautiful samples, and it is Mr. D.'s intention to experiment still further in their culture. He proposes to try the drilling method, and is sanguine in the belief that by selecting only the best heads and most perfect grain for seed, and pursuing the most approved methods of culture, he will be able to increase the yield to not less than 100 bushels to the acre. Ten acres of good land will be selected upon which to carry out the experiments he proposes to try. He thinks, and rightly too, that a classification of wheat is much required in this State, with a view of ascertaining and pointing out the relative value of varieties in their quantity of flour, weight of bran, etc., weight of the straw of each, and their adaptation to soils.

SOLANO.

THRESHING.—*Dixon Tribune*: George Cooper bought a Minnesota Chief of George Cadman, and has now given it a satisfactory trial, as it is a new machine in these parts farmers may be interested in learning that it works exceedingly well. Eight hundred sacks of barley were threshed with it in two-thirds of a day. Its principal merit, however, lies in cleaning the grain very thoroughly. In the particular case mentioned above the sacks averaged 112 lbs. each. J. M. Dudley's new style thresher not being finished in time for the beginning of the

season, he will go to work with his old Pitts' separator. If the new machine is sent up from Vallejo, he will give it a trial some time during the season.

HARVEST NOTES.—About 60 tons of wheat were hauled into town Thursday, but it will soon be coming in faster. Jos. Kline, John Johnson, Richard Hall, W. R. Ferguson, and N. B. S. Coleman are among those who have been hauling. Most of the grain is of good weight—140 lbs. or over to the sack, though some shrunken goes as low as 125. In most cases the yield is reported good. Mr. Johnson will get about 3,000 sacks from 180 acres. The best wheat we have yet seen is from G. C. McKinley's field—being that which he has improved by several years' attention. The kernels are very large.

FOURTH VOLUNTEER.—N. B. S. Coleman, who hauled the first harley into town this season, raised a crop of 30 bushels to the acre on land that had not been plowed for nine years. The present was the fourth volunteer crop, and cost but 50 cents an acre to put in. The quality was very fine.

SONOMA.

CROP PROSPECTS.—*Democrat*, July 10: The cloudy weather that has prevailed for several days past has had a most beneficial effect upon the cereals in this vicinity, and in fact in all the western and southwestern sections of the county. A farmer who owns a large ranch a short distance west of here, says that much of his adobe land will yield 40 or 50 bushels of wheat to the acre, and the crop promises better than it has for the past 15 years. A close observer from Bloomfield informed us on Wednesday, that the farmers in all parts of Big valley felt greatly encouraged at the prospect, and he believed the yield of grain in Sonoma county would be much greater this year than even the most sanguine ever anticipated. Our attention has been called to the unusual fact, that wheat that was short and stunted in growth, that averaged not more than 18 inches in height, had headed out well and would yield a fair crop. The quality of the wheat promises to be excellent. The berry seems to be plump and sound, and when threshed, will make a first-class merchantable grain. One fact, however, must be noticed, and that is, that much of the land is foul, being overrun with those two pests, dog fennel and wild turnip or mustard, hence large quantities of the grain will have to be thoroughly cleaned. Rust, which always injures more or less the grain crop in wet winters like the last, has been almost unknown this season. In fact, we have the first complaint to hear about its ravages as yet.

SHEEP KILLED BY LEECHES.—*Healdsburg Flag*: Week before last we mentioned that Young Bros. and Cagwin of this section had lost 50 head of sheep since shearing, and that upon dissection of the dead bodies leeches were found in the liver and gall. On Saturday last we were informed by Mr. Michael Young that over 300 fine stock in splendid condition, had died since shearing, and that the copperas fed to them did them no good. On the day before Frank Sinclair, a neighboring sheep-raiser, advised Mr. Young to examine the spring. They examined it together and found the mud at the bottom alive with the same kind of leeches as were found in the carcasses of the sheep, tapering at both ends, with red stripes on the back, length of body from $\frac{1}{2}$ of an inch to 6 inches in length. Placing one of these on the liver of one of the dead animals, it forthwith buried itself out of sight, and after being cut out, repeated the operation. A remarkable feature of the pasture is that Henry Gird remembers to have lost a band of fine fat cattle out of it from the same disease, these very leeches having been discovered in the liver of the carcasses. It is presumed that the water is full of infinitesimal germs, and as Young and Sinclair both drank at the spring, we hope their livers and galls will not become infested as in the case of the unfortunate animals. H. R. Brown, a large sheep-raiser on the Geyser range, states that he has a work that describes the leech and reports similar cases to this; also that losses are constantly experienced on the Cotate ranch in this county along the lagoon. Mr. Young will fence his stock away from the spring but expects the rest of his sheep, having drank the water, will also die in a few weeks. It is now believed that it must have been the leech and not the milk weed that created the loss to Mr. Young last year.

SUTTER.

GRAIN.—*Harkey's Corner's Cor. Banner*: The Best Bros. have the honor of blowing the first steam whistle, threshing barley on the Harkey ranch on the 16th of June, as well as threshing the first wheat on the 28th. We paid a visit to the ranch of Henry Best on June 29th, where they were engaged in heading and threshing on a quarter section of summer-fallow wheat, to learn to what extent the crop had been injured by the north wind. Arriving at the machine, it only needed one glance at the genial face of the proprietor to tell that it was turning out well. The quality also was good, and we have since learned that the yield was a little over 40 bushels per acre. It is not reasonable to suppose that this is an average, inasmuch as all early grain on alkali or adobe soil has suffered much more from the blight. And to sum up the damage, we should say that the summer-fallow and early winter-sown, which comprises one-half the acreage, has been cut short one-fourth, and the final result is that the prospective crop has been reduced one-eighth by the blight.

TEHAMA.

EDITORS PRESS:—The weather has been very favorable for harvest ever since my last, until last evening, when a strong north wind sprang up, which has blown all day to-day, but is now moderating. Heading and threshing are being vigorously carried on throughout our agricultural county, and she will be among the front rank of grain-producing counties this year. New wheat is daily arriving from the ranches at the several grain depots, and from the dealers I learn that the grain offered is on an average better than either the dealers or producers had any idea of its being this year, and that the damage reported earlier in the season by the north wind was very much exaggerated. The market has not opened up yet, only a few small lots having been purchased by local millers. No crops of any magnitude have yet been contracted for. J. S. Cone, of the Antelope ranch, has teams hauling his immense crop into the warehouse at the railroad depot at this point. R. H. Blossom, his neighbor, generally sells at Sesma. He reports his harvest to be progressing very satisfactorily, and the grain is plump, full and clean. He will have more grain this year than last. H. A. Rawson, of the well-known sheep firm of Rawson Bros., has a finer crop this year than he has ever harvested in this valley, and his grain is excellent. Since threshing has commenced and a thorough examination of cereals has been had, we realize the glad fact that Tehama county will roll up an immense quantity of grain for 1880. On the old "Thomes grant," owned by J. Fennell & Sons, of Napa, the renters and owners together will gather near 400,000 bushels of wheat. This of itself is a fine showing, and we have other large farms which will pile up more in proportion than the famed old "grant." Our smaller farms have all got excellent crops this year, owing to the careful state of cultivation and the good season. Improved times are looked forward to by our hard-working agriculturists, and it is devoutly to be hoped that a fair paying price for their produce will be offered by dealers at the proper time. As yet, we have heard of no very poor crops having been harvested in our county, and those who fancied they were damaged seriously during the north wind, are agreeably surprised at the slight damage their crops sustained. At no time in the history of our county has the prospect looked brighter for its future and her industrious husbandmen than they do at this writing. Long may she prosper!—**FELIX**, Red Bluff, July 10th.

YOLO.

HARVESTING.—*Knight's Landing Cor. Democrat*: C. F. Reed is now running seven self-binding reapers and a large steam thrasher in his immense wheat field, and working over 50 men and about as many threshers. The reapers run night and day, and it is his calculation to run that way until the grain becomes too ripe to cut with reapers and then put on headers and finish up. Everything goes as smooth as clockwork, and the grain is turning out well and is of good quality. As a rough estimate, his crop this year is set down at 60,000 sacks.

ODD FELLOWS' LIBRARY ASSOCIATION.—We have received from Mr. Geo. A. Carnes, librarian, the 25th annual report of this association for 1879-80. The report shows a very creditable condition of affairs. The receipts for the year were \$10,549.99, and the disbursements \$8,673.26, of which sum \$2,693.89 were paid for books, newspapers and magazines, and for binding and repairing books. The number of volumes on the register is 36,777. During the year donations of 425 volumes were made to the House of Correction and 189 to the State Prison at San Quentin. The number of volumes lent during the year was 96,567, classified as follows: belles lettres, 2,736; biography and letters, 3,054; history, 2,798; novels, 76,819; periodicals, 2,711; poetry and drama, 2,235; science and art, 2,074; theology, 365; voyages and travels, 3,145. It will be observed that the taste of the ordinary reader, who has not yet learned to select "books which are books," tends towards the novel, but Mr. Carnes says it is his ambition to bring the circulation of the novel within the limits of the rule in the so-called "intelligent" communities of the Eastern States, beyond which his association is now some 8% or 10% in excess. The Librarian utters a mild but very reasonable complaint against the general practice of marring and defacing the books, to which grievous offence the softer sex is chiefly obnoxious. The more intelligent readers, too, are by no means blameless in this matter, for it appears that some of them are addicted to the vanity of interlining passages and scoring the margin with notes. Elia prattles with affectionate pride of his friend Coleridge's wont to "enrich with annotations, tripping their value," his darling folios; but it should not be forgotten that there are not many Coleridge's among even the critical readers of a library. Good books are always entitled to reverence.

THE TAY BRIDGE DISASTER.—The Tay bridge commissioners have presented two reports. The majority report censures more or less severely the contractors, engineer and North British Railway Company. The design of the bridge is condemned, and the company charged with neglecting to keep it in proper repair. Although the construction of the bridge was faulty, the commissioners believe it might have weathered the storm and lasted for years had it been kept in thorough repair. The minority report arrives at substantially the same conclusion, but differs on matters of detail.

News in Brief.

TOM TAYLOR, the dramatist, died suddenly in London, July 12th.

CONSIDERABLE damage was caused by a cloud-burst near Yreka, Siskiyou Co., July 5th. **HENRY M. STANLEY** has been made a doctor of philosophy by the German Academy of Naturalists.

The entire press of Texas, without exception, condemn in the strongest terms the acquittal of Currie.

Two colored boys have passed the examinations for entrance to the Reading (Pa.) High School.

In this city Robert Neil, a twelve-year-old boy, committed suicide rather than be returned to school.

The increase of acreage in grain in Wasco county, Oregon, is five times what it was three years ago.

From the agricultural districts of France come reports of good weather and prospects of a rich harvest.

There were 40,000 cars built in the United States last year, and there will be about 50,000 built this year.

The Snake river in Oregon was rechristened by the Villard party, and now goes by the name of the Lewis river.

Adjutant-Gen. Jones of Texas reports that the State has about 6,000 criminals at large, 1,000 of them murderers.

A BANQUET took place in Liverpool, July 5th, given by the United States Consul in honor of Independence Day.

A COOL wave struck Salt Lake July 12th, and snow fell in the Wasatch mountains to a depth of four inches.

The peasants of Lombardy live chiefly on black bread and a broth made of rice, a few vegetables and rancid oil.

It is said that young laborers will soon become scarce in Ireland if the present rate of emigration continues.

One of the census enumerators of McLennan county, Texas, found a widow 35 years old with a son 27 years of age.

IN Mono Co., Cal., there is a giant juniper tree fully 60 ft. in circumference, with limbs five to six ft. in diameter.

SAYS the *Merced Express*: A good crop of wheat in this county is always succeeded by a large fall crop of weddings.

The visible supply of petroleum is the largest known in the history of the trade, being estimated at 9,000,000 to 10,000,000 barrels.

SAMUEL P. BOWLES, ex-County Engineer, of Cincinnati, convicted of forging county bonds, was sentenced to ten years in the penitentiary. The *Big Horn* was the first boat out of the Yellowstone this season, and brought down 5,000 buffalo robes and large quantities of furs.

BERKELEY SPRINGS, Va., is said to be the oldest watering place in the country, dating from the aborigines, who discovered the virtues of the waters.

A SUIT for \$25,000 has been brought against the city of Augusta, Ga., for injuries to a child that had been gored by a cow running loose in the streets.

The old whipping-post in Raleigh, N. C., which had been used as a hitching-post since 1863, has disappeared from its place near the Court-house.

LIGHT wines, bread, coffee, salad, vegetables and fruit form the staple diet of the working-men of Paris. The vegetables are good, plentiful and cheap.

The Belgian Bishops have advised the Vatican that their action will be more free and powerful since the rupture of diplomatic relations with Belgium.

A BRITISH ship has sailed for Texas with 3,500 barrels of oil, made for the purpose of preserving railroad ties and bridge timbers under a new process.

THERE are 38 Masonic Lodges in Washington Territory, representing something over 1,000 members, St. Johns of Seattle being the largest, it having 80 members.

The scheme of mutual aid among the Masons of Mississippi, inaugurated in February last, is an assured success. The membership within the year will number 2,000.

THE corps of able ladies who make *Demorest's Monthly* so attractive to their sex, has filled the July number with all manner of interesting and instructive things.

IN Switzerland, July 4th, there occurred a severe and widespread earthquake. A large area of wooded land was covered, and two persons are known to have been killed.

WHILE a mail agent of Little Rock was handling a mail pouch rather roughly, a loud explosion occurred inside of it. It was caused by a loaded revolver mailed by a Texan.

CALIFORNIA'S wool clip this year (spring and fall) will probably be not less than 35,000,000 lbs. The total value of it promises to be nearly double that of any preceding wool crop.

A DRUNKEN driver, July 12th, while driving from the Glen House to the summit of Mount Washington, N. H., capsized the stage containing nine persons, killing one and seriously injuring five others. He was fatally injured.

IN the heart of a large pine tree, recently cut down by Jonathan Oatley, of Unadilla Forks, N. Y., was found an Indian pipe of stone, with the date roughly carved on it, 1783.

A NEW YORK man was challenged to fight a duel the other day, and being at liberty to choose his own weapons, proposed a trip to Boston on a Sound steamer. The challenger backed out.



Make Childhood Sweet.

Wait not till the little hands are at rest
Ere you fill them full of flowers;
Wait not for the crowning tuberose
To make sweet the last sad hours;
But while in the busy household band,
Your darlings still need your guiding hand,
Oh, fill their lives with sweetness.

Wait not till the little hearts are still,
For the loving look and phrase;
But while you gently chide a fault,
The good deed kindly praise,
The word you would speak beside the bier
Falls sweeter far on the living ear,
Oh, fill young lives with sweetness.

Ah! what are kisses on clay cold lips
To the rosy mouth we press,
When our wee ones fly to their mother's arms,
For love's tenderest caress?
Let never a worldly bauble keep
Your heart from the joy each day should reap,
Circling young lives with sweetness.

Give thanks each morn for the sturdy boys,
Give thanks for the fairy girls;
With a dower of wealth like this at home,
Would you rife the earth for pearls?
Wait not for death to gem love's crown,
But daily shower life's blessings down,
And fill young hearts with sweetness.

Remember the home where the life has fled,
Where the roses have faded away;
And the love that grows in youthful hearts,
Oh! cherish it while you may!
And make your home a garden of flowers,
Where joy shall bloom through childhood's hours,
And fill young hearts with sweetness.

On the Go.

EDITORS PRESS:—On they go, the tourist, the tramp, the moving, flitting throng, hurrying hither and thither in quest of what the heart seldom realizes—happiness. The tourist will encounter fatigue, climb mountains, descend into valleys almost inaccessible, visit distant lands, spending fortunes, wearing out soul and body in a fruitless search. And for what? Happiness! Men in affluent circumstances, surrounded by peace and plenty in rural homes, will make a sacrifice of all home's endearments. Convert the cows into cash, and pack the household into a carry-all, shed a tear at parting with scenes, hallowed by life's dearest associations, and on they go to some far-off fairer domain "where roses bloom and myrtles twine;" hopes high for happiness in the roseate future, with never a cloud to darken life's horizon. But ah, how soon the sun is veiled.

The world seems to be on the go, from morning until night; from Maine to Alaska; from Rome around the globe to Rome again, and all for happiness, impelled by a force intangible to the senses. Have you ever found a single son or daughter belonging to God's family who have found what they were in quest of?—happiness! Ask the returned tourist, the immigrant, the hurrying throng, the frequenters of cars and steamboats, etc., and the tired sigh will arise: "All is vanity. Would I were home again!" Home again, what magic in that word? What happiness clusters around home's altar? The heart's temple—the place above all places where happiness, true happiness, is found. Do we fully appreciate its blessings, its divine character, its many sources of happiness? It would seem not from the daily tossings hither and thither the mothers and buds of paradise are subjected to. The immigrant's wagon contains the all saved from home's wreck and ruin. The little ones appearing as if deprived of an abiding place in a strange land, create a sympathy as they pass along in quest of that which they have left behind—happiness. But doubtful and dark the future to those who hazard life's fortunes, seeking that which eludes their grasp, because sought for in a way that it is seldom found.

My experience, by observation and contact with tourists, goes to prove that happiness belongs to those who cultivate home associations; who withstand the temptations of a far-off paradise, where it is declared fabulous wealth may be gained in a day. I fear that we cannot fully appreciate home blessings, until we are deprived of them. We look afar off for a happiness we then enjoy, but cannot appreciate, until we foolishly sacrifice all on the altar of change, and find, when on the go, that we have lost that which we have in vain sought to find.

We may perch ourselves on Yosemite's highest dome; we may traverse Europe and the Holy Land, or China's flowery kingdom, in search of happiness, and find it not; and why? Scenes of nature are truly grand and beautiful; changing scenes are ever a pleasure to the eye. We seek and we find, but not that which satisfies the longing soul within. A vacuum seems to exist, go where we may, or do what we will. What then will produce a lasting and true happiness? This is a problem which lovers of change are seeking to solve.

The wrecks and ruins of life attest to the

very few who attain God's grandest gift to man—happiness; and why? Because man seeks it "on the go," instead of within. True happiness is found by "doing good to one another," not living so much for self as for the happiness and elevation of the human race. And where can you plant and grow fruitful seed which shall produce an abundant harvest of happiness, if not around and within the sacred precincts of home? If it is humble, contentment will enrich it into a palace. If it is a center of refinement and wealth, make it an attraction to those less favored. A glow of love permeates the soul of the philanthropist for every noble act and impulse, and soon the reign of true happiness and peace will begin upon earth, ending in eternal happiness in heaven. JOHN TAYLOR.

Mt. Pleasant, July 8, 1880.

How She Married Him.

Keziah Buckthorne had survived, by a considerable period, whatever of feminine charms and graces she might have once possessed, when a handsome fortune dropped down upon her as if from the clouds.

Had the riches come a score of years sooner there is no telling what might have been. Keziah's attractions had never been, so to speak, dazzling. But 20 years have great potency in turning dimples into wrinkles and lines of beauty into crow's feet; and many an adventurous Colebs who might have found Miss Buckthorne a match acceptable, with such a fortune, at 25, passed her by at 45, saved from the sin of covetousness by the reflection that she and her money were inseparable conjuncts.

Even Topham Gynblaney, the daily problem of whose life is to keep adjusted the balance between a very moderate income and quite expensive tastes, and who looked upon a thrifty marriage as the goal of human wishes, after a few visits of reconnaissance to Keziah, which left him in doubt that he had but to say the word to receive a gracious answer, left the word unspoken.

Mr. Gynblaney's visits had ceased for some weeks, when a message came one day that Miss Buckthorne was quite ill—had fallen into a decline, in fact—and had been given up by Dr. Croke. She desired to see Mr. Gynblaney and such other friends as might wish to bid her farewell ere she started on that journey whence there is no return.

Of course there was no refusing such a request. Decorously clad in solemn black, and with a face put on to match, Topham Gynblaney presented himself at the invalid's door.

"How is she, Doctor?" he inquired gravely, of a dried-up little man, who met him at the threshold with a countenance in which was a whole homily on the vanity of hope.

"Sinking rapidly," Dr. Croke replied; "those who wish to see her alive have no time to spare."

"There is no chance for her, then?"

"Not the slightest. Constitution gone—nervous system shattered—lung collapsed—no recuperative force—no—"

"How long do you think she'll last?" interrupted Topham, anxiously.

"Eight-and-forty hours at the furthest; more likely less than half of it."

"Would you like to see her?" asked the doctor, at length.

"I called for that purpose," returned the other.

"Let me apprise her of your presence," said the doctor; "in her present state any sudden surprise might prove fatal."

After a brief absence the doctor returned.

"This way," he said, leading the visitor to the sick room.

Mr. Gynblaney was shocked at the spectacle that met him. His heart, we have hinted, was pretty tough; but tough as it was, it was touched at the sight of the pale emaciated face—enough of itself to dispel all doubt of the truth of the doctor's predictions.

"This is—very—kind—of you, Top—Mr. Gyn—blaney, I mean," the sick lady murmured, a spasmodic cough interrupting her words.

Mr. Gynblaney took the chair placed for him at the bedside, and clasping in his own the thin hand extended to welcome him, returned its trembling pressure.

The doctor and the nurse retired to prepare a posset for the patient, leaving the latter and Mr. Gynblaney alone.

"I trust you will be better soon," said Mr. Gynblaney, with well-meant hypocrisy.

"That is—past—hoping—for," was the scarcely audible answer. "Dr.—Croke—has—told—me—the—worst."

Dr. Croke, we may here remark, always told his patients the worst. If they got well the more credit to him. If they died, of course it wasn't his fault.

A sudden thought flashed across Mr. Gynblaney. If he could only marry Miss Buckthorne now! In two days or less, he would be a widower, and the lawful possessor of his wife's fortune. Here was an opportunity indeed.

Rubbing his eyes with his handkerchief till they watered and looked red from the force of the friction, he gave the hand in his another and more tender pressure.

"Dear Keziah," he whispered softly between his sobs, "how—how—cruel—that—that we should be parted thus!"

"I have long cherished the purpose," he went on hurriedly, mastering his emotion with an effort, "of asking you to be mine. Diffidence alone restrained me. But if you will even now consent—"

"Do—you—feel—that—it—would—be—a—comfort—to you—Top—Topham, dear—"

The cough would not allow her to finish. "It would!—it would!" he exclaimed, with a burst of well-feigned feeling. "To call you mine, but for an hour, though I lost you the next, would forever link my soul to a precious memory which—"

Mr. Gynblaney was on the point of ending his flight in an inglorious flop-down when Keziah came to the rescue.

"It—shall—be—as—you—please,—dear," she sighed.

"No time is to be lost!" he cried, springing up. "Let us send for a minister at once!"

Just then the doctor and the nurse returned. The minister was summoned, and a few minutes sufficed to make Topham Gynblaney and Keziah Buckthorne one flesh.

A tinge which might have passed for a blush 20 years ago, overspread the bride's countenance. For some moments she lay like one entranced with happiness.

"Topsy, dear," she said, when they were again alone, "I feel as if I could eat something; they've kept me on gruel till I'm nearly starved."

"What would you like dearest?"

"Some tea and toast, and chops, and boiled eggs, and—"

"Good heavens!" exclaimed the doctor, entering in time to catch a portion of the list, "do you wish to commit suicide?"

"What hurt can it do?" she answered. "You have already told me there is no hope."

"I think we might as well gratify her," her husband added; and finding himself outvoted, the doctor held up his hand in horrified protest.

The repast was brought and received ample justice.

Next morning Mrs. Gynblaney was up by-times packing her trunks for an elaborate wedding tour, from which her husband and the doctor strove in vain to dissuade her. It would be hard to tell which of them was most amazed. Both were firmly convinced that the age of miracles was not yet past—unless, as the disconsolate Gynblaney half suspected, he had been made the victim of a cunning plot.

Ten years have passed and Topham Gynblaney has still the old problem to puzzle over, for Mrs. Gynblaney holds her own purse strings, and insists on "Topsy's" living on his own income.—Selected.

Our Boys.

Last Saturday one of our saloons was pretty well filled with half-grown boys and young men, more or less under the influence of drink, and engaged in playing for beer. The outcome was the arrest of a young man by the Marshal, and his trial on Monday under the ordinance against drunkenness. The defense attempted to prove that the prisoner was not drunk, but simply jolly and sociable. The witnesses were mostly boys from 15 to 20 years of age, and they lacked the experience to make so nice a distinction. The defense failed, and Recorder Cunningham fined the prisoner \$15, with the alternative of 15 days' confinement.

There is a law forbidding the sale of intoxicating drinks to boys under 16 years, and to common drunkards. Both these classes are represented in our community, and we are assured that both were furnished with intoxicating drinks on Saturday, at the place in question. Is there no remedy for this? In beautiful language, the attorney for the defense set forth that these houses were licensed to prosecute their calling; that they must necessarily be kept orderly, or they would lose the better class of custom; and therefore the conclusion was inevitable that the defendant was peaceable and quiet; otherwise the demands of business prudence would have ejected him from the saloon. The argument, however, is wholly presumptive, for the place was a pandemonium for hours. And it is also well settled that a license does not protect its holder in violating law. Even where the logic of the defense sustained by the facts, what consolation does it afford parents anxious for the future of their boys, who would thus be encouraged to put the cup to their lips. Does it help the matter at all if they are kept so respectably that youth may enter without danger of physical violence?

Complaint has been made of the growth of hoodlums in our town. What have we done to check it? Do parents generally take pains to furnish healthy amusements or excitements for their children. Have we encouraged libraries, baseball clubs, gymnasiums, running, wrestling, leaping and such athletic games as will give vent to their animal spirits, to the end that our boys will not seek the artificial excitement of strong drink? Have we attempted to enforce the humane law which forbids the selling of intoxicating liquor to children before their judgment can teach them to let it alone. Neither the one nor the other has been done. We have only an ordinance to punish the poor simpletons who ape their elders and partake of that which nullifies the teachings of preacher, teacher, parent, guardian, friend and common sense.—Ukiah Press.

SCIENCE AND COMMON SENSE.—"Common sense," says Prof. Huxley, "is science exactly so far as it fulfills the ideal of common sense; that is, sees facts as they are, or at any rate without the distortion of prejudice, and reasons from them in accordance with the dictates of sound judgment. And science is simply common sense at its best; that is, rigidly accurate in observation, and merciless to fallacy in logic."

Aunt Jerusha Goes Blackberrying.

"A bit a pound!" sez I to the copper-colored beuced John, with hiz coal-oil kans balanced on a willer pole over his shoulder like the Goddess of Justice on the new court-house in Stockton, which really does need a coat ov whitewash. I furgot to say, his kans were about half full ov the greenest ripe blackberries I ever sot my two ies on. "A bit a pound," sez I, recapitulatin, "that are too much; why, a man can pick—let me see—about five dollars worth a day at them figures," so sez I, "no, I don't keer to lay in any to-day," an arter I'd dismissed him, a per-lite way, I sez to Andrew Jackson, sez I, "let's us go arter sum blackberries." "La!" sez he, "Annt Jerusha, the river flats is jest overflowed with high water, and you can't get a pint if you'd try." Now, that's a man fer you; they are like the menfolks ov Bible time. They kan always see a lion in the way, an sez I, "You stay at home an tend to that soft soap I'm bilin' on the kitchen stove, an' picket out the pet goat an do the churning an a few other little chores, an I'll try my luck arter a few wild blackberries. I've got a friend who resides on the river bank near the blackberry fields, so I made up my mind I'd get him to set me acrost the slough in a skiff, on the bank ov the river, where there is just dead loads on 'em. I took a little boy 'long to carry my lunch-basket, an seven or eight extra pails and kans—I do hate to be short ov measures when you git into a nice thick patch on 'em. We arrived on the pier ov embarkation about 10 o'clock A. M. The aspect of nature waz inchantin', the river bottom ov some 10 acres or more, which had been a potato field, but which had succumbed to the force of the flood of old Mokelumne an waz now a plaid lake, with a strong current runnin' through it. My friend plied the oars with true artistik skill, an in less than no time we waz headed for the strip of Woodland that told us plainly it waz the high and dry hank ov the river, beneath whose green foliage the deep rich berries waz basken in a June sun. We skirted along the willers that waz growin' in the water for a long while, and saw a good many bushes (blackberry bushes I mean), but the northener a few months ago had nipped the berries in the bud, so we continued on for a spell, findin' no berries, but more water than we'd expected. Arter awhile, the boy who sot in the bow to balance the boat cried out, "There are 'em!" an that short sentence waz equly az wellcom as land in site to the wery mariner. An the boy waz rite; there waz a clump ov bushes an sum live oak branches growin' rite out ov the water, an the berry bushes coverin' um like a hop vine over a smoke-house back in Missouri. We pulled up alongside, but couldn't anker, coz we couldn't touch the bottom with our oar, but we clung to the limbs, an arter awhile the man took the bords which formed an upper floor in the skiff, an made a gang-plank by throwin' one end out into the branches an restin' the other end on the skiff. I put a musketo net round my head, for the pesky fellers waz az thick az bees in buck-wheat blossoms, but a limb flew hack an relievied me ov my proteckshun, an I stood an looked at it dangle in mid-air like a flag. Well, I walked out into the top ov that tree on the gang-plank, an I guess I mnst have gone a little too far, coz it sunk down before I could git back an let me into the water over two feet. Gracious! how cold the water waz! I know I didn't say a word, tho' that miserable urchin says I hollered "Help! help! I'm drownin'!" Wal, we couldn't find no dry land an less blackberries, an from now on, in this season, I'll pay John Chinamen any price for the delishus eteceters before I'll go berryin' agin, an if you take the advice ov a friend, you'll do likewise, while I remain a berryin'. Yours—Aunt Jerusha, in Lodi Review.

What to Do When the Farm is Paid For.

In an essay read before the Lake George Fruit Growers Association, by Mrs. A. B. Bartlett, of Georgetown, Fla., the following positions are taken: When our agriculturist has got his place into such a conditon that he has a comfortable income—no debts—regular meals every day, as he chooses, his young people fairly educated, then what? "Well, civilization, life." Life in all its fullness and beauty, as intended by our all-wise Creator. He has health, or ought to have, and every good thing is open to him. Just so far as his taste is in harmony with the laws of right living, and the peace of his fellow-creatures, so far is he at full liberty to carry out his tastes. Then comes in all the amenities of civilization. In the world of books he has free access to all its wit, all the wisdom of the past. With Romeo he can woo fair Juliet in the balcony, tame the shrew with Petruchio, or see Bottom translated in the magic Athenian wood, with tears of inextinguishable laughter. Aladdin had a wonderful lamp, which, when he rubbed, immediately there came to him a genius of the air, who brought him whatsoever he desired. Like that lamp is the love of reading, to the man of imagination. It brings "that light which never was, on sea or on land," whereby the universe of common things is transfigured and glorified. Or if he cares not for the figments of others' brains, nor the history of their toil, defeat, or triumph, then can he travel over the "whole round world" and see it with his own eyes.

Civilization has so triumphed for him, with less of toil and weariness, than a century ago it would have required for the journey from Florida to Washington. So entirely, in the

history of these United States, have agriculture and civilization marched abreast and with an even stride. If he care neither for books nor travels, the whole world of art, architecture, music and painting await his call. If he love the drama, his sons and daughters are ready to enjoy themselves and entertain him, by enacting before him temperance dramas, scenes from the immortal Pickwick, and choruses from the jubilee singers. Thus the successful agriculturist lays the foundations, broad and strong, for the highest civilization. By the succession of its humblest processes, slowly but surely, eradicating those nomadic instincts, which for ever prevents the noblest, possible savage, from attaining the development and self-poise of civilization. Our agriculturist may be to a degree ideal, without some ideal, he will never become even a passable agriculturist. My claim is, without a fair development of agriculture, civilization is impossible, or at least there is no record of any such. Also, that the agriculturist has a claim to enjoy the highest products of civilization. But in agriculture, as in every thing else, there is a tendency to take the means for an end, and the farmer and fruit grower who has worked hard to secure a roof over his head, and sufficient food and clothing to keep him in order, as a working machine, forgets that he has any possibilities, other than mechanical, and keeps on the old routine, like Bunyan's man with the muck rake, or like a horse so used to grinding in a treadmill that he returns to the old wheel with endless travel, and no progress, long after the grists are all ground, and the mill unused.

Chaff.

THE young man who wants to get up with the sun must not sit up too late with the daughter.

"NEVER mistake perspiration for inspiration," said an old minister in his charge to a young pastor just being ordained.

AN unfortunate Indianapolis man who lost several toes by a car-wheel, was consoled by an Irishman near by with: "Whist, there, you're making more noise than money a man I've seen with his head off."

"ONE kind of ship I always steer clear of," said an old bachelor sea captain, "and that's courtship, 'cause on that ship there's often no mates and two cap'ns."

AN old man was wondering "why in these days it seems impossible to have an honest horse race," when a neighbor interrupted him with the remark that "it's because we haven't an honest human race."

EITHER we must make the ocean wider or the steamships narrower. Something must be done to enable two ships to pass without going through each other. Society kind of demands it, and the comfort of the passengers seconds the demand.

WE frequently hear a lady exclaim, "Oh, dear! I wish I were a man!" But we do not remember ever hearing a man wish himself a woman. No; man never dared allow his wishes to soar so high. He is contented to admire rather than be admired. N. B.—This is not taffy.

"AND how is your neighbor, Mrs. Brown?" inquired one nicely-dressed lady of another. "She's well enough, I suppose. I haven't seen her to speak to her for six weeks." "Why, I thought you two were on the most friendly terms." "Well, we used to be; but we've exchanged servants."

IT is told of an American map agent that on a recent trip he was attacked by highway robbers, who demanded his money. As he was too prudent to carry money in the country, they failed to make a haul out of their victim. "But," said the agent, "I have some splendid maps of the country along with me, which I should like to show you." And in a twinkling he was off his horse, had a map stuck upon a pole, and explained it so effectually that he sold each of the handitti a map, pocketed the money and resumed his journey.

A COLORED hanker, much alarmed by the failure of several other banks in his neighborhood, closed his own establishment. A man knocked at the barred door. "Who's dar?" cried the banker. "Open the door!" called the man. "Dis hank's closed," remarked the banker. "Don't care whether the hank's closed or not," cried the stranger, "I left a pair of new boots here yesterday and I want them." Presently the door was thrust partly open and one boot pushed out, with the remark: "We is only payin' 50 cents on the dollar to-day."

CONDITIONS INJURIOUS TO SIGHT IN SCHOOL CHILDREN.

—Prof. Raux mentions the following: Air vitiated by animal emanations, vegetable or mineral dust, the smoke of various combustibles, especially tobacco, in which nicotine exists. Temperature too high or too low, and sudden changes or drafts. Clothing too tight, particularly at the neck or waist. Position with the head and body too much bent forward during labor with the eyes. Premature study, excess of reading, etc. Alcoholic excesses. Use of the eyes and brain immediately after eating. Habitual constipation, cold feet, and everything which tends to produce congestion of the head. Immorality, especially during childhood and youth. We might assign a cause still more potent than any of the foregoing, viz: a deficiency of light.—*Detroit Lancet.*

Young Folks' Column.

School Sketches.—No. 4.

[Written for the RURAL PRESS by LAURA J. DAKIN.]

When I was a little girl there would very often come a year in which we would not have much of a "Fourth of July" in the small village near which I lived. We did not hear the cannon boom, the drums beat, or the Declaration read; and as for flags flying, why, I do not believe there was more than one flag in town, for they did not have them to sell by the dozen then as they do now. And as for toy drums, guns and cannons, we never saw such things or dreamed that children could be so blessed as to possess them. Very often we went off to school just as though it was a common day; and then sometimes we would get the teacher to give us a long nooning, so we could celebrate all by ourselves.

I remember one especial Fourth how hard we tried to have a glorious time, such as we were sure somehow belonged to the day. There were several quite large girls, but no very large boys at the summer school; but a boy we must have to deliver the oration. So we chose the highest one, pulled him along by his shirt sleeves and stood him up on a knoll, telling him he must speak about "Our Country and the Glorious Fourth." The poor fellow grinned and dug his bare toes into the dirt; he wiped the perspiration from his face with his sleeve and glanced at us with terrified eyes, as we sat upon the ground around him—an attentive but severely critical audience.

"This is the day our country celebrates," whispered Alida Whipple, prompting him.

"Day'er country," whimpers Tom.

"Celebrates in mem'ry of the glorious"—

"Cel-cel'hra-a-a-tes," gasped Tom, and then, breaking down with a regular hoo-hoo, he added of his own accord:

"I w-wont so th-ther!" and with a bound he retired from the platform.

"Huh! I could do better'n that," said Alida. "But now let's play the speech is done and was a good one, 'cause we want to cheer. All throw up your hats and sunhonnets an' say, 'Hip, hip, hurra!' as loud as ever you can."

So we threw up our bonnets and hurraed for a long time, trying to feel as though we were enjoying our celebration wonderfully well. Grown-up folks sometimes have to try even harder than we did, to make their enjoyment real.

"The next thing on the program," said Alida, "is singin' a song called 'This Day was Won.' The choir will stand up in a row. Come on, Tom! Now begin!"

"We'll shout and sing, and flowers bring,
Youth's joyful emblems they;
This day was won by Washington—
'Tis Independence day!"

"Hurra, again another strain,
And then for home away;
This day was won by Washington—
'Tis Independence dry!"

After the singing we did "hurra again," and then we climbed the fence into the next field, and marched in procession with our sunhonnets stuck on poles waving in the air. But all at once we saw a woodchuck, and our ranks broke and were flying in every direction in pursuit of the little animal.

"Head 'im off, ketch 'im, ketch 'im!" shrieked Tom, full of life and energy, and looking more like an orator than he had a half-hour before.

After a prolonged chase we did catch the poor beast, and immediately hurried to the school-house with him, so as to build him a pen under the hack seat before the teacher should come.

Alida and I thought our prisoner was almost as good for a pet as a rabbit would be, so we sat down to write some poetry on his capture.

"Little creature full of glee
Playing round so merrily—

I wrote, and then I stopped to ask Alida if we couldn't call the woodchuck Bunny. If it was a rabbit's name, she said, she did not think we could—it would not be right; and then she showed me her slate and I read:

"On the Fourth we were at play
To celebrate the glorious day.
So through the field we gently passed
And found Sir Woody eating grass."

"Yours is ever'n ever so much better 'n mine," said I, full of admiration at the name of Sir Woody.

"I don't know as 'tis much," said she, modestly.

So we continued to work on our 'poem' till the teacher came. She called the school to order, and then told each class that as it was the Fourth of July they might select their own reading lesson.

Alida and I had been promoted to the Rhetorical reader that summer, and we had been in great haste to get over to the "Scenes from Pizarro," in the last part of the book. So, of course, we chose that for our lesson. We had often practiced reading the dialogue together, and we stood up full of confidence and commenced:

"How, now, Gomez! whence comest thou?" demanded Alida, looking me in the face with a sternly enquiring air.

"On yonder hill among the palm trees we

have surprised an old Peruvian. Escape by flight he could not, and we seized him irresistibly."

"Drag him before us!"

Just at that instant there was a rattling of hoards in the hack seat and Sir Woody rushed between us down the aisle.

"There goes the woodchuck!" cried Tom, tumbling over the top of his desk in excitement. "Head him off!"

The teacher was speechless with astonishment, and several scholars rushed into the middle of the floor, but before they could close the door, Sir Woody's hind legs disappeared over the sill, and in half a minute he was across the road among the bushes. The scholars went back to their seats in a shame-faced way, but the teacher never gave us one word of reproof, only looked at the book as though she was ready for us to go on with our lesson. She had a realizing sense that it was the Fourth of July.

GOOD HEALTH.

Keep Your Mouth Shut.

The peculiar arrangement of the narrowed and branched and delicately-furnished nasal passage are specially suited to strain the air and to warm it before it enters the lungs. The foul air and sickening effluvia which one meets in a day's travel through the crowded city are breathed with greater impunity through the nose than through the mouth. Raw air, inhaled through the mouth, induces hoarseness, coughs, etc.

The great actor Cooke, when dying, told his friend and faithful attendant, Broster, that, although he could make him no bequest in money, he would give him something worth money. He then advised Broster to set up as a teacher of elocution, and to impart to his pupils, on condition of a large fee, and a solemn promise not to divulge it, the secret of his (Cooke's) extraordinary powers of voice and its unflagging quality, which was to carry on respiration through the nostrils, so as not to dry or irritate the delicate organs of the voice. Broster took this advice, and used it so well as to retire with a fortune. He made every young clergyman, who took lessons, sign a bond that in the event of his becoming a bishop he would pay a further fee of 100 guineas. John Thelwall inherited the secret from Broster, and used it with similar reserve and profit; but his son, on being appointed a college lecturer on public reading and speaking, disclosed the secret to all his pupils as a thing of the greatest importance to them.

Mr. Pitman gives an epitome of the experience of George Catlin in his travels among the Indians, of whom he visited 150 tribes. Everywhere he found the Indian woman careful to press together the lips of their children after leaving the breast and before being suspended in their narrow cradles in the open air, and he found it to be a very rare thing to hear of a death during childhood among any of the tribes, before strong drinks and new diseases were introduced among them by the whites. It is said that no animal but man sleeps with his mouth open, and that the lungs need a degree of rest from labor which they get with the moderate inhalation that, with a slow pulse, attends perfect nightly repose.

Mr. Catlin attributes his escape from malarial fevers, and his actual recovery from pulmonary weakness, to a strict observance of the rule to keep the lips and teeth tightly shut. When he went to the wilderness he was feeble. He found himself compelled to sleep in the open, dewy air. His one main precaution secured the entire restoration of his health and vigor. He found that all the Indians had good teeth, which remained sound to old age, and that there were no stutters among them.

In his closing paragraphs he advises that mothers at home, and teachers in seminaries, should make nightly rounds as long as necessary to put a stop to the unnatural, dangerous and disgusting habit of sleeping with the mouth open. "No one who has been snoring through the night feels properly refreshed in the morning. Keep your mouth shut, my young readers—when you read silently, when you write, when you listen, when you are in pain, when you are walking or riding and by all means when you are angry."

RAPID CURE FOR COLDS.—An Italian medical paper contains a letter from Dr. R. Rudolphi, recording the discovery of a rapid cure for colds. Being seized with a severe coryza, he happened to chew one or two twigs of the eucalyptus, at the same time swallowing the saliva secreted, which had a bitter and aromatic flavor. To his surprise he found that in the course of half an hour the nasal catarrh had disappeared. Some days later he was seized with another attack, from a fresh exposure to cold, when the same treatment was successful.

WHEATMEAL OR OATMEAL.—Both these cereals are sufficient food for man. Oatmeal, however, contains more carbon, starch, or heat-producing material. Cornmeal contains a much larger proportion still, while its albuminous constituents are greatly inferior to those of oatmeal; and wheatmeal, in its turn, is inferior to oatmeal in the same important constituents.

DOMESTIC ECONOMY.

Uses for Currants and Berries.

EDITORS PRESS:—I have enjoyed reading your paper for a number of years, and have obtained several very good recipes from your columns; so now I would like to return the compliment by sending a few of my own, which I know to be good:

Currant Jelly.—Now that the jelly season is at hand, I will offer my way of making it, which at least saves the hands and makes the work easier. I look over my currants the same as usual, and put them on to boil. When ready for squeezing, I put them in a bag and let them hang over an earthen dish (do not use tin, as it discolors the juice) over night. The next morning, if your bag is not made of too thick material, you will find your juice all dripped out and ready for your sugar, etc. You will find it a little nicer to point your bag at the bottom, as then the juice will only run out of one portion of the bag. I have only tried this with currants, but have no doubt but it would work well with any fruit that jells.

Spiced Berries.—To seven lbs. berries—currants or blackberries—put three lbs. sugar, one pint vinegar and spice to taste; boil 20 minutes. They are very nice to eat with meat. Put a teaspoonful of each kind of spice in a little bag, tie up and boil with the fruit. Put a little bag into each jar of fruit.

Strawberry Imerangue.—Use one-half teacup of tapioca, soaked over night in one teacup of water. The next morning put on the stove with one cup sugar and the juice of one lemon. Let it boil to a jelly, and then stir in the whites of two eggs, beaten to a froth. Take off the stove and mix with as many berries—strawberries, raspberries, blackberries or currants—as you desire. Pour in a mold and set on the ice to cool. This makes enough for a family of five.

Oakland, Cal.

RHUBARB AND APPLE JELLY.—Wipe, peel and cut up a bundle of rhubarb; peel, core and quarter three pounds of apples; take the thin rind of half a dozen lemons, and put it into a preserving pan with one and one-half pint or two quarts of filtered water and the juice of the lemons. Boil until reduced to a pulp. Strain the juice through a napkin, pressing the fruit well. Weigh the juice, and allow one pound of loaf sugar to every pound of juice. Boil up the juice, add the sugar, boil, skim well, and when it jellies on the skimmer pour into pots, and tie down when cold. The jelly makes excellent sauce for puddings, and, when liked, can be colored with some cochineal, if it is wanted of redder color. The pulp, stewed down with loaf sugar, can be used for children's or servant's jam puddings, or is very nice put into a glass dish, covered with a custard, and garnished with pastry, or with sponge cakes, cut into slices and fried lightly in butter.

OAT MEAL FOR BREAKFAST.—In the last five years the consumption of oat meal in this country has probably increased 20-fold. People differ so much in their likes and dislikes that we do not insist upon anybody eating oat meal because somebody else does, but the great growth of the popularity is beyond doubt. Generally the Irish and Scotch meal have been considered best, but they sell comparatively high, and persons well acquainted with the subject say that Akron meal of Ohio is just as good. Oat meal should be well cooked. As it is usually made a breakfast dish, it may be soaked over night, and then boiled like mush for, say, half an hour, while the other part of the breakfast is getting ready. No doubt it is more wholesome eaten plain, but the temptation to use various "dressings"—generally cream and sugar—is too strong for any except very firm health-seekers. But where these are eaten it should be, as the friends say, "in moderation."

ORANGES AS A REGIMEN.—A vast number of oranges are eaten by the Spaniards, it being, in fact, no uncommon thing for the children of a family to consume ten or a dozen oranges each, before breakfast, gathering them fresh for this purpose from the trees. Such wholesale consumption of what is commonly looked upon as a luxury, appears to have no unwholesome effect upon the system. On the contrary, the testimony of a late eminent physician authorizes the use of fruit ripe, fresh and freely as a trustworthy auxiliary in the treatment of chronic dyspepsia.

A CREAM TO EAT WITH FRUIT.—Boil half a pint of cream and half a pint of milk with a bit of lemon peel; add a few almonds beaten to paste with a drop of water and a little sugar. Take a teaspoonful of dry flour, rub it smoothly down with a little cold milk and a few drops of orange flower water; mix all together, and let it boil; let it remain till quite cold, and then add a little lemon juice.

CHOCOLATE.—In preparing chocolate for family use, cut off about two inches of the cake to one quart of water; stir it first in a little cold water till it is soft, then pour on the boiling water. After it has boiled a short time, add a pint of milk; boil up and serve; sweeten to taste.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square). \$1.00 \$3.00 7.50 24.00
One inch..... .2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. D. STRONG

SAN FRANCISCO:

Saturday, July 17, 1886.

TABLE OF CONTENTS.

EDITORIALS.—Bermuda Grass; The Large in Farm Machinery; New Race of Pears, 33. Cheese Curing; The State Fair of 1886; The Wool Trade, 40. Great Need of Penitentiary Reform; International Sheep and Wool Show; First Locomotives in America; Work of the Drainage Commission, 41. Notices of Recent Patents, 44.

ILLUSTRATIONS.—Bermuda Grass, 33. The "Best Friend"—The First American Built Locomotive, 41.

QUERIES AND REPLIES.—Lime for Smut; Beggar Lice, 42.

THE VINEYARD.—Mr. L. J. Rose's Wine Grapes; Tuolumne and the Grape Interest, 34.

FLORICULTURE.—Ferns of Southern California, 34.

HORTICULTURE.—Orange Marmalade, 35.

METEOROLOGICAL.—Causes of Anomalous Distribution of Rain on the Pacific Coast, 35.

THE FIELD.—The New Road Law, 35-42. Dirt in Grain, 42.

PATRONS OF HUSBANDRY.—The Mythical History of Ceres, Pomona and Flora; Visits of the Worthy Master; The Revised Manual, 36.

AGRICULTURAL NOTES from the various counties of California, 36-37.

NEWS IN BRIEF, on page 37 and other pages.

HOME CIRCLE.—Make Childhood Sweet (poetry); On the Go; How She Married Him; Our Boys; Aunt Jerusha Goes Blackberrying; What to Do When the Farm is Paid For; Chaff; Conditions Injurious to Sight in School Children, 38-39.

YOUNG FOLKS' COLUMN.—School Sketches—No. 4, 39.

GOOD HEALTH.—Keep Your Mouth Shut; Rapid Cure for Colds; Wheatmeal or Oatmeal, 39.

DOMESTIC ECONOMY.—Uses for Currants and Berries; Rhubarb and Apple Jelly; Oatmeal for Breakfast; Oranges as a regimen; A Cream to Eat with Fruit; Chocolate, 39.

MISCELLANEOUS.—Railroads in Northern Mexico; California Appropriations Passed; Land Patents Issued, 42.

Business Announcements.

St. Matthew's Hall—Rev. Alfred Lee Brewer, San Mateo. New Style Cards—Conn. Card Co., Northford, Ct. Mason & Hamlin Organs—Kohler & Chase, Agents, S. F. Pumping Engine for Sale—Manuel Eyre, S. F. Institute for Young Ladies—Mme Zeitska, S. F. Land in Fresno—E. Janssen, S. F. To Farmers—A. A. Rose, S. F.

The Week.

There has been a succession of bright days, the first touch of genuine summer which has reached the bay counties. In the interior the thermometer has reached harvest figures, and the long days have been fully employed. Reports still speak of an outcome from the separator more satisfactory than was expected, and the handling of a considerable surplus seems now assured to shippers and skippers. The question of price is one of the greatest importance, and should be studied with great care. There has been no little excitement in the Liverpool market during the past week, owing chiefly to local conditions which are liable to restrict supplies. It now seems as though the home crop of England was somewhat endangered by unseasonable weather. The reports from Russia are also unfavorable. The official newspaper of St. Petersburg, as telegraphed July 13th, publishes an article, based on returns sent by the Governors of the Provinces in European Russia, showing that the total deficit of grain, as compared with the average crop, will amount to 9,761,310 quarters, and says that in view of the poor harvest it is considered impossible to export the usual average of 40,000,000 quarters without suffering an insufficiency for home consumption. This fact will of course have some influence upon wheat values in all parts of the world. It is, however, too soon to determine future values, as there are too many conditions still undetermined. The arrivals of new wheat in this city are small, and but little trade is accomplished. Farmers generally are too busy getting the wheat into sacks to pay much attention to marketing.

The Reese River Reveille complains of the drouth in that section. It says the springs, creeks and grass are all drying up.

The Central Pacific Railroad Co. last month carried 2,840 passengers East and 3,100 West, making a total of 5,940.

Cheese Curing Rooms.

There has been considerable improvement during the last few years in the condition of curing-rooms in California cheese factories. Before that many thought that any kind of a shed would do to cure cheese in, and the result was that the ripening curd was subjected to great variations of temperature which are known to be detrimental to quality in the finished product. We have seen cheese sheds in this State where the temperature was sometimes 30° lower at daybreak than at sundown. The best temperature for curing cheese is 65° to 70° Fahr., and every effort should be made to guard against violent departures from that limit. Another most important point is that by having no decent curing or storage-rooms the cheese dairyman is forced to ship his cheese to the city at times when the price is low and is still farther depressed by the amounts coming in.

The best Eastern cheese makers are fully aware of the influence exerted by the curing-room upon the quality of the product. The president of the Wisconsin Dairymen's Association lately offered a cash prize for the best essay on the construction of curing-rooms, which was awarded to Mr. J. A. Smith, of Sheboygan county. Of the general importance of the curing-room he said: "On the question of curing cheese, I will say that I believe it is the point most neglected and abused of any of the stupidities we practice on unoffending cheese, that are comparatively perfect when they come from the hoop. There is far less difference in the quality of cheese at that time than there is after that. If all the cheese of a county like Jefferson and Sheboygan were taken from the factories, say twice a week, and put into suitable curing-rooms, where they would have the best care in addition to being in the right kind of an atmosphere, the product would sell for tens of thousands of dollars more per annum than it does now."

It will be interesting to review briefly the style of building which the prize essayist prescribed for a curing room. Although some details which he insists upon may not be essential in this country where winters are not so severe as at the East, our readers can perhaps use his ideas as suggestive and modify their construction to meet local conditions.

"The end and aim should be to construct a curing-room capable of good ventilation, in which cheese can be placed when taken from the hoop, that has a temperature of from 65° to 70°, and which can be maintained night and day, with very little variation, till the cheese are boxed and shipped. To do this it is necessary for the room to be constructed so that the cheese maker can work in harmony with the universal law that heated air will rise easily, rapidly, and freely if it has a chance, and that cold air will fall by the operation of the same law. It moves most naturally in perpendicular lines. To move heated air in a lateral direction requires far more force, as it has to struggle against the natural law that makes it rise. Hence, the positive heat force should be in the base of the building, and the escape or ventilation, at the top. So if I was going to build a cheese curing-room, to be heated either with wood or coal stoves, I would make the stone or brick base walls six and one-half ft. high, put the heating stove at one end of the basement room, the chimney at the other, and run the pipe the whole length of the room, enough below the floor joists to make it safe in regard to fire. The superstructure I would have only one high story in height, so that one or more skylight ventilators, having an orifice of 30 square ft. could be easily made without running them through a second story; but I would have a double air space between the ceiling and the roof, to the end that the hot rays of the sun could not penetrate, as they will through a roof and one ceiling. The floor of the curing-room, instead of being laid with matched stuff, I would have of one and one-half inch boards, laid far enough apart to let through the warm air from below, making interstices wider as the floor was laid from the stove to the chimney end of the building, for the reason that as the air would be warmest at the stove end the interstices should be less, to let it through. The windows should be double, and have blinds. The walls of the superstructure, if made of brick, should have an air space within, or be furrowed and plastered, so as to give an air space. If made of wood, the studing should be six inches wide, papered and sealed, both sides, and the space filled with sawdust, shavings well packed down, or grout. What is wanted is to make and retain the whole air of the room warm so as to mark 70° on the thermometer when the outside air is below that point, and when it is hotter than that outside, shut out the influence of the heat as much as possible. There will be a few hot days each season, when the heat will arise above 70° in such a building, but the influence of those days may be very much modified by throwing wide open the basement door and the windows and the skylights at night, and at times in the day when the sun is not pouring down its hottest rays. While the plan will not keep the temperature where it ought to be during a very few of the very hottest days, yet it has complete control of the room to make it as warm as required at any time, and that time embraces nineteen-twentieths of the time, or

more, of making and curing the cheese, during the time our factories are usually operated."

The plan of construction which we have described might do very well in the cooler parts of our State, as for example the regions adjacent to the coast. Cheese-making is, however, extending into the heated valleys of the interior and the sunny expanses in the southern counties. It would be altogether impossible to keep such a building as described by the Wisconsin essayist cool enough in those parts of the State. Probably cheese-makers in the warm districts will have to build lower down, sometimes excavating for part of the required height, and thoroughly shading the roof and sides of the building with quickly-growing trees. The construction of proper curing-rooms will give room for the exercise of much ingenuity, and should be undertaken with a full understanding of the local conditions prevailing.

Concerning the size of curing-rooms, the remarks of the Wisconsin essayist may be of general application: "A building 20x40 ft., having three rows of double racks running lengthwise of the building, each rack being four shelves in height, would make storing room plenty for a four thousand pound vat worked full each day. This would admit of the cheese being kept until the oldest were about seventy days old, and would store the contents of near two vats full, if sales were made as fast as the cheese is thirty days old. After cheese are thirty days old, if kept well curing in the meantime, they should be put in a cooler room than is essential for new cheese, and so I would have a partition two-thirds the distance from the stove end, across the room, and have it made with large folding doors in it, and the floor so arranged with stops that the heat from below could be shut off from that portion of the curing-room. Into this room I would put the older cheese till time of shipment. I have used "turners" and cheese box covers to set cheese on, but have not found anything so satisfactory as about one and one-half inch boards planed on both sides, and about one inch wider than the diameter of the hoops used."

The State Fair of 1886.

The State fair of 1886, commencing September 20th and ending September 25th, will be the first under the auspices and direct control and management of the State. This fact should and will invest its proceedings with a more official character, and give them a greater dignity and weight. Its records will go abroad as State documents, stamped with official authority, and bearing the indorsement of every citizen of the commonwealth. It becomes, therefore, a matter of greater importance than heretofore, not only to the State, but to each individual citizen interested in the welfare of the State, that the fair should be made a true and full exposition of all the known material resources of the territory within our borders, of all the industries and industrial productions of the State, and of all the tangible evidences of the substantial prosperity of the people.

While the members of the Board of Agriculture, who give their time and services without fee or reward, except that which comes from the satisfaction of having benefited their adopted State, propose to exert their best endeavors to make the society and the fair what they should be, they know that they can do but little unless their efforts are seconded by the people who develop those resources, conduct and manage those industries, and enjoy that prosperity. What is true of the State Board of Agriculture in this respect is equally true of each District Board. They can do but little towards advancing the material prosperity of their districts without the aid of the people of the districts. With this aid, the District and State Associations, as now organized, working in harmony for a general purpose, may contribute greatly to the general prosperity, and add millions annually to the wealth of the State.

The first thing for any one to do who desires to show the products of his farm or workshop is to send to L. N. Hoag, Secretary, Sacramento, for a copy of the new premium list. It has been issued by the State printing office in excellent style, and contains a full enumeration of awards, rules for competition, etc. There are over \$20,000 offered as premiums, and the money, so far as our examination goes, seems better apportioned than it has ever been before. There is also provision for fair awards to worthy articles which may not be named in the list, so that anything good and valuable should be brought forward.

There will be especial encouragement to exhibitors, from the fact that the Central Pacific Railroad Company will carry all articles and animals exhibited at the fair, over its respective routes, free of charge, under the following rules: Charges will be collected for transportation to the fair. After exhibition, the articles, if consigned direct to original shipping point, and the ownership has not changed, will be returned free; and the charges paid for transportation to the fair will be refunded by the railroad agent at destination, upon presentation of the Secretary's certificate of exhibition and surrender of the expense bill for freight charges paid at Sacramento. The same company will issue excursion tickets to all parties going to the fair and returning, at about half price.

For the accommodation of families and parties desiring to camp out during the fair, the board have secured ample grounds for that purpose within easy access to the pavilion and the park. By availing themselves of this opportunity, the attendance at the State fair may be made a pleasant camping tour by parties at a distance, at small expense. Our climate is most favorable for the introduction of this custom while attending our State fairs.

The managers of this year's fair seem to be making extra efforts for the success of the exhibition, and we trust they will attain it. On another page of this issue we print the speed programme of this year's fair.

QUERIES AND REPLIES.

Lime for Smut.

EDITORS PRESS:—I send you for inspection a head of wheat. You will find a part of it good while the balance is smutted. Some years ago I found a head just the reverse; that is, the lower part good while the top was smutted. I called the attention of a neighbor to it; we examined it and came to the conclusion that bluestone could not prevent smut. I then said I would bluestone no more, but have used lime (a fertilizer) all the time, and will still do so. The part of this head that is smutted stood facing the southwest. The field from which I took this head is Sonora club; that is the name it goes by here. We regard bluestone as a heavy and useless expense.—C. A. PEABODY, Solano Co.

The efficacy of bluestone application to seed wheat to kill the spores of the smut fungus, is declared by too wide a range of experiment and experience to be doubted, but whether some other treatment would not accomplish the desired result, is a proper subject for inquiry. Our correspondent's experience with the use of lime is interesting. Lime has long been regarded as a smut antidote. Some of the oldest recipes for killing smut before sowing the seed contain lime as one of the ingredients. It is true also that the application of lime to some soils will act as a fertilizer. Most of these old recipes, which contained lime, brine, etc., have been laid aside for the bluestone treatment, which has generally been found most effective. The subject introduced by our correspondent is open for remark, and the experience of all is invited.

Beggar Lice.

EDITORS PRESS:—In your issue of April 3d, you acknowledge the receipt of a package of the seed of "Sweet Beggar Lice." One of the plagues, which in coming from Kansas to California, I thought I had left behind me, was this same "beggar lice." Chiefest of all the bur family except in size, it contrives by multiplying its numbers to spread its terrors over an area greater than all the rest put together. It so insidiously buries itself, body and fangs, in anything it touches, that only a knife can scrape it loose—in its green state leaving as much of itself as it takes away; in its dry, holding its own and robbing the texture from which it is loosed of both good looks and strength. Whatever the enveloping fabric, whether of wool, silk or cotton, from head to heels the beggar bur can maintain its hold on man, woman or beast, and make of each a spectacle!—C. I. H. NICHOLS, Pomo, Cal.

THE WOOL TRADE.—Concerning the improvement in wool which was felt in this market about two weeks ago and resulted in considerable sales, Walter Brown & Co., of Boston say: "The favorable movement is, in a measure, due to an improved tone in the dry goods market, which has prevailed for the past three weeks; this is not so evident in the new business transacted, as in the completion of orders taken some months ago which it was feared, when the dull period set in, would in many instances be repudiated by the purchasers. Manufacturers can now continue their productions for the next few months, with more surety of being able to obtain a fair profit on the cost of their cloths. The developments of the past week are not sufficient to justify any positive assertion regarding the future, but they would lead us to believe that wools are now as low as they are likely to be for some time to come. We can hardly expect any rapid advance from present selling prices, in view of the large stocks already seeking an outlet in the sea-board markets, and the bulk of the new clip still back in the interiors, but we can reasonably look for a steady market with a good healthy trade; and in the event of an increased demand from consumers, possibly a gradual hardening in values during the next 30 or 60 days. With this view it would appear safe for local buyers to operate on the present basis of values, with a confidence of obtaining a reasonable profit on their purchases."

"DAILY JOURNAL OF COMMERCE."—An interesting event in the history of commercial journalism in this city is the appearance, during the present week, of the first issue of the *Daily Journal of Commerce*. The new Journal is from the well-known establishment which has published the weekly of the same name for a number of years. The great trade of this city calls for a daily record of market values, the movements of merchandise and produce by ship and rail, and other matters which enter into correct judgments on trade questions. Into this field the new *Daily Journal of Commerce* will enter, and it should receive the support and encouragement of the mercantile interest.

Great Need of Penitentiary Reform.

The shocking condition of the penitentiary system of California has been often exposed to the public attention by the press, and occasionally by some thoughtful philanthropist. It has been shown time and again that the utter lack of system and the entire want of discipline in our penitentiary had fatally perverted and defeated the objects of its institution. Thus far the matter has been unheeded. It would appear that not even the practical sense of the tax-payer had been aroused to the potent evil. That our citizens can sit apathetically in the presence of such a monstrous perversion of the clear intent of the penal institutions of the State is indeed remarkable. Sensible, hard-headed men, who directly pay the swelling taxes, do not apparently give the subject a random thought, or, if they do, are satisfied by indulging in a little querulous grumbling. This is a grave mistake, whether considered on the score of humanity or economy. It has been remarked that to spare deserved and just punishment is to encourage iniquity. There is small cause for wonder that our prisons are full to overflowing, and that there is a constant cry for more room and more cells, when the certainty that the punishment will be merely nominal, the restraint barely irksome, and the food and lodging substantial and comfortable, tempts the knave and the ruffian to risk the violation of the law.

How utterly had our penitentiary system is—a system which has been fitly characterized as a sort of "criminal university"—has been lately shown with painful clearness by no less an authority than a member of our judiciary. Judge Freelon, of the Superior Court, presided at the trial of the San Quentin murder case, in which both the slayer and the slain were convicts. The only witnesses of the crime were convicts, and in the course of the trial the inner life of the prison was laid bare. Its enormities so impressed the Judge, who has been on the bench for years, that he deemed it to be his duty to give emphatic utterance to some of the thoughts which the history of the case suggested.

"Our State penitentiary does not," he remarks, "accomplish any one of the ends for which it is supposed prisons are built and maintained. First, it does not reform, or tend to reform. Just the contrary. The prison is a school of vice of every degree, the most debased and dangerous. There is a hierarchy of crime there, and the man who has committed, is committing, or plotting to commit, the most and the worst crimes, is the most admired and respected. The man who has some good instincts left is left out of fashionable prison society. The man or boy who gets there through some accident or misfortune soon learns that to be respectable is to be had, and if he really be not bad by nature he must affect to be so. Again, this prison is no punishment for the professional criminal class. They are, as respects food, society, lodging, dress and amusement, much better off than they are hunting a living on the Barbary Coast. This is a little world of itself, has its own code of morals and manners, and the prisoners seem proud of the number of terms they have served." And such a flagitious system cannot be other than productive of evil. Judge Freelon concludes his terrible analysis by expressing the opinion that "the State should provide for a better classification of prisoners, for more enforced labor and more solitary confinement, so that even professional criminals would look at imprisonment as being some punishment, and consequently something tending to deter them from the commission of new crimes."

These are grave matters for the consideration of all good citizens—for the heads of families and the holders of property, and all the well-wishers of the State. The penitentiary at San Quentin is a standing menace to life and property; a perpetual danger to the young and inexperienced. It is doubtful if all the reeking slums of our cities produce criminals so rapidly and so fully equipped for vice as our State Penitentiary. But hitherto the glaring evils of the institution—than which the Sacramento Record-Union declares "no worse prison can be found probably on the earth"—have been exposed in vain. The supreme necessity for immediate and radical reform has been repeatedly made apparent; but it would appear that prison reform and prison discipline have come to be regarded in this State as sentimental absurdities. Other States have for years by intelligent legislation and faithful supervision, aided by private associations for promoting prison reform and discipline, sought to introduce the largest reform in their penal methods; and their efforts have achieved results that are cheering both to the humanitarian and the economist. They have shown that they could curb the vicious and induce some of them to reform; and that it was cheaper to do so than to permit the criminal class to grow in size and efficiency and to build costly prisons for their temporary withdrawal and accommodation. We cannot too soon or too faithfully act on the suggestion of Judge Freelon and make at least an attempt to establish a scientific system of classification and discipline for the government of our State penitentiary—a system that shall be at once certain and rigid and yet humane. Such a rigorous system, in which there should be no senseless cruelty, would constantly exercise a wholesome restraint and gradually lead to the reform now and then of a convict.—*Scientific Press.*

International Sheep and Wool Show.

We have already announced an international sheep and wool show to be held in the Centennial Exposition building, Philadelphia, under the auspices of the Pennsylvania State Agricultural Society. Some of our California breeders of thoroughbred sheep have talked with us about the advisability of exhibiting. There seemed some doubt whether California sheep could be entered, from the fact that we have in this State no sheep register—consequently our sheep are not recorded as provided in the rules of the exhibition. From a new list of rules and premium list which we have just received, we infer that anything directly descended from sheep recorded at the East, and whose breeding has been true, would be admitted. The rule is as follows:

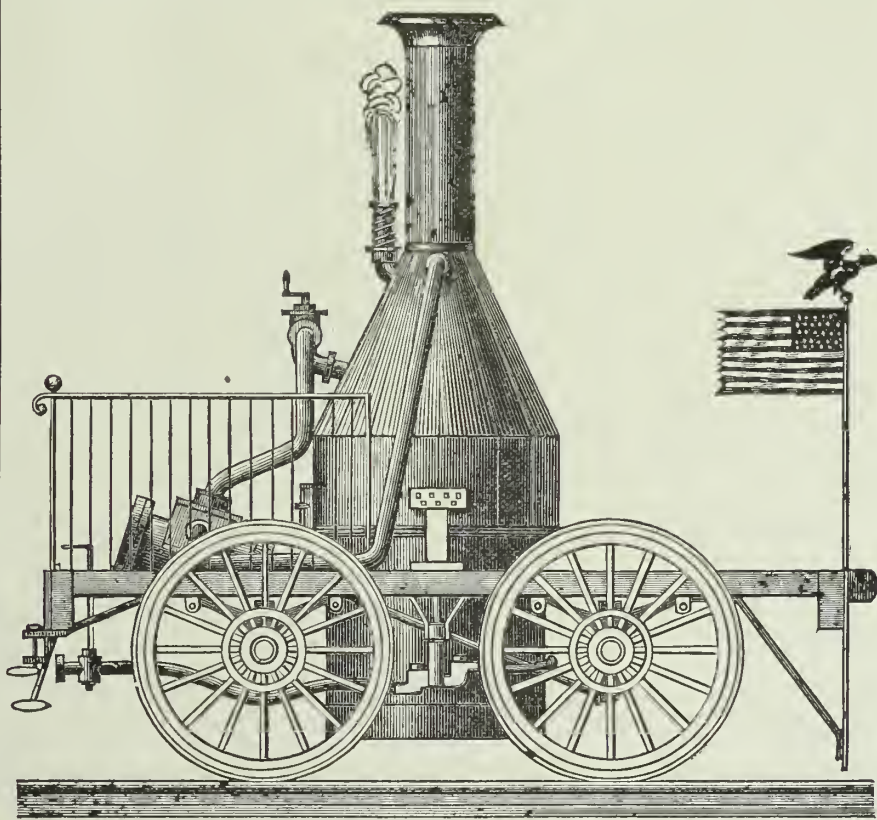
A certificate of authentic pedigree must be filed with the secretary, setting forth that the sheep entered for competition are regularly recorded in a sheep-breeder's register, recognized as such in one or more of the States, or by a foreign association of sheep breeders, or that they are qualified for entry therein, by descent and beyond dispute, where such registry exists. If registered, a copy of said certificate must be filed with the secretary for the use of the jury of awards; if unregistered, satisfactory proof of their eligibility to registration must be furnished at the time of entry.

Competition is open to the people of all nations. No entry fee is required except for the sweepstakes prizes, when a fee equal to ten per cent. of the prize must accompany the entry in all cases. The Books of Entry will be open at the office in Philadelphia, on Tuesday, July 6th. All sheep must be entered on the books of the secretary on or before the 31st day of August. Pens for the reception of sheep will be in readiness on Saturday, September

First Locomotives in America.

It is about 50 years since the locomotive was introduced in the U. S. There is now living in San Francisco one of the veteran railroad men of the country, who is absolutely familiar with the interesting incidents of the early history of the railroad and the locomotive engine in this country, "all of which he saw and part of which he was." The name of this veteran is David Matthew, now nearly three-score-and-ten. He is a worthy representative of the American mechanic, at once intelligent, alert and trustworthy. In the course of an entertaining conversation with Mr. Matthew recently, we learned that he was born in Scotland and arrived in this country at the tender age of seven, and that a few years later he was sent to the West Point foundry shops in New York City to learn the trade of machinist. It was at these West Point machine shops that the very first American locomotives were built, and where the first English locomotive brought to the country was received and set up and exhibited.

The first locomotive engine built in America for actual service on a railroad was called the "Best Friend," and was constructed for the Charleston and Augusta railroad company. This pioneer locomotive (which is the subject of our accurate and handsome illustration) was built at the West Point foundry machine shops in New York City, and the work of fitting it up fell to the lot of Mr. Matthew. Immediately after the engine was completed it was placed on the company's road, and the first experiment with a train was made November 2, 1830, N. W. Darrell acting as engineer.



THE "BEST FRIEND"—THE FIRST AMERICAN BUILT LOCOMOTIVE.

18th, noon. Before that time no sheep will be permitted to enter the grounds. All animals must be within the gates on Monday, September 20th, in order that they may be arranged for immediate examination by the juries.

We give herewith the list of premiums for Merino sheep. Middle and long-wooled sheep have proportionately liberal awards:

	First.	Second.	Third.
Ram over three years.....	\$100.00	\$50.00	\$25.00
Ram two years.....	75.00	40.00	20.00
Ram one year.....	50.00	25.00	15.00
Ram lamb.....	30.00	20.00	10.00
Three ewes over three years.....	75.00	50.00	25.00
Three ewes two years.....	50.00	35.00	20.00
Three ewes one year.....	30.00	25.00	15.00
Ewe lamb.....	20.00	15.00	10.00
Stock ram and ten of his get.....	125.00	75.00	50.00
Stock ram and lambs.....	125.00	75.00	50.00
Ram, three ewes two years, three ewes one year, and three ewe lambs.....	125.00	75.00	50.00
Grand Sweepstakes.—Best pen to consist of two rams and fourteen ewes; all to be line bred—of one breed.....	\$450.00		
Sweepstakes.—Two rams and ten ewes over one year.....	200.00		

This show will doubtless call out the best Eastern sheep; and even if California flock-owners do not feel like taking their sheep to a show, they may find it profitable to attend themselves to mark the world's progress in the specialty of wool-producing.

THE LARGEST HAILSTONES.—It has hitherto been supposed that the report of the Bombay Gazette, quoted in London Nature, of a hailstorm occurring last March at Dharwar, during which hailstones fell that measured 9 or 10 inches in circumference, was the most remarkable case on record. It has since appeared, however, on the authority of the Iowa Weather Service Bulletin, that during the month of April, 1880, thunder-storms occurred in that State, during which hailstones fell measuring 12 inches in circumference.

AMERICAN plows and other agricultural implements are being shipped from Tucson into Sonora.

from the weather—a "happy thought" of honest David Matthew, for which all American engineers at least ought to hold him in kind remembrance. About the middle of August the English locomotive, "Robert Fulton," built by the younger Stephenson, arrived and was placed on the Mohawk and Hudson road for service in the middle of the following September.

These locomotives had been used and fairly tested both on the southern and northern railroads, and the necessity for a radical change in their construction had become evident. Very soon John B. Jervis devised the plan of putting the truck under the forward part of the engine to enable it to turn sharp corners easily and safely. The machine so constructed was called the "hogie" engine. The first of these engines ever built was for the Mohawk and Hudson road, and was called the "Experiment." It was put on the road and ran by Matthew, who says it was as "fleet as a greyhound." The "Experiment" had been built to burn anthracite coal solely; after a while it was rebuilt and adapted to the use of any kind of coal, and its name was changed to the "Brother Jonathan." Shortly after these changes had been made the English locomotive "Robert Fulton," belonging to the same company was also rebuilt and furnished with the truck, and named the "John Bull." The "Brother Jonathan" was a remarkable machine for those pioneer days. Mr. Matthew says of it: "With this engine I have crossed the Mohawk and Hudson railroad from plaue to plane, 14 miles, in 13 minutes, stopping once for water. I have tried her speed upon a level, straight line, and have run a mile in 45 seconds by the watch. She was the fastest and steadiest engine I have ever run or seen, and I worked her with the greatest ease." This is certainly wonderful speed, and may be, as Matthew earnestly maintains it is, the fastest time at least on the American railroad record.

In comparison to the splendid and efficient engine of to-day, our first locomotives, built after the English model mainly, were clumsy and crude machines. Since then our improvements have been manifold and extraordinary, and the American locomotive is now pronounced the most "perfect railroad tool in the world." Its exquisite symmetry and flexibility, and its extraordinary power must fill the mind of a veteran like Matthews—who has watched its growth from its infancy in this country—with feelings of generous admiration and pride.

Work of the Drainage Commission.

The Board of Drainage Commissioners has entered upon the discharge of the duties imposed upon it. As the action of the Commissioners is destined to affect both the welfare of communities and the special interests of individuals, any plans which they may propose or adopt will have an absorbing importance and should receive the fullest publicity. With this object in view we propose to keep our readers informed of every important scheme undertaken by the Board.

The large debris dam to be constructed on the Yuba river has received the special attention of the Commissioners who have examined both sides of the river, and caused plans of the proposed dam to be drawn. We present from the Yuba City Banner a brief outline of the plan, which shows that the dam is to be built from one bluff to another bluff on the opposite side of the river, distant some 5,000 ft., or nearly a mile, and the height to be eventually over 40 ft. The base of the dam is to be about 100 ft. wide, and will be composed at first of small stones, the size of the stones to be gradually increased as height is attained. Heavy stones are to be placed on the lower side of the pile for the purpose of supporting it. The base of the dam will be so constructed as to allow the water to percolate through it until the interstices are gradually filled, and by that time the dam will be so high and built in so substantial a manner, and will be fortified, too, by the long, sloping deposit which will extend back and up the river, that the water can flow over the top without at all endangering the structure. It is not believed that the dam will be built to a greater height than 10 ft. during the present season, but that height will present a sufficient barrier to the descent of the debris. Immediately above the proposed site of the dam, there is a valley having an area of about four square miles, and it is alleged that the checking of the water by the dam will cause all the sediment and debris held in suspension to spread over and settle in this gorge, and that a grade will form and extend back and up the river for six miles, the upper end of which may be higher than the dam. The process of this formation will be similar to that by which the elevated bed of the river has already been formed, that is to say, by the natural force of gravitation. It is estimated that when the dam is completed the river in a time of flood, and running across the entire upper surface, will not be more than one ft. deep, and that the pressure upon the dam from above, though great, will not be a source of danger, because the new-formed and gradually sloping deposit, extending for miles above, will act as its own support.

JACKSON SEEDLING APRICOTS.—We have received from Isaac H. Thomas, of Visalia, a sample of the Jackson seedling apricots the same variety shown us last week by Prof. Sanders. Mr. Thomas says the Jackson is a seedling from the Moopark. He claims it to be the largest apricot grown and of superior flavor. The specimens shown were certainly noticeably fine.

The New Road Law.

[CONTINUED FROM PAGE 35.]

struction or maintenance of any bridge, they may cause a portion of the expense or cost to be paid out of the General Road Fund, or the General Fund, or levy a special bridge tax thereof not to exceed one-fourth of 1% on the taxable property of the county until the amount is raised and paid. When it is considered necessary to erect a bridge to cost more than \$200 five or more freeholders of the road district interested therein, may petition to the Board, who will advertise the fact giving place and location, for two weeks, and notify the Overseer to attend and hear the application. Overseers must, in their official reports, give full accounts of all bridges of which they have full or partial control, including cost of building or repairing. Amount expended thereon, from what source derived, and their present and prospective condition. The county is responsible for providing and maintaining bridges on all public highways, and the Supervisors may set apart a day semi-annually to consider bridge reports and complaints from officers and citizens.

Persons encroaching on public roads, may be sued in any Court by the Overseer, and if he neglect to abate any such encroachment, is liable to damage at the rate of \$10 per day for each day after receiving the notification of the Overseer. Persons injuring or destroying any shade or ornamental trees without the sanction of the Overseer, is liable to a fine of \$25.

This act shall be in force on and after its passage, was approved April 16th.—*Sonoma Democrat.*

Dirt in Grain.

EDITORS PRESS:—My letter to the PRESS last month has called forth a communication in your last issue over the signature "Thresherman's friend" in which the writer, while he has failed to meet any of my arguments, has succeeded in incorporating a very good advertisement of his derrick forks. His suggestion that the farmer should prepare the ground for the "settlings" during the winter, is utterly impracticable. The farmer cannot select the ground for the stacks of headings until he is ready to commence heading; and this for the following reasons: In the first place should the crop be a light one, his "settlings" will be "fewer and further between" than if the crop should be a good one. Then again, if the grain is lodged, he may be compelled in order to head it to the best advantage, to cut in a different direction from that which he intended when he sowed it. His suggestion that the grain dealers should build warehouses and erect machinery for cleaning grain, would entail a very heavy tax upon the producer, and would become a standing excuse for poor threshing.

Last season I had three threshing machines working on my ranch at the same time. Two of them were steam threshers using derrick forks and self-feeders, the other was a horse power fed by hand. I sold 12,000 sacks of grain to one man, about one-half of which was threshed by the horse power. Out of that threshed by the steam thresher, nearly 600 sacks were rejected as not having been properly threshed and cleaned, while out of that threshed by the horse power, not one pound was rejected.

I have never failed to convince any thresherman that the derrick fork should not be used for cleaning up stack bottoms. I called the attention of one of my threshermen to the fact that the self-feeder feeds matted grain too fast; and I so thoroughly convinced him of this, that when he came to thresh a crop on my ranch, in which he had an interest, he took off the self-feeder and fed by hand.

Threshing machines are intended to thresh and clean grain ready for market, and any good one will do so if properly fed. Let me ask the derrick-forkman's—I mean the thresherman's—friend why it is that the price of our wheat in Liverpool has steadily declined during the last few years, that is, since the introduction of the derrick fork and self-feeder. The quality of the wheat is as good as formerly, but the derrick fork and self-feeder have enabled the thresherman to tax his machine beyond its threshing and cleaning powers, and badly threshed and dirty grain and low prices are the result.

Los Angeles, Cal.

LIFE-SAVING STATIONS.—The sum of \$20,000 appropriated in the Sundry Civil bill for establishing 11 additional life-saving stations previously authorized by Congress, became available July 1st. Of the 11 new stations, the Pacific coast will have two; one at Point Conception, and the other at Bolinas bay. They will be constructed and fitted in a similar manner to the stations now in use, and it is contemplated that they shall be in order for service before next winter. Some difficulty is anticipated in selecting a suitable site for the station at Point Conception, owing to the extra-hazardous character of the coast; but the Life-Saving bureau will take unusual care in determining the site.

If the authority of foreign scientific journals is to be accepted, certain water beetles have been found living in reservoirs containing a concentrated solution of sulphate of soda; the liquid proved rapidly fatal to fishes.

Railroads in Northern Mexico.

The people of Mexico have long opposed every attempt to introduce the railway into their country, believing that its introduction would be followed by an extensive immigration from the United States, and that American occupation would eventually result in annexation. For the same reason they have resisted the innovation of American ideas and capital in the development of their mining and other resources, and by their exclusiveness have greatly retarded commercial intercourse between the two countries.

Lower California and a large portion of the mainland of northwestern Mexico is almost wholly mountainous and has long been famous for its mineral wealth. Rich silver mines have been worked there for centuries and still employ the same primitive methods of the times of the conquistadores, when the ore was carried out in large bags of rawhide on the backs of peons and broken up by hand before being reduced. The only means for transporting freight being on the backs of mules over rough mountain trails, it is not surprising that no improvement has been made in the manner of working mines and reducing ores.

Two or three railroads from the Pacific States and Territories into Mexico are projected and the line of one—the "Arizona and Mexico"—has been laid out. The completion of these roads or any one of them will be the dawn of a new era for Mexico. The increased facilities for transportation would give an impetus to mining enterprise, and reinforced by American experience, sagacity, capital and improved machinery, her annual product of gold and silver would soon surpass anything chronicled in her history. The railroad would open up undeveloped mineral territory, of which there is still a large extent in Mexico, and facilitate the development of mines in American territory through which it would pass. The route of the Arizona and Mexico railroad is located for a distance along the base of mountains upon which many of the principal mines of Arizona are situated, including the Tough Nut, Contention, Empire, Grand Central, Head Center, Tranquility, Sulphure, Cincinnati, Girard, Lucky Cuss, Maimie, Owl's Nest, Minerva, Sultana, Bell, Randolph, Junetta, Sunset, True Blue, Gordon and others, so that each can dump their ores into cars on the track by the use of tramways, and have it taken direct to the platforms of the mills along the San Pedro river. An arrangement of this kind, enabling ore to be shipped from the mines at comparatively slight expense to mills situated in convenient localities, is what is needed in the wild inaccessible Mexican Cordilleras.

California Appropriations Passed.

At the session of Congress which closed June 16th, California was fairly successful in the matter of appropriations, although many bills of public and private interests failed to go through. Notable among the items in the appropriation bills are the following: Senator Farley's amendment to the River and Harbor bill, providing for a survey and calling for a report on the debris question; the increased appropriation for the Mare Island dock, which was urged and obtained by Senator Farley and Representative Horace Davis, and other items equally important. Davis' resolution, to secure the examination of and report on the tidal area of San Francisco bay, was also passed by the House. The bills which passed, and have been approved by the President, are Senator Farley's and Representative Pacheco's Catholic Bishops' bill; Representative Page's and Senator Booth's bill for the conversion of national gold banks; the bill for the repayment of purchase money, fees and commissions on void entries of public lands, and the bill allowing settlers who may hereafter settle on public lands, surveyed or unsurveyed, the same time to file a homestead application, and perfect the original entry as now allowed settlers under the pre-emption laws to put their claims on record, and opening to claim under the pre-emption and homestead laws of the first settlers who may hereafter settle on the same; and providing further that when a homestead or a timber-culture claimant files a relinquishment of a homestead claim, the land covered by it shall be open to settlement in the manner that it would have been though no entry under the homestead law had ever been made, and Senator Booth's and Representative Davis' bill to increase the pay of the Night Inspectors of Customs, and their bill authorizing the auditing of certain unpaid documents in the Indian Bureau.

The following Pacific coast items appear in the Sundry Civil bill, as passed by Congress during its last day. The other appropriations were passed as originally reported in the estimates: For the completion of the Appraiser's stores in San Francisco, \$35,000; completing the lighthouse and fog-signal at Tillamook Head, Or., \$75,000; lighthouse at Point-no-Point, Washington Territory, \$5,000; two assistant agents of the seal fisheries in Alaska, \$2,900 each; traveling expenses for agents to and from Alaska, \$7,770; for the protection of the Government's interests on the Seal Islands, \$30,000; completing the repairs on the wharf and to continue the boring of the artesian well at the Benicia Arsenal, \$10,000; continuation of the work on the dry dock at Mare Island, \$112,500.

LAND PATENTS ISSUED.—The Commissioner of the General Land Office has forwarded to the Surveyor-General of California, a patent in favor of Anasto Carillo, his heirs and assigns, for land in the Government's half-mile-square reservation for lighthouse purposes, amounting to 160 acres within the exterior boundaries of the official survey of the rancho Penila de la Concepcion, Santa Barbara county. A Government lighthouse was erected there in 1852, and in the patent issued to Carillo in 1863, for the rancho, it was excepted and excluded therefrom. Last April Secretary Schurz held that that action was unauthorized by the law, and by his direction a patent is to be issued for the entire survey outside the reservation. The Commissioner has also transmitted for delivery a patent for two tracts of land, constituting that part of the rancho Agua Caliente confirmed to Mariano G. Vallejo. As patented, the survey contains an area of 1864 acres, and is situated in Sonoma county.

THE SUN'S SIZE.—The huge size of the sun, as compared with the earth, may in some degree be realized by the construction of a very simple model. When we take a ball of three inches in diameter as representing the sun we have to place 30 ft. from it a minute ball of 3-100ths of an inch in diameter, representing the earth and its distance from the sun.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

OXYGEN.

What is it? Everybody knows it is as essential to life as food itself. Yet when people are ill for the very want of revitalization through respiration, they dose themselves with drugs and bitters to the effect of demoralization! All Invalids should read Drs. STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*, which is sent free to all who may ask for it. The subject is worthy of investigation. References to physicians in San Francisco, who use and prescribe Compound Oxygen in practice. As prepared for home use (conveniently sent to any address) it may be obtained of H. E. MATHEWS, 606 Montgomery street, S. F., upon the same terms as furnished by Drs. Starkey & Palen, Philadelphia, Penn. Complete Instructions with each package.

PACIFIC WATER CURE

— AND —

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,

Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca

Mining & Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice, free.

Address.

DEWEY & CO.,

202 Sansome St., N. E. Cor. Pine, San Francisco.

CHOICE

Irrigated Vineyard Lands.

PLEASANT HOMES,

Good Society and Good Schools!

THE WASHINGTON IRRIGATED COLONY, In Fresno Co., Cal., presents

GREAT INDUCEMENTS

To those seeking HOMES and PROFITABLE INVESTMENTS. This Colony, situated within five miles of the Railroad and County Seat, contains over

7,000 Acres

Of Rich Irrigable Lands, subdivided into lots with Streets and Avenues with ABUNDANT WATER RIGHTS and IRRIGATING CANALS CONSTRUCTED, and with Perfect Title to both Land and Water.

Fresno County is already recognized as the best in the State for Vineyards; and the abundant facilities for Irrigation affords

Complete Protection from Phylloxera,

Which is already so destructive to the dry vineyards of the State. These lands are being sold at

Low Prices and on Liberal Terms.

Nearly 3,000 Acres are already purchased, and are being improved by excellent families, whose numerous Alfalfa fields, fine cows, and FLOURISHING CHEESE FACTORY attest the industry and sagacity with which they provide a support, while they cultivate their Fruits and ample Vineyards. For full information apply for Circulars at the office of the

WASHINGTON IRRIGATED COLONY.

22 Montgomery St., S. F. or at the Colony.

WENDELL EASTON, Treas. J. W. NORTH, Genl. Agt.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY, President
JOHN LEWELLING, Vice-President
ALBERT MONTELLIER, Cashier and Manager
FRANK McMULLEN, Secretary

DIRECTORS:

G. W. COLBY, President, Butte Co
JOHN LEWELLING, Vice-President, Napa Co
J. V. WEBSTER, Alameda Co
URIAH WOOD, San Benito Co
J. C. MERYFIELD, Solano Co
THOMAS MCCONNELL, Sacramento Co
I. C. STEELE, San Mateo Co
SOLOMON JEWETT, Kern Co
O. J. CRESSEY, Stanislaus Co
SENECA EWER, Napa Co
A. D. LOGAN, Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

INVENTORS, and others interested, will receive DEWEY & CO.'S MINING AND SCIENTIFIC PRESS PATENT AGENCY Circular free on application at this office. It contains 42 pages of hints and information about Patents, Patent Laws, Patent Office Regulations, and how to obtain valid patents.

Educational.

THE
BERKELEY GYMNASIUM.A BOARDING AND DAY SCHOOL.
Classical, Literary and Scientific.This institution has the patronage of the
BEST FAMILIES OF THE COAST.The Fourth School Year Begins on
MONDAY, JULY 12th.For list of References and full discussion of Depart-
ments of EducationAPPLY FOR CATALOGUE TO
JOHN F. BURRIS, Superintendent.

BERKELEY, CAL.

THE DEGEN
Classical & English School,
1265 Franklin St., Oakland Cal.
The Sixth Year Begins July 14th.This School prepares boys for the State University or
Eastern Colleges. None of our students has ever failed
to pass the entrance examinations. There are no board-
ers, but board will be found in select private families,
for those who may desire it. Many of our best students
have been from the country.For Catalogues address the Principal,
GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.CALIFORNIA
MILITARY ACADEMY
AT OAKLAND.The Next Session Will Begin
July 19th, 1880.Rev. DAVID McCURE, Ph. D., Principal.
Oakland, Cal.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than
which there is none better in the State or on this coast,
will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House,
721 Market St., San Francisco, or at Hardy's Bookstore,
959 Broadway, Oakland. For other particulars addressS. S. HARMON, Principal,
Washington Corners, Alameda Co.MISS COCHRANE'S SCHOOL
FOR YOUNG LADIES AND CHILDREN.
No. 1036 Valencia St., S. F.The next session will open August 4, 1880. Boarding
Pupils limited to Ten. For terms apply to
M. B. COCHRANE, Principal.Mrs. Colgate Baker's
BOARDING AND DAY SCHOOL
For Young Ladies,
AND KINDERGARTEN FOR CHILDREN.
850 Van Ness Avenue, San Francisco.MRS. POSTON'S SEMINARY,
Oak St., bet. Tenth & Eleventh, Oakland.
THE NEXT SCHOOL YEAR BEGINSWednesday, July 28th, 1880.
E. C. POSTON, Principal.GOLDEN GATE ACADEMY.
OAKLAND, CAL.A First-class Boarding and Day School will begin its next
term July 27, 1880. For information visit the Premises or
apply to Rev. H. E. JEWETT, M. A., Principal.

TO SEEDSMEN.

Yellow Danvers Onion Seed

From selected stock, crop 1880. Raised and for sale in
quantities to suit by
JOS. HALE,
Stockton, Cal.FRUIT AND GRAIN FARM FOR SALE,
Near Sacramento, Cal.Eighty acres of choice land, two miles from city limits;
half mile east upper Stockton road; 800 Fruit trees, one acre
Grapevines, two acres Blackberries. Sixty-five acres in Grain
will be sold with or without crop. Good House and Out
Buildings. Farm well fenced; five Windmills and Horse
Power; Fish Pond; three-quarters of a mile from good
School. This property will be sold cheap. Terms cash.
Apply at the ranch. J. K. HOUSTON.60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc.
16c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,
Importers and Breeders of THOROUGHBRED

SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Ver-
mont and California. Unsurpassed in quality and condi-
tion. Purchasers are invited to examine. We are cultivating
the style of wool pre-eminently required on this coast.
Berkeley, Alameda County, Cal.HALF-BREED JERSEY
HEIFERS FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at
San Bruno Station S. P. R. R.

PRICES:

One Week Old	\$ 5.00
One Month Old	10.00
Two Months Old	15.00
Three Months Old	20.00

Or at 50 cents less at JERSEY FARM, San Bruno.
R. G. SNEATH.

RAMS FOR SALE.

300 THOROUGHBRED

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first impor-
tation of Spanish Merino
Sheep to California, in 1854.Prices to suit the times. Residence, one mile north of
McConnell's Station, Western Pacific Division C. P. R. R.
P. O. address, MRS. E. MCCONNELL WILSON,
Elk Grove, Sacramento Co., Cal.

ANGORA GOATS.

FIVE HUNDRED HEAD OF GRADED ANGORAS
from 8 to 15-16, for sale for cash or exchange for cattle.Apply to D. F. NEWSON,
Arroyo Grande, Cal.Dr. A. de Labrousse,
VETERINARY SURGEON.

(Graduate of Alfort's College, Paris.)

Blisters, Ointments, Blood Purifying and Re-
storative Powders and Medicines for Horses,
Cattle, Hogs and Sheep, sent on application.
Cure guaranteed. Address, giving full particulars
INFIRMARY and LABORATORY, 1125 Market St., S. F.

B. K. BLISS & SONS
HAND BOOK.
A COMPLETE GUIDE FOR
THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

COPP'S
AMERICAN SETTLERS' GUIDE.Public Land System Explained; How to tell Township
and Section Corners; How to Homestead and Pre-empt
land; How to Enter land under Timber Culture, Desert,
Townsite and other Laws. Sent by mail postpaid for 50
cents.
DEWEY & CO.,
202 Sansome St., S. F.Mission Rock Dock and Grain Warehouse.
San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.
Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,
Cor. Japan and Townsend Sts., S. F.First-class Fire-proof Brick Building. Capacity, 10,000
tons. Goods taken from the Dock and the Cars of the C. P.
R. R. and S. P. R. R. free of charge. Storage at Current
Rates. Advances and Insurance effected.

LAND

Good land that will raise a crop every
year. Over 14,000 acres for sale in lots to
suit. Climate healthy. No drouth, bad
floods, nor malaria. Wood and water
convenient. U. S. Title, perfect. Send stamp for illus-
trated circular, to EDWARD FRISBIE, Proprietor of
Reading Ranch, Anderson, Shasta County, Cal.

Lands for Sale and to Let.

Rare Opportunity

— FOR A —

COLONY

— OR —

Farming Enterprise!

A tract of land, comprising 20,000 acres, lying in Town
ship 16, south, range 19 and 20 east, in

FRESNO COUNTY,

Is offered in whole or in part, as a very desirable location
for a Colony or extensive farming enterprise.This land is in the immediate vicinity of several Colo-
nies, which are already in successful progress.Work for bringing water upon the land has already
been commenced, and the land is so situated that it can
be irrigated at very little outlay. It is also convenient for
Railroad transportation.

Terms Reasonable.

For further particulars inquire of FRANKLIN D.
COTTE, No. 932 Howard Street, San Francisco, or
COTTE & LUCE on the premises, or at Fresno
City, Cal.

FRUIT FARM

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for
\$25,000. Is offered for \$20,000 and
will pay a Good Interest on the in-
vestment.There are 118 acres of choice land—40 acres in Straw-
berries, 7 acres in Blackberries, 700 young Pear Trees,
and an Old Orchard. Has several flowing wells, a large
house of 10 rooms, marble mantels, etc. The house is
completely finished, Brussels carpets on most of the floors;
parlor, sitting-room and bed-room furniture all nearly
new.With Stock consisting of Horses, Cattle, Hogs, Farming
implements, etc., sufficient for the place, all for the price
above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Dairy Farm For Sale.

Four miles west of Watsonville, in Santa Cruz county,
Cal. One Thousand Acres of first-class Dairy Land,
which will be sold in whole, or in part to suit purchaser,
very cheap. The place can be divided into 10 or more
small Farms, with

Lasting Springs of Pure Water,

On each 50 acres. All under fence, and 400 acres under
cultivation. Living water, enough to irrigate nearly all
the place.

Plenty of Firewood.

For particulars enquire of

FRANK LARKIN, on the place.

Pajaro Valley Nursery

FOR SALE.

Situated in the Town of Watsonville.
WAS ESTABLISHED IN 1867.Contains 27 acres of land. There is about 60,000 trees
under cultivation, embracing all the leading varieties of
Fruits, with Shade and Ornamental Trees, 7 acres of the
best varieties of Strawberries, Raspberries and Blackber-
ries, together with all the necessary Tools, Buildings,
etc., for conducting a first-class business. An abundance
of water for Irrigation.The proprietor being compelled to sell for the reason
that he is about to leave the State, offers to any one wish-
ing to engage in a profitable and well-established business
a very great bargain. For further particulars apply to
JAMES WATERS, Prop.,
Watsonville, Santa Cruz Co., Cal.

Sheep Range For Sale.

About 3,169 acres of deeded land, four cabins
and corrals; plenty of good water. Has a front-
age of four miles on Elder Creek, and is situated
in Tehama county, in T. 25 and 26 N., E. 6 W., M.
D. M.; will keep 6,000 sheep. I have a good summer range
which I will let go with it. For further particulars apply at
the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California.
March 24th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in
the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

THE

BEST NEW MUSIC BOOKS.

For High Schools.

The Welcome Chorus. \$1.00

By W. S. TILDEN. Just out.

For Seashore or Mountains.

Gems of English Song;
Cluster of Gems; (\$2.00.) Or one of 30
Instrumental Bound Volumes of Sheet Music. All the
same price.

For Sunday School Conventions.

White Robes. (30 cts.)

By ABBEY and MUNGER. Very popular.

For Choirs, Conventions, Singing Classes.

Voice of Worship. (\$1.) L. O. EMERSON.

The Temple. (\$1.) By W. O. PERKINS.

Examine for your Fall Classes.

For Amateur Performers.

Sorcerer, (\$1.00.) Bells of Corneville, (\$1.50).
Pinafore, (50c.), and many other Operas and Cantatas.
Any book sent, post-free, for the retail price.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for
gentlemen and ladies visiting the city from the interior. No
dark rooms. Gas and running water in each room. The floors
are covered with body Brussels carpet, and all of the furniture
is made of solid black walnut. Each bed has a spring mat-
tress, with an additional hair top mattress, making them the
most luxurious and healthy beds in the world. Ladies wish-
ing to cook for themselves or families, are allowed the free
use of a large public kitchen and dining room, with dishes.
Servants wash the dishes and keep up a constant fire from
6 A. M. to 7 P. M. Hot and cold baths, a large parlor and read-
ing room, containing a Grand Piano—all free to guests. Price
single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars
to corner Third and Howard.

REMOVAL.

John F. Ceary, M. D.

For the last 18 years at 632 Howard street, San Francisco,
has

REMOVED TO OAKLAND.

Consulting rooms, Erie House, 1113 Broadway.

Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.

Diseases of women and children a specialty for 25 years.

Rent paid two and a quarter years buys one.

BEST CABINET OR PARLOR ORGANS
IN THE WORLD; winners of highest
distinction at EVERY WORLD'S FAIR FOR 13
YEARS. Prices, \$51, \$57, \$60, \$84, \$108, to
\$500 and upward. Also for easy pay-
ments, \$5 a month or \$6.38 a quarter
and upward. Catalogues free. MASON
& HAMLIN ORGAN CO., 154 Fremont
St., Boston; 46 East 14th St. (Union
Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for
use. Also Veterinary cases and books. Send for cata-
logue. Address BOERICKE & TAFEL,
Homœopathic Pharmacy, San Francisco.

DIVIDEND NOTICE.

The German Savings and Loan Society.

For the half year ending this date, the Board of Di-
rectors of THE GERMAN SAVINGS AND LOAN SO-
CIETY has declared a dividend on Term Deposits at the
rate of six (6) per cent. per annum; and on Ordinary De-
posits at the rate of five (5) per cent. per annum, free
from Federal Taxes, and payable on and after the 15th
day of July, 1880. By order.GEO. LETTE, Secretary.
San Francisco, June 30, 1880.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested.
Young Queens ready April 1st. Also, Wintered-over
Queens. Purity and safety guaranteed. Comb founda-
tion, smokers, knives, bee-books, etc. Sample Premium
live. Address with stamp,JOS. D. ENAS,
Sunny Side, Napa Co., Cal.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown
Leghorns, Spangled Hamburgs and Partridge Cochins.
All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

A. AITKEN. F. N. FISH

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., bet. Sixth & Seventh, - - SACRAMENTO, CAL.

50 Pertumed, Snowflake, Chromo, Motto Cards, name in
gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

The State Fair Races.

The following is the programme of races which has been prepared by the board for the six days of the fair:

First Day—Monday, Sept. 20th.

No. 1—Running. Two-year-old stake, three-quarters of a mile dash; \$50 each, \$15 forfeit, \$150 added; second colt to save stake.

Wm. Lynch names Leta Psi, b. c. by Monday, dam by J. W. Dougherty's Arabian Horse.

W. H. Coombs names br. c. by Shannon, dam by Lodi; also ch. c. by Shannon, dam by Lodi.

D. S. Terry names Lily Ashe by Joe Daniels, dam Reville, by Woodburn.

No. 2—Running. Mile heats, three in five. Purse, \$1,000. Five to enter, three to start. Ten per cent. entrance. Seven hundred dollars to first horse, \$200 to second and \$100 to third. Distance, 40 yards. Entries to close on the Saturday previous, by 12 o'clock M.

No. 3—Pacing. Free for all. Purse, \$600. Three in five. Five to enter, three to start. First horse, two-thirds; second, two-thirds of remainder; third, the balance.

Second Day—Tuesday.

No. 4—Trotting. Stake for two-year-olds; \$25 to accompany nomination, and is to be forfeit; \$75 to be paid the first day of fair. If two colts start, \$250 to be added; first colt, three-quarters; second colt, one-quarter. If three start, \$300 to be added; first colt, two-thirds; second, two-thirds of remainder; third colt, the balance. If four or more start, \$350 to be added; same division of money. No added money to be given for a walk-over, except the best time of the State be beaten, in which case \$100 added money will be paid the colt beating said time. The colt making the walk-over shall receive all the stakes and forfeits.

H. R. Covey names Fred Crocker, b. c., black points; also, Maybell, b. f., black points.

M. W. Hicks names Flight, b. f., two white stockings behind; by Buccaneer, dam by Flaxtail.

L. J. Rose names br. f. Sweetheart, by Sultan, dam Minnehaha.

J. C. Newton names Baton Rouge, b. c., white spot in forehead and small strip on nose; by Echo, dam by Howard's Membrino.

No. 5—Trotting. 2:40 class. Purse, \$1,000. First horse, two-thirds; second, two-thirds of remainder; third, the balance. [Deitz mare oared.]

No. 6—Trotting. California annual stake. Pools of 1877; \$25 forfeit, \$50 Jan. 1, 1880, and \$50 30 days before the race, \$400 added. First colt, six-tenths; second, three-tenths; third, one-tenth. Closed June 1, 1879, with the following nominations:

L. H. Titus names b. f. Hattie Johnson, by Echo, dam unknown.

John Young names b. f. Odulia, by Echo, dam the Young Mare.

F. M. Slaughter names b. f., by Echo, dam Dell Mason.

L. J. Rose names r. f. Phaciola, by Silvertread, dam Minnehaha.

L. H. Baker names b. c. Phil. Sheridan, by Hercules, Jr., dam by Jim Hawkins.

J. W. Knox names b. f. Princess, by Nutwood, dam Addie by Hamilton.

H. R. Covey names (for Gov. Stanford) b. f. Prima Donna, by Mohawk Chief, dam Matis Occidentis; also, b. f., by Mohawk Chief, dam Prussian Maid; also, br. f., by Mohawk Chief, dam by May Fly; also, br. f., by Mohawk Chief, dam May Flower.

Daniel Brown names h. c. Jackson Temple, by Brown's Volunteer, dam Alice Daniels.

William Bihler names —, by General Danna, dam by Nelson.

Charles A. Dunfee names b. f. Belle Echo, by Echo, dam by Belmont.

The second money has been paid on Hattie Johnson, Phaciola, Prima Donna, Bay Filly, dam May Fly, and Belle Echo.

Third Day—Wednesday.

No. 7—Trotting. 2:25 class. Purse, \$1,200. First horse, two-thirds; second, two-thirds of remainder; third, the balance.

No. 8—Trotting. Stake for three-year-olds or under; \$25 to accompany nomination, and is to be forfeit; \$75 to be paid the first day of the fair. If two colts start, \$250 to be added; first colt, three-quarters; second colt, one-quarter. If three start, \$300 to be added; first colt, two-thirds; second, two-thirds of remainder; third colt, the balance. No added money to be given for a walk-over, except the best time of the State be beaten, in which case \$100 added money will be paid the colt beating said time. The colt making the walk-over shall receive all the stakes and forfeits.

H. R. Covey names Glenora, blk. f., white hind ankles.

A. C. Deitz names b. c. Emperor, by Ralston, dam Katy Tricks.

E. L. Maybry names s. c. State of Maine, by Seal's Elmo, dam Kitty Clyde.

George W. Trehern names bl. c. Resolution, by Prince Orange, dam Crickett.

C. A. Dunfee names gr. s. Len Rose, by A. W. Richmond, dam Barbara.

E. Newland names Phaciola, by Silverthread, dam Minnehaha.

S. Crandall names b. c. Alex., by Alexander.

W. E. Morris names s. s. Upright, by Whipple's Hambletonian, dam by Gilroy Belle.

John Wade names s. c. Honesty, by Priam, dam by Chieftain.

Wm. Smith names Annie Laurie, by Echo, dam by Ten Broeck; bright bay, white left hind foot.

Wm. Corbitt names b. g. Slow Go, white hind legs and near foreleg, star and strip; also, gray roan gelding; Roan Irvington, strip in face.

J. C. Newton names Belle Echo, by Echo, b. f., white hind heels, dam by Belmont.

Fourth Day—Thursday.

No. 9—Trotting. Stake for 2:22 class, \$25 to accompany nomination; \$75 to be paid the first day of the fair. If two start, \$300 added; two-thirds to first horse and one-third to second. If three start, \$400 added; and if four or more start, \$500 added; two-thirds to the first horse; two-thirds of remainder to second, and balance to third horse.

No. 10—Trotting. 2:50 class. Purse, \$600. First horse, two-thirds; second horse, two-thirds of remainder, and third horse the balance. [Deitz mare barred.]

Fifth Day—Friday.

No. 11—Trotting. 2:30 class. Purse, \$1,200. First horse, two-thirds; second, two-thirds of remainder; third, the balance.

No. 12—Trotting. Four-year-old or under class. Purse, \$600. Should there be less than five entries in this race, the purse will be reduced in proportion, but the race will be closed if three enter, and the purse in that case will be three-fifths of \$600, or \$360. First horse, two-thirds; second, two-thirds of remainder; third, the balance. [Steinway barred.]

Sixth Day—Saturday.

No. 13—Trotting. Free-for-all class. Purse, \$1,500. First horse, two-thirds; second, two-thirds of remainder; third, the balance.

No. 14—Trotting. 2:40 class. Two miles and repeat. Purse, \$1,000. First horse, two-thirds; second, two-thirds of remainder; third, the balance. [Deitz mare barred.]

Special Purse.

No. 15—Special purse of \$1,000, for a race between Captain Smith, Steinway and Jewett. Conditions—That all shall start, and that any other four-year-old in the United States may enter; six-tenths to first horse, three-tenths to second, one-tenth to third. Day run to be fixed hereafter.

Gold Medal Races.

The board offers the society's gold medal to each or

either of the three horses, Elaine, Santa Claus and Steinway, to trot single, to rule, to harness, on such days of the fair as may be fixed upon, the medal to be given to each horse beating his or her present record.

Grain Cleaning and Grain Cleaners.

We observe that the recent agitation concerning the foulness of California wheat is having an excellent effect and it is probable that this year's crop will come into market in better condition and with a less percentage of cheat and other foul seeds than ever before. The farmers appear to be fully awake to their interest in the matter and are taking unusual pains to have their wheat thoroughly cleaned. This is very gratifying and if persisted in cannot fail to make California wheat bring the highest prices in the markets of the world.

This very desirable result is being accomplished in a great degree by the large power grain cleaner that accompany or follow the threshing machines from field to field. Indeed, they are getting to be almost as common as the threshing machines themselves, and we are very glad to see that such is the case.

There are quite a variety of power cleaners in use, all of them good, but some better than others, of course. They are driven by steam or horse power in the same manner that threshing machines are.

We are led to these remarks by the receipt of a letter from the Sweepstake Plow Co., of San Leandro, who write us that they are manufacturing a very rapid and powerful grain cleaner, used in Sonoma county last year. It is called Lyon's Automatic Grain Separator, and is somewhat different in construction and operation from other machines of its class.

Its general appearance is something like that of a threshing separator. Its interior is made up of a great number of large screens through which a blast of air is sent by a fan running at one end. The wheat passes over no less than 150 ft. of these screens and comes out pure wheat and nothing else. The fans all have what is known as the "end shake," that is they vibrate endwise of the machine. The vibration is very short—not more than half an inch—but very rapid. There are screens for removing barley, oats, cheat, mustard seed and white caps (broken kernels) and these all come out by themselves.

Its capacity is from 50 to 60 tons per day, and it takes the grain direct from the threshing machine if desired, or it may be used after the grain is sacked, either in the field or the warehouse. The charge for cleaning is from 75 cts. to \$1 per ton.

Grain was cleaned by one of these machines on Clark's ranch, near Santa Rosa last year, which was increased in value by the operation \$7 per ton, and the screenings sold for one cent a pound. In some cases wheat was made merchantable which could not be sold at any price previous to being cleaned.

Of course, the advantage of cleaning wheat is in proportion to its foulness, but it seldom fails to enhance its value \$3 per ton, while the screenings are usually worth about as much as barley.

We consider this a matter of much importance to the farming interest of this coast, and think those interested would do well to examine the machine above referred to.

AN ILLUSTRATED HANDBOOK.—We have received from the S. F. News Publishing Co., a neatly illustrated handbook of Santa Cruz and Monterey, compiled by Mr. Henry Meyrick. A hasty glance will show it to be a bright and pleasant as well as an extremely useful companion. Its illustrations are light and breezy trifles, and inspire a disposition to cheerful fun. All the points of local interest in either Santa Cruz or Monterey, indeed everything that is attractive in those delightful watering-places, are given in agreeable detail. The brief history of charming old Monterey, with its exquisite scenery and delicious climate, is a bit of good reading. There are, besides, maps of both places. Everyone desirous of finding a piece of lovely and sheltered bay coast, will, we are sure, thank the compiler of this pleasant handbook.

ST. MATTHEW'S HALL.—The next term of school at St. Matthew's Hall, San Mateo, begins on the 22d inst., next Thursday, as will be seen by advertisement in another column. The last term of this well-known institution was the most successful in its history, and the prospects now are that the next will be even more so. Applications for admission are being daily received. During the vacation the buildings have been thoroughly overhauled, renovated and put in an attractive condition; some addition to the school-rooms have been made and other extensive improvements carried out, as demanded by experience and the increased requirements for such accommodations. All its departments are perfectly arranged, and boys committed to its charge will be certain that their moral and physical welfare will be as carefully looked after as their mental training.

TO CLARIFY LIQUIDS.—The following composition is said to bleach all colored liquids, and to render bone-black unnecessary: Albumen, 300 parts; neutral tartrate of potash, 2 parts; alum, 5 parts; sal ammoniac, 700. The albumen must of course not be coagulated. The ingredients are first dissolved in a little water, and then added to the liquid to be clarified.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

BREECH LOADING FIREARM.—Wm. R. Finch, Eureka, Cal. Patented June 22, 1880. No. 229,035. This invention relates to certain improvements in the construction of magazine firearms of that class in which a vertically-running breech-block is operated by a lever and serves as a carrier to transport the cartridge from the magazine to the rear open end of the barrel, into which it is forced by mechanism for the purpose. It consists in a novel construction and combination of a solid breech-block which is moved vertically in the frame at the rear of the barrel with a swinging arm, by which the cartridge is forced into the barrel, so that the breech-block is allowed to move up and close the breech. The whole is operated by a single lever beneath the gun, and the same action cocks the gun and locks the breech-block when closed, so that it cannot be opened.

PNEUMATIC ANNUNCIATOR.—David and Theodore Morris, Market St., S. F. This device consists in attaching to the main compression cylinder a peculiarly operated check-bell or tell-tals, which is intended to indicate any leakage in the line of pipe, and consequent failure of this signal bells to sound. This check-bell is used in combination with the gong or bell-ringing cylinders in such a manner that it will ring when their bells ring, but will not do so when they fail to do so. Peculiarly operating valves in the pistons of the bell-ringing cylinders control the action of the tell-tale bell in such a manner that when these pistons fail to move properly, so as to ring the bells and actuate the valve, the tell-tale bell will not ring, nor will it when there is any leakage in the line of pipe.

BALING PRESS.—John Cook, Healdsburg, Sonoma Co., Cal. Patented June 8, 1880. No. 228,515. This press consists in the employment of a horizontal box having a follower operated by a peculiar windlass or capstan and ropes and pulley, which are placed along the sides of the box; and it also consists in a novel method of holding and tightening the baling ropes while the follower is moving up, so that they are all ready to be tied when the bale is pressed. A lever is fitted to the press by which the bale may be ejected as soon as finished. This press is economically built and operated, and material is easily introduced, and bales removed without supplemental doors or severe labor.

GRAFTING TOOL.—Charles W. Hoyt, Petaluma, Sonoma Co., Cal. Patented June 22, 1880. No. 229,040. This device consists in the employment of a pair of pivoted handles, one of which is fitted to receive a curved wooden block or bed with an elastic surface, upon which the cutter acts, while the other operating arm moves the cutter which is pivoted to it. The upper end of the cutter is also pivoted to the end of a supplemental arm which extends back and unites with the handle upon the opposite side of the pivot, so as to produce a parallel motion of the cutter, which insures its making a straight clean cut whatever the thickness of the scion or stock to be operated upon.

MAGAZINE FIREARM.—A. Schneider, 24 Erie St., S. F. Patented June 8, 1880. No. 228,560. This invention relates to certain improvements in breech-loading magazine firearms, and it is especially adapted to be used in cases where the magazine extends beneath and parallel with the barrel of the arm. And it consists in a vertically-moving breech-block in combination with an operating lever, provided with means for giving the block an intermittent movement, whereby the breech-block is made to pause when opposite the barrel while the cartridge is forced home, the operating lever moving continuously.

TURBINE WATER WHEEL.—Wm. Hacheney, S. F. The wheel is made in a frame so as to be easily portable, and is intended particularly for running with a small head of water, so as to utilize all the supply without waste of power. It has peculiarly-operating gates for controlling the admission of the water to the scrolls, and in a peculiar construction of the step or bearing for the reduction of wear.

HORSESHOE TOE-WEIGHT.—Wm. H. Hulings, Menlo Park, San Mateo Co., Cal. Patented June 8, 1880. No. 228,533. The shoe has a weight attached by means of a dovetailed shank, fitting in a correspondingly shaped slot in the shoe and secured by a screw. When this weight is removed the shoe becomes a plain, ordinary shoe, with no projection or addition to interfere with the horse's action.

THE CHANNEL TUNNEL.—It is announced that the preliminary works of the tunnel which is to connect England and France have had the most satisfactory results. The managers have sunk their shaft to the stratum in which they propose to bore the tunnel, and are now about to sink another shaft and lower all the machinery for the bore. It is estimated that in about 18 months they will have bored at least 2½ miles under the channel, and that the work will be completed in four years.

Price of Land.

People write to us continually asking the prices of land in California. Of all the difficult questions to give a definite answer, this is the most. They seldom state any limit to the price they wish to give or the amount of land they want; whether they prefer foothill, mountain or coast lands. They simply say: "What is the price of land in California?" Now, the State is the largest but one in the Union, and very naturally land varies in price according to locality, from \$2.50 to \$1,000 an acre. But if we answer the question with close figures it does not give any definite information to the enquirer.

To take up in detail and mention the prices of lands in the different parts of each county in the State, would be impossible. It is, therefore, necessary for every purchaser to come and see for himself, and select the place suited to his means and his wants. Real estate agents will not give definite details of parcels of lands for sale to any but prospective purchasers. As a general thing the price depends on the terms wanted in a great measure, and the cash buyer can do better than the one who buys on credit. Again, it depends somewhat on the size of the tract purchased. There are so many contingencies connected with the purchase of land that it is impossible for any newspaper to reliably inform its readers exactly what can be done. We can speak in general terms and general terms only.

This state of affairs might be remedied if the people owning lands would advertise them for sale in papers which are read by people apt to purchase. And then they must give something more than a vague idea of the price expected. Half the time when immigrants arrive, they are dependent solely on real estate agents, and seldom see the real owner until the sale is completed. It would, of course, be better if the buyer and seller could be brought together, but that seems impossible.

Now, our advice to people coming here to settle is to procure a good book on California, say "Hittell's Resources of California," and inform themselves generally of the character of lands and climate in different counties. Then decide as to the kind of farming they wish to pursue. Then take a trip to the county selected and examine personally the different lands for sale, comparing the price with that of other lands they may see on the way. The only possible method of getting what is wanted is to spend a month or two looking round and getting posted before purchasing. When this course is adopted, if a man is not suited it is his own fault.

Patent Office Models.

There is a common impression abroad that inventors no longer need prepare models to send with their applications for patents to Washington, and that drawings alone will now answer the purpose. This is a mistake. Some weeks ago the Commissioner of Patents issued an order that models need not be filed "except when required by the examiner in charge." It is this order which has led to the misapprehension.

It happens, however, to be a fact that many of the examiners can, with difficulty, "read" drawings, and require the model in order to understand the drawings. An inventor is, therefore, liable to be called upon any day for the model in any case, and in order to be prepared to meet the call promptly, the inventor should send his model, through his agent, with the specifications and drawings.

If the case is forwarded without models, there is liability of great delay, which generally happens when least expected. As the inventors furnish the models, and as they are necessary for making proper drawings, it is much better to have them, anyhow.

After the case is filed in the Patent Office, and has waited its turn two or three weeks, when it is taken up by the examiner and he demands a model, it delays the business of procuring the patent very materially, since, instead of receiving definite news about the application, the inventor receives a notice to furnish a model. Inventors on this coast would be then greatly delayed. It will take a week each way for the letters, a week or more to make the model, and then the case must again wait its turn. Then it is difficult to make a model to agree exactly with the drawings already filed, and these must agree according to the Patent Office rule. It may be, therefore, necessary to make new drawings, which will entail still further delay, since the specification must then be altered to suit the changed drawings.

Altogether those familiar with Patent Office affairs will see that it is as necessary now to furnish models as it was before the Commissioner's order was issued.

PREMIUM HARROWS.—The California spring-tooth harrows and cultivators were awarded the first premium at the Oregon State fair last week.

THE Prince of Wales spoke of himself as a citizen recently at a public dinner in London, and was lustily cheered for it.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove, to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

A Peer of the Realm.

The peer of the realm of horticultural weeklies stands the **RURAL PRESS**, just entering on its twentieth volume. As a record of our agricultural prosperity, it is a history complete; as a faithful guide and assistant to our various horticultural industries, the 10 volumes carefully preserved in our library, show the ability of its talented editor and liberality of its proprietors, as men worthy of the extensive patronage it receives. We have no greater encomiums to offer than to wish it god-speed in its mission of love.—*Petaluma Courier.*

In the Whole History of Medicine

No preparation has ever performed such marvelous cures, or maintained so wide a reputation, as **AYRES' CHERRY PECTORAL**, which is recognized as the world's remedy for all diseases of the throat and lungs. Its long continued series of wonderful cures in all climates has made it universally known as a safe and reliable agent to employ. Against ordinary colds, which are the forerunners of more serious disorders, it acts speedily and surely, always relieving suffering, and often saving life. The protection it affords, by its timely use in the throat and chest disorders of children, makes it an invaluable remedy to be kept always on hand in every house. No person can afford to be without it, and those who have once used it never will. From their knowledge of its composition and effects, physicians use the **CHERRY PECTORAL** extensively in their practice, and Clergymen recommend it. It is absolutely certain in its remedial effects, and will always cure where cures are possible.

FOR SALE BY ALL DEALERS.

FRESH attractions are constantly added to **Woodward's Gardens**, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Propr.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

J. G. COLMERN is requested to report to this office from Humboldt Co.

PAY IN ADVANCE and get the **RURAL PRESS** for \$3 a year

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, July 14, 1880.

The trade of the past week has been generally quiet, and though the Eastern operations in Grain and Provisions have given abundant material for discussion, there has been no pronounced effect upon local values.

The Wheat market abroad has experienced a notable advance. The prices by cable from Liverpool are 9s 6d/9s 7d for California No. 2; 9s 10d/10s for California No. 1.

The Foreign Review.

LONDON, July 12.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: Farmers express a great anxiety about the weather. Unseasonable weather never fails at this season to exercise a hardening influence on the Grain trade, and copious showers of the past fortnight have increased the activity in Wheat, because the supplies of home grown were small. Sales are more readily effected at an advance of 1s 3/4 quarter. Farmers now hold so little Grain that holders have felt justified in declining to sell except at higher prices. Both English and French stocks of native Wheat are practically exhausted. The consumption of both countries has to be met by foreign product, for which a fair trade was experienced at advancing prices. At this moment the situation is decidedly critical. Stocks have been worked so low by the disinclination of buyers to operate for future delivery, that it needs only a week of wet weather to bring about such a state of activity as will materially change all present values. There is no abatement in the continental demand, and the exports the past week were nearly 36,000 quarters. During the same time imports were only 30,000 quarters. Red Wheat was held with extreme firmness, and the market closed on Friday expectant and excited, with stocks at the lowest and prices at the highest. Oats are in fair request, but unaltered. The feature of the week has unquestionably been the large demand for foreign White Wheat, such as Australian and New Zealand, for the north of England and the continent. Trade closed very strong for these descriptions at an advance of a full shilling since last Monday. Sales of English Wheat last week were 15,775 quarters at 43s 9d, against 27,727 quarters at 43s 4d, during the same period last year. Imports, for the week ending July 3d, were 989,964 cwt Wheat, and 195,832 cwt Flour.

Eastern Grain and Provision Markets.

NEW YORK, July 12.—The merchandise markets are generally quiet. Breadstuffs are irregular, unsettled, and fairly active at better prices. Shippers are not doing much. Provisions are in fair demand. Pork is 10¢/15¢ higher. Lard is 2¢/3¢ better.

CHICAGO, July 10.—Wheat manifested great nervousness during the week just past, owing to conflicting reports about the weather, irregular foreign news, and peculiarities in receipts and shipments. The general and almost daily tendency has been toward higher prices, but to-day, under continued fine weather here and somewhat discouraging Eastern advices, there was a sudden decline all around, and prices closed weak at the inside. Provisions were buoyant, and Pork was strongly upward in tendency, the advance for the week being \$1.50 @ bbl. This unusual movement is caused by the manipulation of Armour & Co., who hold and handle about all the present stock of Pork, besides what can be made for the next three months. The total amount in cash and futures is estimated at well on to half a million barrels. The strength of the firm is a guarantee of their ability to carry out the programme, which may reach a higher figure on a fictitious basis, while, if receipts of Hogs fall off as rapidly in the coming weeks as thus far in July, the real values will be greatly enhanced by the relations of demand and supply. As heretofore stated in these dispatches, Pork cannot be made at profit while Hogs are so high and provisions so low as they have been. When the enormous demand for fancy cuts slackens on the Continent, and the prices of Hogs suffer a marked decline here, then it may be possible to make Pork at figures which will break the Armour corner. Until that time, and it seems to be in the distance just now, the prospects are good for Armour to add heavily to his already princely fortune. The sales for the week for August option were as follows: Wheat, 87,000 @ 93¢; Corn, 35,000 @ 34¢; Oats, 22,000 @ 23¢; Pork, \$13.50; Lard, 36,775 @ 60¢. The closing cash prices were: Wheat, 91¢/92¢; Corn, 35¢; Oats, 24¢; Pork, \$13.50 @ 13.75; Lard, \$6.75 @ 6.80.

Eastern Wool Markets.

NEW YORK, July 10.—Wool remains very quiet, but with steady inquiry. Sales of California included 40,000 lbs Fall, at 25¢; 9,500 lbs Spring, private. The Dry Goods market begins to show signs of activity, and there are more buyers than for a long time.

Boston, July 10.—The Wool market is comparatively quiet, but prices are steady and firm. Manufacturers and dealers are still moving cautiously, and transactions are quite free from excitement. There is a good demand for Wool within a certain limit, but beyond that limit buyers hesitate to go, and decline to purchase, in anticipation of any prospective advance. Combing and delaine fleeces are more inquired for, with a very firm feeling. Unwashed Wool is in steady demand. California Wool is in demand, the sales of the week comprising 487,000 lbs Spring at 25¢/40¢, and 20,000 lbs Fall at 18¢. Pulled Wool is in fair demand. There is no movement as yet in Territory Wools. Sales include Ohio and Pennsylvania fleeces, XX and XXX, at 45¢/48¢; Michigan X and medium, 41¢/45¢; Wisconsin No. 2, X and No. 1, 37¢/47¢; combed and delaine, 44¢/50¢; Kentucky combed, 38¢; unwashed combed, 33¢; Kentucky combed, 25¢/26¢; Georgia, 35¢/36¢; Missouri fine and medium, 25¢/35¢; Louisiana, 34¢/35¢; Texas, 33¢; Territory, 25¢/30¢; unwashed fleeces, 18¢/36¢; scoured, 45¢/55¢; super and X pulled, 41¢/55¢; Australia X, 31¢/37¢. The total sales of the week were 1,500,000 lbs, of which 1,390,100 were domestic.

BAGS—Bags are quiet and a fraction lower, as shown in our price list.

BARLEY—Barley has sold well. Old Barley has been taken freely for brewing and for feed. We note sales: 556 sks choice old Brewing at 87¢, and 2,000 do Coast Feed at 72¢.

BEANS—Beans are quiet; the old list of values still prevails.

BUCKWHEAT—Buckwheat is very scarce, and is quotable as high as \$3.40 per ctn. Only about 150 sks have come into this market during the last six months.

CORN—Corn is quiet and unchanged. Supplies seem abundant for present requirements.

DAIRY PRODUCE—There is nothing new either in cheese or butter.

EGGS—Prices are just at last week's level. The market is reported rather firmer in tone.

FRUIT—Our list shows considerable fluctuation in the Fruit market.

HOOPS—Some damage is reported from army worms in the interior valleys. There is no change in prices.

CALIFORNIA HOPS.—Phil Neis has issued his annual Hop Circular, which contains the following figures: Receipts from August 13, 1879, to date, 8,712 bales, of which 3,975 are from Washington Territory, 3,539 from California, and 1,198 from Oregon. The exports have been 9,311 bales, of which 9,070 went from California overland, 124 to the East Indies, 25 to Australia, 60 to New Zealand, and 32 to other countries. The coming crop on this coast, as far as present indications point, will exceed that of 1879 from 40% to 50%. Increase of acreage is small, but yards that were abandoned in 1879 have been cultivated this season, the well-known Willow Grove plantations at San Jose being among them.

OATS—Oats are quiet and unchanged.

ONIONS—Some White or Silver Skin Onions are now in and selling at 90¢/91¢ ctn; Red Onions are 60¢/65¢ ctn.

POTATOES—Potatoes are selling fairly at our quotations in the table.

PROVISIONS—The market for Cured Meat is firm, and Eastern Hams are hardened by the Chicago corner, which is described in our telegraphic reports.

POULTRY AND GAME—Turkeys and Geese are doing better this week. Venison is now in and selling at 5¢/9¢ lb.

VEGETABLES—Our list shows a lower range for most sorts of green stuff.

WHEAT—There is but little doing in new Wheat. Sales are as follows: 500 sks choice old, for Macaroui, at \$1.57; 400 ctns new, to a miller, \$1.50; 550 sks off grade, \$1.42; and 500 tons good new Shipping at private rates.

WOOL—The trade is quiet at the prices established last week.

BAGS AND BAGGING.

[JOBBER PRICES.]

WEDNESDAY M., July 14, 1880.	
Eng Standard Wheat, 91¢/101¢	45 inch..... 9¢/10
California Manufacture, 92¢/101¢	40 inch..... 9¢/10
Hand Sewed, 22x36, 92¢/101¢	Wool Sacks, 34 lb..... @50
22x40..... 12¢/13	Hand Sewed, 34 lb..... @50
22x40..... 13¢/14	Machine Sewed, 34 lb..... @50
Machine Sewed, 22x36, 92¢/101¢	Standard Gunnies..... @14
Flour Sacks, halves..... 9¢/10	Bean Bags..... 7¢/8
Quarters..... 6¢/7	Twine, Detrick's A..... @35
Eighths..... 4¢/5	A..... @37
Hessian, 60 linc..... @14	Lonesdale, Ex..... @40
	Stand..... @36

RETAIL GROCERIES, ETC.

WEDNESDAY M., July 14, 1880.	
Butter, California	25¢/45
Choice, lb.....	18¢/25
Cheese.....	25¢/30
Eastern.....	18¢/25
Lard, Cal.....	20¢/25
Eastern.....	20¢/25
Flour, ex fam, bbls	20¢/25
Corn Meal, lb.....	21¢/3
Sugar, wh. crsld	12¢/13
Light Brown.....	8¢/9
Coffee, Green.....	23¢/35
Tea, Fine Black.....	55¢/60
Finest Japan.....	55¢/60
Candles, Adm'ts.....	15¢/25
Soap, Cal.....	7¢/10
Rice.....	8¢/12
Yeast Pwdr, doz.....	15¢/20
Cand Oysters doz.....	90¢/50
Syrup, S F Gold'n.....	75¢/92
Dried Apples, lb.....	10¢/14
Ger. Prunes.....	12¢/10
Figs, Cal.....	9¢/15
Peaches.....	11¢/10
Oils, Kerosene.....	50¢/60
Wines, Old Port.....	50¢/60
French Claret.....	100¢/20
Cal. doz bot.....	30¢/40
Whisky, O K, gal.....	35¢/50
French Brandy.....	40¢/60

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., July 14, 1880.	
BEANS & PEAS.	
Bayo, ctn.....	95¢/105
Butter.....	10¢/15
Castor.....	32¢/35
Pea.....	125¢/135
Red.....	95¢/105
Sm't White.....	05¢/15
Lima.....	50¢/70
Field Peas, b'k eye	25¢/50
do, green.....	10¢/25
BROOM CORN.	
Southern.....	14¢/2
Northern.....	24¢/34
CHICKEN.	
California.....	4¢/4
German.....	63¢/7
DAIRY PRODUCE, ETC.	
BUTTER.	
Cal. Fresh Roll, lb	20¢/22
Pack Brands.....	20¢/23
Pickle Roll.....	20¢/23
Firkin, new.....	20¢/23
Western.....	20¢/23
New York.....	20¢/23
CHEESE.	
Cheese, Cal, lb.....	8¢/10
N. Y. State.....	8¢/10
EGGS.	
Cal. fresh, doz.....	20¢/22
Ducks.....	17¢/18
Oregon.....	16¢/17
Eastern, by exprs.....	16¢/18
Pickled here.....	16¢/18
Utah.....	16¢/18
FEED.	
Brn, ton.....	13¢/24
Corn Meal.....	6¢/10
Hay.....	6¢/10
Middlings.....	6¢/10
Oil Cake Meal.....	30¢/40
Straw, bale.....	40¢/47
FLOUR.	
Extra, City Mills.....	25¢/50
do, Country Mills.....	50¢/55
do, Oregon.....	45¢/75
do, Walla Walla.....	45¢/87
Superfine.....	35¢/40
FRESH MEAT.	
Beef, 1st qual, lb	6¢/6
Second.....	5¢/6
Third.....	4¢/4
Mutton.....	3¢/4
Spring Lamb.....	4¢/5
Pork, undressed.....	5¢/5
Dressed.....	71¢/73
Veal.....	6¢/7
Milk Calves.....	63¢/64
do, choice.....	7¢/7
GRAIN, ETC.	
Barley, feed, ctn.....	75¢/75
do, Brewing.....	75¢/87
Chevalier.....	35¢/40
do, Coast.....	10¢/15
Buckwheat.....	30¢/40
Corn, White.....	30¢/42
Yellow.....	10¢/12
Small Round.....	15¢/17
Oats.....	30¢/45
Milling.....	45¢/55
Rye.....	65¢/100
Wheat, No. 1.....	52¢/55
do, No. 2.....	42¢/50
do, No. 3.....	42¢/50
Choice Milling.....	57¢/57
HIDES.	
Hides, dry.....	17¢/18
Wet salted.....	10¢/10
HONEY, ETC.	
Beeswax, lb.....	22¢/25
Honey in comb.....	11¢/13
do, No. 2.....	11¢/13
Dark.....	11¢/13
Extracted.....	5¢/6
HOPS.	
Oregon.....	25¢/30
California, new.....	35¢/40
Wash. Ter.....	25¢/30
Old Hops.....	6¢/10
NUTS—Jobbing.	
Walnuts, Cal.....	12¢/15
do, Ch.....	8¢/10
Almonds, hd shd lb	8¢/10
Soft shd.....	18¢/20
Brazil.....	14¢/15
PEANUTS.	
Peanuts, sliced.....	9¢/11
do, peeled.....	9¢/11
Plums.....	4¢/5
Pitted.....	15¢/17
Prunes.....	12¢/13
Raisins, Cal, bx	15¢/15
do, Halves.....	17¢/20
do, Quarters.....	20¢/25
Eightths.....	25¢/25
London Lay's bx	25¢/25
do, Halves.....	25¢/25
do, Quarters.....	25¢/25
do, Eighthths.....	25¢/25
Zante Currants.....	8¢/10
VEGETABLES.	
Asparagus, bx.....	75¢/100
Beets, ctn.....	1¢/100
Carrots, sk.....	21¢/30
Cauliflower, doz	35¢/40
Chile Peppers, lb.....	5¢/8
Cucumbers, doz.....	12¢/25
Egg Plants, lb.....	6¢/8
Garlic, New, lb.....	3¢/4
Green Corn, doz.....	10¢/15
Green Peas, lb.....	25¢/25
Lettuce, doz.....	10¢/15
Mushrooms, lb.....	1¢/10
Parsnips, lb.....	1¢/10
Horseradish.....	6¢/8
Rhubarb, bx.....	40¢/50
Squash, Marrow	1¢/10
fat, lb.....	1¢/10
Tomato, box.....	40¢/50
Turnips, otl.....	50¢/60
White.....	50¢/60

PROVISIONS.

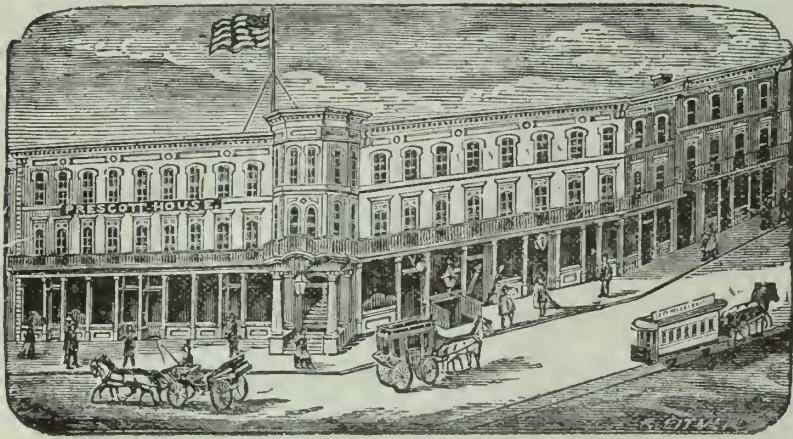
Cal. Bacon, extra	11¢/11
clear, lb.....	11¢/11
Light.....	12¢/12
Lard.....	10¢/11
Cal. Smoked Beef	12¢/12
Shoulders.....	11¢/11
Hams, Cal.....	11¢/11
Dupees.....	13¢/13
None Such.....	13¢/13
Whitaker.....	14¢/14
Royal.....	14¢/14
Palmetto.....	14¢/14
H. Ames & Co.....	13¢/14
Armour.....	13¢/14
SEEDS.	
Alfalfa.....	10¢/12
do, Chile.....	4¢/6
Canary.....	5¢/6
do, White.....	14¢/15
Clover, Red.....	50¢/55
do, White.....	50¢/55
Cotton.....	2¢/3
Flaxseed.....	2¢/3
Hemp.....	3¢/10
Italian Rye Grass	30¢/30
Perennial.....	30¢/30
Millet, German.....	10¢/12
do, Common.....	7¢/10
Mustard, White.....	3¢/5
Brown.....	14¢/2
Rape.....	3¢/8
Ky Blue Grass.....	20¢/25
2d quality.....	16¢/18
Sweet V Grass.....	20¢/25
Orchard.....	20¢/25
Red Top.....	20¢/25
Hungarian.....	8¢/10
Lawn.....	30¢/50
Mesquit.....	10¢/12
Timothy.....	10¢/12
TALLOW.	
Crude, lb.....	5¢/5
Refined.....	7¢/7
WOL, ETC.	
SPENCER.	
Southern and San Joaquin	23¢/24
Long, free.....	23¢/24
Short, free.....	21¢/23
Seedy.....	18¢/20
Slightly burry.....	21¢/23
Burry.....	19¢/20
Northern.....	23¢/27
Choice, free.....	25¢/27
Burry.....	25¢/27
Oregon, Eastern.....	23¢/25
do, Valley.....	23¢/25

FRUITS AND VEGETABLES.

[WHOLESALE.]

FRUIT MARKET.		WEDNESDAY M., July 14, 1880.	
Apples, basket.....	30 @ 65	Pears, sliced.....	9 @ 10
do, box.....	1 50 @ 1 75	do, peeled.....	9 @ 11
Apricots, bx.....	1 50 @ 1 75	Plums.....	4 @ 5
Bananas.....	2 50 @ 4	Pruned.....	15 @ 17
Blackb's, chst.....	50 @ 10 00	Pruned.....	12 @ 14
Cherries.....	6 @ 9	Raisins, Cal, bx	@ 1 50
" B. Tartar.....	10 @ 12	do, Halves.....	1 75 @ 2 00
Cherry Plums, bx	75 @ 1 00	do, Quarters.....	2 00 @ 2 25
Citrons, Cal, 100.....	8 @ 0	do, Eighth's.....	2 25 @ 2 50
Cocoanuts, 100.....	7 00 @ 8 00	London Lay's bx	2 50 @ 3 00
Currants, chst.....	55 @ 7 00	do, Halves.....	2 25 @ 2 50
Figs, black, bx.....	10 @ 1 25	do, Quarter's.....	2 50 @ 2 75
Gooseberries.....	5 @ 8	do, Eighth's.....	2 75 @ 3 00
Limes, Mex.....	7 00 @ 8 00	Zante Currants.....	8 @ 10
do, Cal, box.....	1 75 @ 2 25	VEGETABLES.	
do, large, box.....	5 00 @ 7 00	Asparagus, bx.....	75 @ 1 00
Lemons, Cal bx.....	3 50 @ 4 00	Beets, ed.....	@ 1 00
Sicily, box.....	8 00 @ 9 00	Beans, string.....	2 @ 3
Australian.....	8 00 @ 9 00	do, Fomita.....	@ 3
Oranges, Cal bx.....	3 75 @ 4 75	do, Wax.....	@ 3
do, Tahiti.....	30 @ 35 00	Cabbages, 100 lbs	@ 75
do, Mexican.....	@	Carrots, sk.....	40 @ 50
Peaches, box.....	75 @ 1 50	Cauliflower, doz	35 @ 40
Pears, basket.....	60 @ 65	Chile Peppers, lb	5 @ 8
do, quartered.....	8 @ 9	do, Canamra, doz	12 @ 15
Blackberries.....	15 @ 18	Egg Plants, lb.....	3 @ 4
Blackb's, ch't.....	50 @ 6 00	Garlic, New, lb.....	3 @ 4
Strawber's, ch't.....	60 @ 10 00	Green Corn, doz.....	10 @ 15
Sugar Cane, bbl.....	@ 2 50	Green Peas, lb.....	2 @ 2
DRIED FRUIT.		Lettuce, doz.....	10 @
Apples, sliced, lb	10 @ 11	Mushrooms, lb.....	@
do, quartered.....	8 @ 9	do, 10 lbs.....	@ 1
Apricots.....	15 @ 18	Horseradish.....	6 @ 8
Blackberries.....	15 @ 18	Rhubarb, bx.....	40 @ 50
Citron.....	23 @ 24	Squash, Marrow	@
Dates.....	9 @ 10	fat, tn.....	@
Figs, pressed.....	7 @ 8	Summer box.....	@ 75
do, loose.....	4 @ 6	Vacaville.....	40 @ 50
Peaches.....	12 @ 13	Tomato, box.....	40 @ 50
do pared.....	18 @ 20	Tumpies, oil.....	50 @ 60
		White.....	50 @ 60

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breach-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

RICHARDS & SNOW,

SUCCESSORS TO BARKER & SNOW,

IMPORTERS OF

IRON PIPE AND PLUMBERS' STOCK,

Sole Agents for the Yale Lock Mfg Co.,

AMERICAN TACK CO.,

AND FOR THE SALE OF AMOSKEAG AXES,

406 & 408 MARKET ST., S. F.

RECORD OF SUPERIORITY.

1878-AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5-Breeding Ewes.....\$22.50
Pen 5-Yearling Ewes.....22.50
Pen 5-Ewe Lambs.....22.50
Pen 3-Ram Lambs.....22.50
Yearling Ram (1st and 2d).....38.50
Two-year-old Ram.....22.00
Ram and five of his Lambs.....30.00

Sweepstakes:

For best Ram of any age or breed, and five of his Lambs.....75.00

THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAILED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda, Co., Cal. E. W. PEET, Agent.



1879-AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5-Breeding Ewes.....\$22.50
Pen 5-Yearling Ewes.....22.50
Pen 5-Ewe Lambs.....22.50
Two-year-old Ram.....22.50
Yearling Ram.....22.50
Ram and five Lambs.....30.00
Pen of 3 Ram Lambs.....22.50

Sweepstakes:

For best Ram and five of his Lambs, of any age or breed.....75.00

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird, Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street.

CHICAGO, ILLINOIS.

The Excelsior Animal Trap

Is Guaranteed to be the Best

GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$1.90. Address, G. W. JOLLY, Paradise Springs, Cal. Pat. apld for



The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apian, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

DO

NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,300 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

READING RANCH,

Shasta Co., Cal.

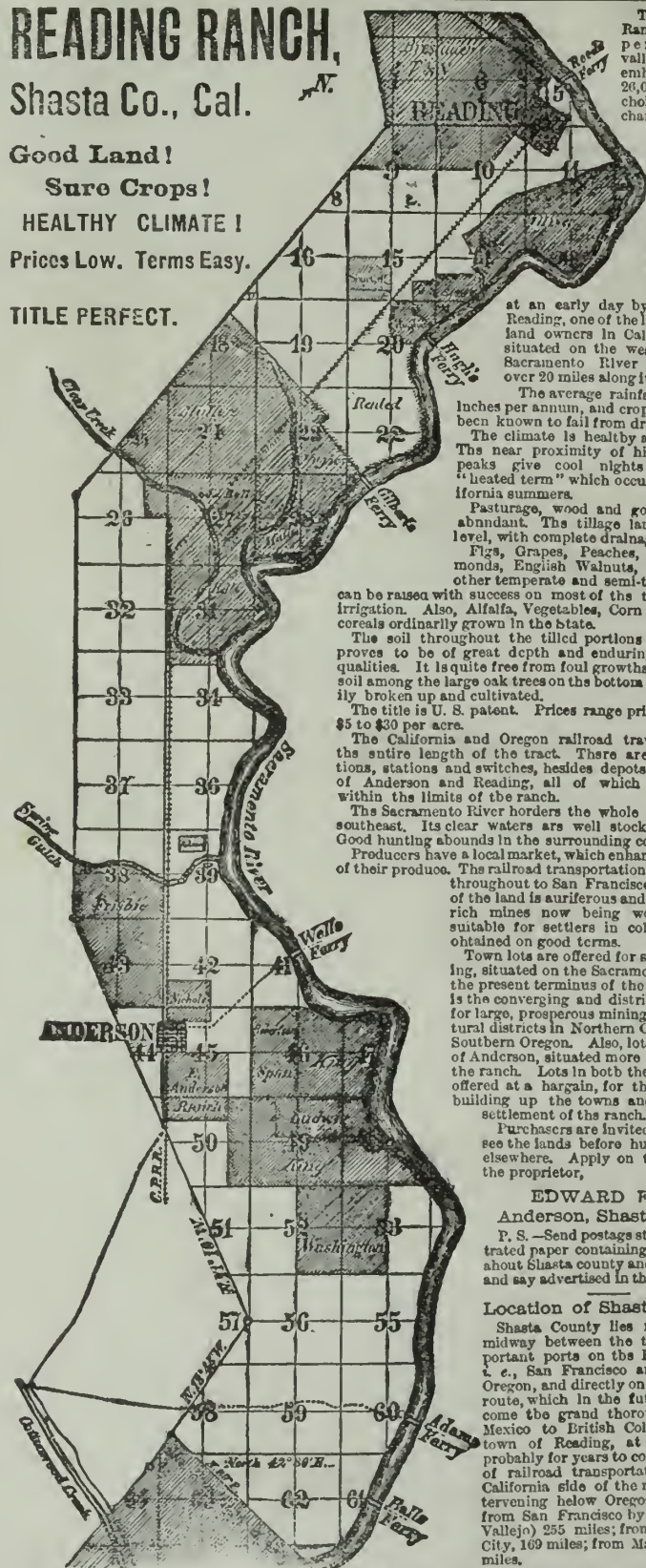
Good Land!

Sure Crops!

HEALTHY CLIMATE!

Prices Low. Terms Easy.

TITLE PERFECT.



The Reading Ranch, in the Upper Sacramento valley, originally embracing over 20,000 acres of choice grain, orchard and pasture land, is now offered for sale at low prices and on favorable terms of payment, in subdivisions to suit purchasers.

The ranch was selected at an early day by Major P. B. Reading, one of the largest pioneer land owners in California. It is situated on the west side of the Sacramento River and extends over 20 miles along its bank.

The average rainfall is about 30 inches per annum, and crops have never been known to fail from drought.

The climate is healthy and desirable. The near proximity of high mountain peaks give cool nights during the "heated term" which occurs in our California summers.

Pasture, wood and good water are abundant. The tillage land is mostly level, with complete drainage.

Figs, Grapes, Peaches, Prunes, Almonds, English Walnuts, Oranges and other temperate and semi-tropical fruits can be raised with success on most of the tract without irrigation. Also, Alfalfa, Vegetables, Corn and all other cereals ordinarily grown in the State.

The soil throughout the tilled portions of the ranch proves to be of great depth and enduring in its good qualities. It is quite free from foul growth. The virgin soil among the large oak trees on the bottom land is easily broken up and cultivated.

The title is U. S. patent. Prices range principally from \$5 to \$30 per acre.

The California and Oregon railroad traverses nearly the entire length of the tract. There are several sections, stations and switches, besides depots at the towns of Anderson and Reading, all of which are located within the limits of the ranch.

The Sacramento River borders the whole tract on the southeast. Its clear waters are well stocked with fish. Good hunting abounds in the surrounding country.

Producers have a local market, which enhances the value of their produce. The railroad transportation route is level throughout to San Francisco. A portion of the land is auriferous and located near rich mines now being worked. Land suitable for settlers in colonies can be obtained on good terms.

Town lots are offered for sale in Reading, situated on the Sacramento river, at the present terminus of the railroad. It is the converging and distributing point for large, prosperous mining and agricultural districts in Northern California and Southern Oregon. Also, lots in the town of Anderson, situated more centrally on the ranch. Lots in both these towns are offered at a bargain, for the purpose of building up the towns and facilitating settlement of the ranch.

Purchasers are invited to come and see the lands before buying here or elsewhere. Apply on the ranch, to the proprietor.

EDWARD FRISBIE, Anderson, Shasta Co., Cal.

P. S.—Send postage stamp for illustrated paper containing information about Shasta county and these lands, and say advertised in this paper.

Location of Shasta County.

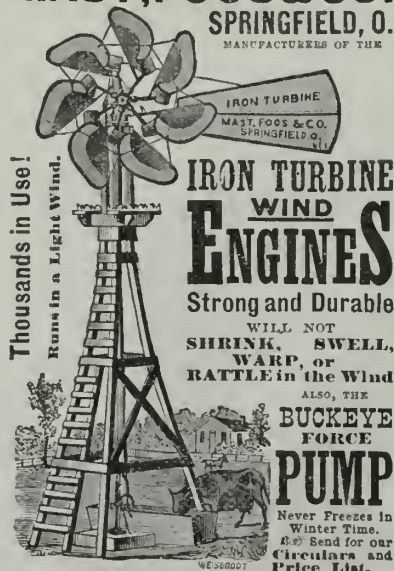
Shasta County lies not far from midway between the two most important ports on the Pacific shore, i. e., San Francisco and Portland, Oregon, and directly on the overland route, which in the future will become the grand thoroughfare from Mexico to British Columbia. The town of Reading, at present, and probably for years to come, the head of railroad transportation on the California side of the mountains intervening below Oregon, is distant from San Francisco by railroad (via Vallejo) 255 miles; from Sacramento City, 169 miles; from Marysville, 117 miles.

LAND FOR SALE OR RENT IN SUB-DIVISIONS.

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



Thousands in Use!

Runs in a Light Wind.

IRON TURBINE

WIND

ENGINES

Strong and Durable

WILL NOT

SHRINK, SWELL,

WARP, or

RATTLE in the Wind

ALSO, THE

BUCKEYE

FORCE

PUMP

Never Freezes in

Winter Time.

Send for our

Circulars and

Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. STEVENS BROS., Northford, Conn.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100, Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.

San Francisco, Cal.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in the Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Calvert's Carbolic

SHEEP WASH,

\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.



Dewey & Co. { 202 Sansome St. } Patent Ag'ts

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper prevents the wind from blowing the straw away and wasting wheat. No reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned as run in babitted boxes.
Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day. Combining strength and durability. Easily moved. Will be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE, Eureka Warehouse, Box 1,122, or of DAVID N. HAWLEY, 201 and 203 Market St., cor Main, S. F.

TRADE



MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

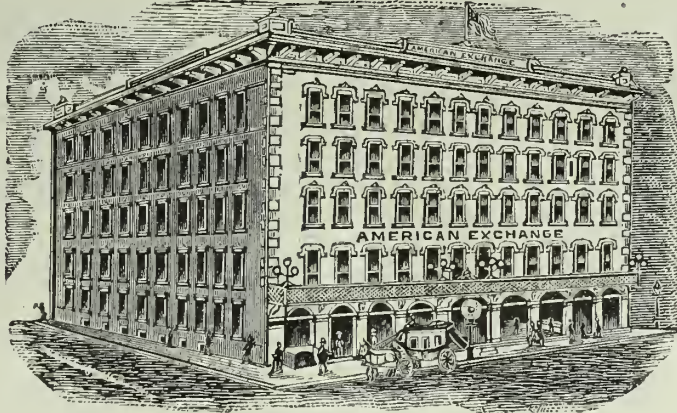
50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.

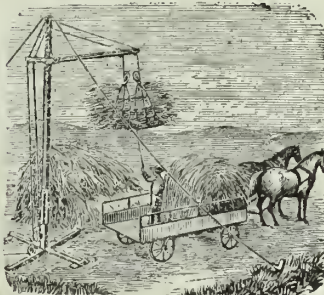


The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

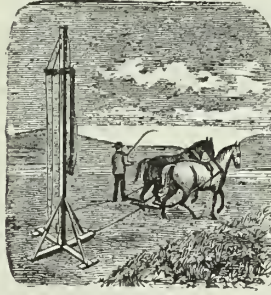
THOS. POWELL'S ELECTRIC ELEVATOR.



AT WORK

The greatest labor-saving Machine now in use. Scatters no Grain out while unloading. Large stacks can be made. Men work cheap with this Machine, and a boy can do a man's labor. The time is one and a half minutes to unload. A header will cut five acres more in a day by not waiting for a wagon. There are fewer stack bottoms in a field. The ground for stacks is not cut up by the wagon, and no Grain is lost. Several Hundred are now in use. Send for Circular and Price List. Address

THOS. POWELL, Patentee,
AT
H. C. SHAW PLOW WORKS,
Stockton, Cal.



MOVING.

Fairbanks' Scales.

PORTABLE PLATFORM SCALES,

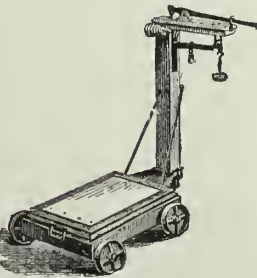
SUITABLE FOR

Weighing Hay, Grain, Dairy Produce, Etc.

All Sizes. 240 to 3,000 lbs. Capacity.

FAIRBANKS & HUTCHINSON,

417 Market street, San Francisco.



LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signatures thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Cross & Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

Save Money by Using THE CALIFORNIA SPRING TOOTH HARROW.

Read the Following Testimonials:

SACRAMENTO, Jan. 29, 1880.
Messrs. Batchelor, Van Gelder & Co.:

Gents:—This is to certify that I have tried the Spring Tooth Harrow on summer-fallow volunteer and winter plowed land, and am pleased to say that it does better work than any Harrow that I have used, especially on land that has been plowed for a length of time and has become compact. Respectfully yours,

H. M. LA RUE.
Pres. State Ag'l Society.

SAN JOSE, Dec. 30, 1879.
Batchelor, Van Gelder & Co.:

Gents:—This certifies that I have this day purchased a Spring Tooth Harrow, after having tested it to my entire satisfaction; and cheerfully say



that I consider it superior to any implement I have ever seen for thorough cultivation of the earth, and that they are just what every man with an orchard, vineyard or wheat field needs.
Yours truly,
JOSEPH ARAM.

I fully concur with the above.
MARK FARNEY.

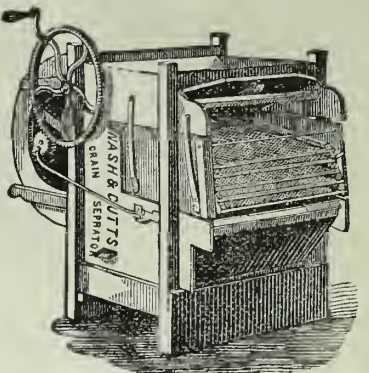
Send for Circulars and Testimonials or come to our office, and we will occupy your time for a day with similar matter.

Batchelor,
Van Gelder & Co.,
MANUFACTURERS.
902 K Street SACRAMENTO.

STILL AHEAD!

Trade Mark.

"The Improved Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly.
Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.
2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,
906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

47 We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

Windmills! HORSE POWERS! TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. L. TUSTIN.)



M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

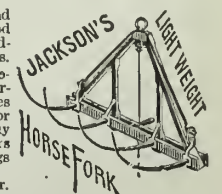
Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.
COOKE & SONS, Successors to COOKE & GREGORY

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sta., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader. Horse Forks for Headings or Hay. Folding Derrieks. Hoadley-Stray-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings & specialty. Address
BYRON JACKSON, Prop'r.



IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

SADDLES, HARNESS, LEATHER,

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in ALL GOODS in this line.
Send for Catalogue.

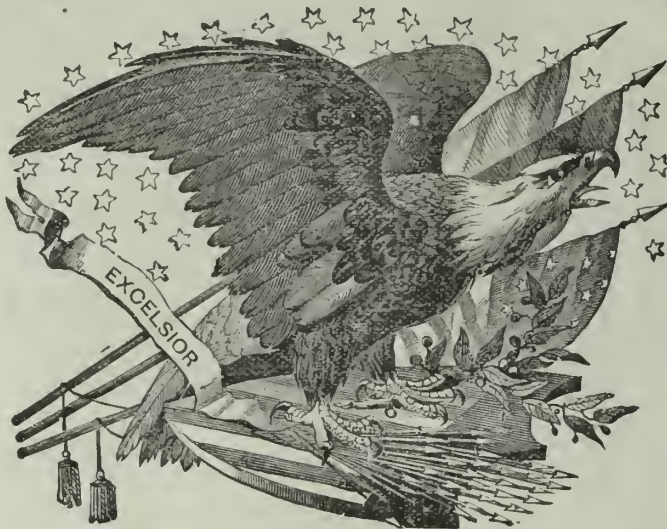
60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

DEWEY & COMPANY'S SCIENTIFIC PRESS PATENT AMERICAN. FOREIGN. AGENCY.

ESTABLISHED IN
1860.ABLE, FAITHFUL AND
REASONABLE.

202 SANSOME STREET,

SAN FRANCISCO, CAL.

The Leading U. S. Patent Agency of the West.

Send for Circular of Hints to Inventors.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel,
Bessemer, spring, copper, brass
and galvanized—on hand
or Made to Order.

Note the
Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

BUY LAND

Where you can get a crop every year;
where you will make something every
season; where you are sure of having a crop
when prices are high; where you have a
healthy place to live; where you can raise
semi-tropical as well as other fruits; where
you can raise a diversity of grain and vege-
tables and get a good price for them. Go
and see the old Reading Grant (in the
upper Sacramento Valley), and you will
find such land for sale in sub-divisions to
suit purchasers—at reasonable rates and
on easy terms. Send stamp for map and
circular to EDWARD FRISBIE, proprietor,
(on the Grant), Anderson, Shasta Co., Cal.

Pocket Map of California and Nevada.

Compiled from the latest authentic sources, by Chas. Drayton Gibbs, C. E. This map comprises information obtained from the U. S. Coast and Land, Whitney's State Geological, and Railroad Surveys; and from the results of explorations made by R. S. Williamson, U. S. A., Henry Degroot, C. D. Gibbs and others. The scale is 18 miles to 1 inch. It gives the Judicial and U. S. Land Districts. It distinguishes the Townships and their subdivisions; the County Seats; the Military Posts; the Railroads built and proposed, and the limits of some of them; the occurrence of gold, silver, copper, quicksilver, tin, coal and oil. It has a section showing the heights of the principal mountains. The boundaries are clear and unmistakable, and the print good. 1878. Sold by DEWEY & CO. Price, postpaid, \$2; to subscribers of this journal, until further notice, \$1.

50 New Style Cards. Lithographed in bright colors, 10c.

60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

This paper is printed with ink furnished by
Chas. Eneu Johnson & Co., 509 South 10th
St., Philadelphia & 59 Gold St., N. Y. Agent
for Pacific Coast—Joseph H. Dorety, 527
Commercial St., S. F.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand.
OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour
Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES,** Wool, Bean, Ore and
Salt and Seamless Cotton Bags.

Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

Pumping Engine For Sale.

NEW UPRIGHT WILCOX ENGINE.

14-inch Cylinder, 6-inch Stroke. About 8-Horse Power.
Will raise 3,000 gallons per hour. Was used to dig the
well at Chronicle office. Never used otherwise, and is in
perfect order.

PRICE, \$300.

Mr. Wilcox sold similar engines at \$800 each. I have
taken this engine as an attorney fee, and will sell it for
this price and WARRANT it. Address

MANUEL EYRE,

Law Office, No. 636 Clay St., room 25, S. F.



Five sizes are made to suit the dimensions of different
papers, viz.: 18, 22, 26, 30 and 34 inches, inside measure.

For Sale by DEWEY & CO.,

No. 202 Sansome St., S. F.

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. McCORMICK.

827 Market St., between Fourth and Fifth.

Pay Cash in advance—\$3 a year for the
Rural Press. Credit rates, \$4.

The Pacific Rural Press

Is a Large and Handsomely Illustrated Agricultural Home Journal; Original, Instructive and Attractive; Its varied contents, ably written and condensed, render it popular with its readers. We endeavor to make it a credit to the field it occupies, and to every intelligent circle it enters. ENTIRELY FREE FROM POLITICS, its columns are filled with cheerful words of encouragement for our Pacific industries and instruction for the people. It extends information of the growing wants and necessities of our rapidly increasing and progressing agriculture. You can read it with pleasure, for present and future profit; you can send it with satisfaction to your friends anywhere. Its editorials are earnest and its contents reliable. No questionable advertisements darer its pages. It is a journal for rural homes throughout the coast. It is a handsome home print, without a rival on this half of the Continent. Few, if any, Pacific coast farmers can afford to do without it. Subscription, in advance, \$3 a year.

DEWEY & CO., Publishers.
No. 202 Sansome St., S. F.

Everybody is Buying It.

COPP'S

AMERICAN SETTLER'S GUIDE.

A Popular Exposition of Our Public Land System.

PRICE—On Fine Paper and in Substantial
Cloth Binding, \$1. Edition, 50 cents.

How to tell Township and Section Corners. How to
Homestead and pre-empt Land. How to Enter Land under the
Timber Culture Law. How to Enter Land under the
Desert Land Law. Townsite Law. Timber and Stone Law.
Saline Law, etc. Every Settler, every Land Attorney, every
Real Estate Dealer should have this new book. No other
work can compare with it. Recommended by the Land Of-
ficials at Washington. FULL, CLEAR and EXPLICIT.
Latest Ruling, Instructions and Forms from the General
Land Office.

Edited by HENRY N. COPP, Washington, D. C.
Send 50 cents to the office of this paper and get a copy of
this popular book.

Engraving. Superior Wood and Metal Engraving,
Electrotyping and Stereotyping done at the office of the Mining
and Scientific Press, San Francisco, at favorable rates.

ST. MATTHEW'S HALL,

SAN MATEO, CAL.

A Classical and Military SCHOOL FOR BOYS.

The next term commences

Thursday, July, 22d, 1880.

For information address the Principal,

REV. ALFRED LEE BREWER, M. A.

Contents of Pamphlet on Public Lands of
California, U. S. Land Laws, Map of
California and Nevada, Etc.

Map of California and Nevada; The Public
Lands; The Land Districts; Table of Rainfall in Califor-
nia; Counties and Their Products; Statistics of the State
at Large.

Instructions of the U. S. Land Commis-
sioners.—Different Classes of Public Lands; How Lands
may be Acquired; Fees of Land Office at Location; Agri-
cultural College Scrip; Pre-emptions; Extending the
Homestead Privilege; But One Homestead Allowed; Proof
of Actual Settlement Necessary; Adjoining Farm Homesteads;
Lands for Soldiers and Sailors; Lands for Indians;
Fees of Land Office and Commissioners; Laws to Promote
Timber Culture; Concerning Appeals; Returns of the Reg-
ister and Receiver; Concerning Mining Claims; Second
Pre-emption Benefit.

Abstract from the U. S. Statutes.—The Law
Concerning Pre-emption; Concerning Homesteads; Amend-
mentary Act Concerning Timber; Miscellaneous Provisions;
Additional Surveys; Land for Pre-emption; List of Cali-
fornia Post Offices. Price, post paid, 50 cts.

Published and sold by DEWEY & CO., S. F.

LAND IN FRESNO.

6,000 ACRES ADJOINING THE TOWN AND THE
Central Colony. Choice, easily irrigated, canal
already on the land. For sale in quantities to suit. Ap-
ply to the undersigned, or to THOMAS E. HUGHES, in
Fresno. Also, 35,000 acres in Kern county.
E. JANSSEN, 210 California St., S. F.

MME. ZEITSKA'S

French, German and English Institute FOR YOUNG LADIES.

Number of Boarding Pupils Limited.

To Commence August 7th, 1880.

For Circulars Address

MME. B. ZEITSKA, 922 Post St., S. F.

TO FARMERS.

A young man 18 years old wishes a place on a farm,
where he can learn general farming. Has had one year's
experience. The farmer must have a family. Will give
the best of references. Wages no object. Address

A. A. ROSE,

827 Twentieth St., San Francisco.



PRICES REDUCED!

Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS. ESTABLISHED
SAN FRANCISCO, 1863.

Country Orders Attended to.



Volume XX.]

SAN FRANCISCO, SATURDAY, JULY 24, 1880.

Number 4

The Growth of Cereals.

It is apparent that there is now manifested among our grain growers a wider disposition to experiment with different varieties of cereals with a view of obtaining good sorts than ever before. Almost every neighborhood has one or two men who are growing new wheats obtained from here and there over the world, or are developing grain by selecting the best heads of their own growing. These, coupled with the extensive work now in progress on the University experimental grounds, all encourage the hope that we shall ere long have seed grain far better than that now generally sown.

This being the fact, it is evident that all engaged in this valuable work of cereal development may advance their work greatly by a more general comparison of experiences and results than has been had hitherto. Now and then one of our correspondents gives us a hint of what he or his neighbors are doing, or brings us samples of the new varieties which are being grown. We should like to have this department of our publication greatly extended and the co-operation of all experimenters secured, so that good varieties may be speedily heralded and failures made known for the guidance of others. In this way all would work with a knowledge of what others are achieving, and the influence of each one's work would be greatly extended. Therefore we invite reports from all our readers as to the behavior of all new grains they have grown this year, with full particulars of manner of growth, action during winds or drouth, action under irrigation, yield, etc., etc. This will give us entertaining matter for the consideration of grain growers after harvest, and this is the time to gather the points.

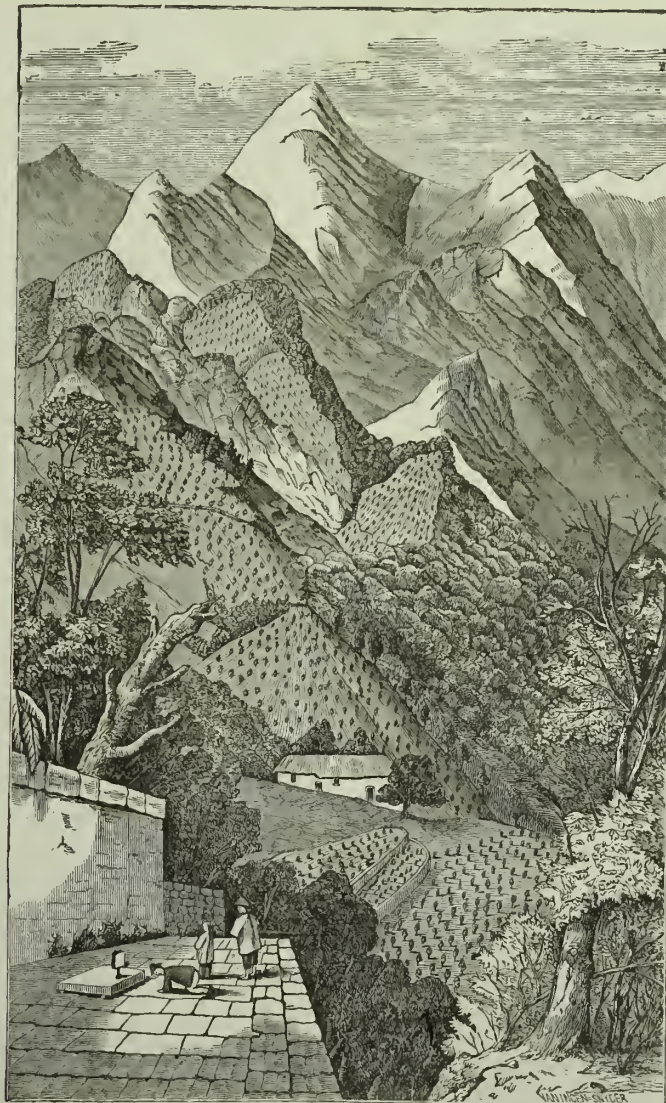
This subject is securing attention from others interested in the subject. We notice that a correspondent of the *Stockton Independent* makes quite pertinent suggestions, as follows: "The question of suitable varieties of wheat for certain localities, soils and climates is one on which we observe a great discrepancy of opinion in all parts of the State, and in the same localities. Considering the great prominence of the cereal crop as a source of income to the State, we think it a subject which has been greatly neglected. We have Viticultural Commissions and Mineralogical Bureaus. Mining is an old and well established branch of industry, the source of large income and deserving of all support and encouragement. Viticulture is yet to be the pride of the State, and should assuredly be fostered. Yet neither rank in point of money value to-day with wheat. Why should we not have a commission on cereals? Here is a mine of information in the experience of the last 15 years that only needs working to secure the most profitable results. Notwithstanding the dogmatic belief of most wheat farmers in the infallibility of his present methods of wheat-raising, we know that a scientific and practical inquiry into wheat culture, under the heads of varieties, summer-fallow, winter-sowing, implements of cultivation, seeding and harvesting in the various localities, soils and climates in this State, would yield results whose practical value would be welcome and available to all. We know we have made progress in even the last five years. This is apparent to all. It has come about through experience and a knowledge of the conditions requisite to success with different localities, soils and varieties. Propo and Pride of Butte are valuable additions to our list of varieties. Summer-fallowing has in a great degree removed the slippery element of chance. Improved harvesters, feeders, and threshers have facilitated and cheapened the securing of grain. Calculate the value of grain in the last 10 years by improved processes and varieties and a logical deduction of facts from experience, we have an approximate basis by which to estimate the value of a cereal commission in a much shorter space of time."

Whether there should be a cereal commission or not, as the writer above suggests, will be a proper subject for consideration when the legislature meets. But something valuable can be done at once both by writing down results for publication and by preparing samples of promising grains for exhibition at this fall's fairs.

We are pleased to hear that it is the design of the College of Agriculture to prepare for the Mechanics' fair next month full samples of heads and threshed grain of the scores of new cereals, the seed of which was obtained from Europe last fall. This will make a show which it would pay a grain grower to cross a State to see. It will furnish a nucleus for a splendid exhibit of new grains, and we shall be pleased to receive from all our readers samples of their own growing to be placed adjacent to the University collection. Let us have a cereal exhibit which will surprise those who are all the time dinging at farmers for not making efforts to improve their products and who are prating such nonsense simply because they do not know what is going on. There is a wonderful impulse toward improvement in all our grain-growing

Hillside Cultures.

Our illustration presents a scene in the Bohea tea district, of China. We introduce it as illustrative of the system of hillside culture, which prevails in that part of the world. Now that the utilization of our elevated lands is being urged on the ground of their cheapness, and their adaptation to certain growths of fruit, it is interesting to note an illustration of actual work on similar elevations. All are more or less familiar with the cultivation of hillsides in Europe for the production of grapes, olives and other fruits, and it is interesting to face the other way and behold hillside ranches in China. The time will doubtless come when our own hillsides,



SCENE IN THE BOHEA TEA DISTRICT OF CHINA.

regions. Let us show it and at the same time aid all who are making it, by showing the best each has already done in his own experimentation. Samples and descriptions sent to the editor of the *RURAL PRESS* will be properly cared for and placed on exhibition.

FINE WHEAT.—The best sample of wheat we have seen so far this year was brought us by Mr. Applegarth from the ranch of S. S. Drake near Vallejo. It is of the Snowflake variety, the kernels very large, plump as a partridge and the heads long and well filled. It is easy to believe that some acres of such wheat will go 60 bushels and the average of 200 acres, we are assured, will be over 40 bushels per acre. From the look of the sample we think the figures are within the facts. Such wheat should be sown, every kernel of it. It is too fine to grind up until everyone is supplied with such seed.

with their peerless climate and pure air, and their fitness for certain uses, will be peopled with an industrious and intelligent population. It is an end to be hoped for, and the tendency in that direction at the present time is worthy of all encouragement.

HORTICULTURAL SOCIETY MEETING.—The July meeting of the State Horticultural Society will be held on Friday of next week, July 30th, at 232 Sutter St. in this city. The fruit subject will be the growing of peaches and plums. Dr. Strentzel of Martinez, has been invited to open the discussion. The culture of flowers for perfumes will be introduced by Mr. G. P. Rixford. It is to be hoped that a full attendance of members may be had at the July meeting, as there are some arrangements to be made for the fair of the Mechanics' Institute to begin August 10th.

A Loss to Agriculture.

There was a young man recently killed by accident in Napa county, whose death we count a loss to agriculture. We need not speak his name, that is the cherished heritage of his bereaved parents and mourning friends. But there are features of his course, brief as it has been, which are a treasure to the rising generation of young men, and should not be withheld from general knowledge.

He was city bred and had pursued with credit the higher paths of education. His father occupied a leading position in a learned profession. He too had thought to drift naturally into a profession, as other young men of his acquaintance were drifting. It was at such a time that one of our leading farmers met the young man and had some conversation with him. "You have the best the schools can do for you, now what do you propose to do?" "I think I shall study for a profession," was the reply. "But why do so," asked the farmer "the professions are already filled with the best educated young men. Agriculture has need of such. No profession offers wider opportunity for the exercise of cultivated powers; none deals with ideas and materials which court fuller investigation; none outtholds to a young man a better chance to develop his manhood, to quicken his mental powers, educate his observation; none offers a more laudable success to one who will merit it."

Such was the sense of the conversation. The same lesson was doubtless enforced by others; but that matters not. The idea was implanted; it took root in the mind of the young man, and his course was shaped toward a practical engagement in agriculture. His father's dairy ranch, then in the charge of a hired manager, afforded him the chance for agricultural enlistment. How did he proceed? Did he take to the saddle at once, and count himself fitted to direct the enterprise? No; he recognized the fact that there were methods and materials before him with which he was not practically familiar. There was a herd of cows to handle properly, and there was cheese to be made of the milk. With his father's approval this young man went to the place where the best cheese is made; he donned the factory clothes; he stood at the weighing cans; he held the thermometer in the heating vat; he waited for the action of the rennet; he pushed the curd knives and bared his arm to contact with the curd. The lifting of the curd, the pressing, the curing—in short, all the countless operations which result in the manufacture of a good cheese he learned by performing each; and after a few months of practical work and a wide observation of others' methods, he returned to his father's ranch, and began what all expected would be a successful career as an agriculturist, because the young man had showed a disposition to learn, and a diligence to perform, which are at the foundation of success in agriculture.

He had little more than entered upon his life work when the summons came for him to go hence, and in his death agriculture has lost the example which we fully believe his life would have yielded—an example of a young man of richest endowments won from a profession to the farm.

Some other young man must begin as he began and carry the praiseworthy course farther. And there are others whom we know to be already on the road, but there is still room. The grandest industry of all offers scope for the enlistment of an innumerable host of young men to exercise their quickest and deepest thoughts, and their readiest ingenuity and skill. But they must lay hold with no halfway devotion; with no impulse of whim or caprice. The zeal, the diligence, the perseverance of the young man whose death we sincerely deplore, must be an example to them. As such an example his memory is a legacy to a world of young men.

ASH OR HICKORY FOR TOOL HANDLES.—A correspondent of the *Wheelwright and Blacksmith* wishes to know the relative value of "maiden ash" and hickory for tool handles, and also what "maiden ash" is. That journal, in reply, says that "maiden ash" is an ash sapling that has never been lopped; it is no better than hickory.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds

Los Angeles County Notes.

EDITORS PRESS:—Other pens than mine have well represented this part of the State for some time. "Agricultural Notes," too, have been well timed from Los Angeles county. Our editors here of late admit that man is mortal; and too, that our seasons are quite uncertain—a fact that has long been known elsewhere in this world of ours. This year, with us, wheat is a better crop than barley, an unusual occurrence. However, according to my experience of several years here, one season is no criterion to judge another by.

The "desert winds that reach even many miles out at sea," which W. B. E. made mention of in one of his "Letters from Southern California"—oh! those poison winds!—it was those winds that blew my mule team and my bank account away into the memories of the things that once were. It was the wind (not a lack of rain) that last season cut my apiary of 157 hives off without a pound of honey, and their number down to 13. Your northerners of upper California are had enough; but "stand from under" when the breath from Arizona and Death valley gets over among our grain fields and beehives.

New Vineyards.

Set out on land that has been hard-panned by excessive irrigation, have done rather poorly in Nietos. One party has lost about a third, another one-half. Indeed, one party failed in an attempt to make a single vine grow on a plot of eight acres. (N. B. He don't read the RURAL, either.) Experience keeps a dear school, but —, etc. Let them travel the same road that thousands have gone before. Plod away in the mysteries of an untried region without a chart, or even a finger board to guide the stranger. The RURAL is as essential to the agriculturist in California as a chart of our coast is to a coasting vessel, putting in and out of our various little ports. Navigation is hazardous between Portland and San Francisco; so is business in southern California. Only look out for the rock on which others have stranded, study well your maps and charts, and go ahead.

On an average, this new Italy is showing signs for the better. Our land grabbers are squealing on account of the sturdy plowmen letting them alone. This is my sort of "communism: "Hands off; let them alone. They will soon squeal. Soon they will hunt up the sturdy laboring man, and offer him a live-and-let-live bargain. The land association nearest me has rented hundreds of acres this year for small grain, at 50 cents per acre, and that, too, contingent on a crop being harvested.

Our farmers are truly awake to the necessity of obtaining a variety of wheat adapted to this peculiar region. Many varieties are being tested here this year. On moist, cold land Odessa seems to do well, if sowed very early; sowed late, it acts like a winter wheat. In Nietos, Odessa, unless irrigated, this season, is a failure. If irrigated, Odessa makes very heavy heads on a slender stalk, and don't stand up very well. A variety called here, "Nicaragua," a red, coarse-looking, bearded variety, seems to prosper well. I have been experimenting with the Defiance wheat this year. In the RURAL of June 26th, the article on "Defiance Wheat" (as shown by Mr. G. W. T. Carter, of Contra Costa), covers my experience perfectly. As to the rust-proof varieties, this year has not put that to the test, as the season has been very propitious toward rust.

Our dairy finally has succeeded in commanding our own markets; our poultry, ditto. But Chicago and St. Louis are still pouring into our land the products of their pork packeries. My neighbor, Mr. Geo. Cole, who has mined in Arizona for years, tells me that Los Angeles bacon is a by-word in Arizona. In buying bacon there the miner will say to the merchant: "Come now, none of your pumpkin-fed sow from Los Angeles. I want solid Chicago or St. Louis meat." Speedy & Co., of Los Angeles City, are doing well, and lifting that prejudice slowly, but Chicago sells ham every day at their very door, in Los Angeles City.

GEO. KAY MILLER.

Los Nietos, July 13, 1880.

ARTIFICIAL VANILLA.—The production of any well-known substance artificially by the synthetic chemist, is generally viewed by the public with opposition, until convinced that it is identical with the natural product. A German paper produces an indorsement of artificial vanilline by Prof. Meidinger, who says it possesses undeniable advantages over natural vanilla. The latter loses its aroma, is unequal, and the natural bean only contains 2% of valuable material, with 98% of worthless or even injurious material, of which the removal is troublesome and tedious, before the pure flavor can be obtained. In Germany the vanilline is mixed with sugar, and put in packages of different strength for different purposes. That for chocolate manufacturers is 70 times as strong as good vanilla; that for family use is put up in packages equal to one bean, and sold at nine cents each; that for liquor manufacturers 2% of vanilline. Dr. Meidinger speaks very highly of this artificial vanilline, which he pronounces perfectly wholesome.

POULTRY YARD.

Conditions of Success.

EDITORS PRESS:—I have been asked to give some notes on "chicken culture" through your columns; and as I am of an accommodating turn of mind, I proceed at once to tell some things that I have learned by dear experience. In the first place "eternal vigilance" is quite as much the price of success in California as any place I know of. It is often said that disease among fowls was unknown until we had "fancy breeds." That may be; but the cause of disease is not that the fowls are "fancy" or otherwise, but because of the infringement of some law of chicken health, and the penalty is sure.

Twenty or 30 years ago, if my memory is good, few people kept more than one breed of chickens, and wintered over but few. During the summer they ranged wherever their sweet will prompted them, and they earned their living, not perhaps by the "sweat of their brows," but by scratching for it. Now I see many yards where fowls are confined month after month, where the ground is so hard and dry and smooth that I would defy the biggest Brahma or Cochins ever raised to make an impression on it. So the hens stand round and mope and pine for liberty, nothing to do, no place to dust in, nothing to vary the monotony but the two meals, and too often they are thrown down into the dirt. It is no wonder that they forget to lay eggs, or that the chicks are puny.

The most successful breeders do not have all fair weather, but with a reasonable amount of care they can have a fair measure of success. There are a few common rules which may help some discouraged amateurs:

Where but one variety is kept, and they are allowed free range, they will do well enough without much attention; but if one has the "fever" badly and wishes to keep a number of kinds in limited space, they will require extra care and attention. I have a small yard (100x50 ft.) sown to alfalfa. Opening into this are four yards (25x30 ft.), each furnished with a small house capable of holding 20 fowls, nests, feed troughs, etc. Each yard is let out on this alfalfa two or three hours every day. They are always eager to get out, and easily put back when their time is up. If some such plan can not be carried out, then they must have cabbage, beets, or other green food, given every day to insure good health.

L. J. W.

San Jose, Cal.

THE VINEYARD.

Growing Seedling Grapevines.

EDITORS PRESS:—The fear of phylloxera, already the ruin of some old vineyards in our State, though happily limited to a narrow belt of country, has led to many projects for insuring new plantations from the possibility of injury. There has been some grafting done in our vicinity, and one neighbor has bought several pounds of seeds of native grape, intending to graft the finer varieties of foreign grapes upon them. Mr. John Ellis, of the University, in a paper in the *California Horticulturist*, showed the probable results of an experiment which is costly to begin with, the growth of native seedlings being comparatively slow, and, as shown by Mr. Ellis, not hopeful as to results.

I find preserved in our Agricultural Scrap Book, an article translated by Father Accolti, of the Santa Clara College, from the *Agricultural Journal of Benevento, Italy*, under date of March 8, 1871, detailing the success which has attended Mr. Dominic Perones, method of sowing the vine upon the vine.

He gathers the finest berries of the grape he wishes to propagate, and preserves them in a cool place until the time when the sap flows freely in the vines, in spring. He then makes a small hole with a gimlet in the lower part of the stock of the vine he wishes to change, and inserts one of the seeds of the preserved berries into it. He says "that seed (which has been kept alive for months by the moisture contained in the berry) being immersed in a liquid homogeneous and conatural now germinates, and the sap hardened by the contact with the air envelops the small root of the little new plants, which identifies itself with the main stock, and grows up with the other branches." Meanwhile the mother vine continues to bear fruit. After two years the new offshoot is pruned. The third year it begins to bear grapes. The renovation is thus completed without any sacrifice, and by this treatment, if the seeds are inserted very low down on the stock, a native stock may be obtained having roots of its own, for the native cane would soon send out rootlets, while the original vineyard would be preserved intact. We shall try this upon a few vines another year, simply as an experiment, sowing Diana or Isabella upon Muscat of Alexandria.

J. C. C.

Pasadena, Los Angeles Co.

THE FIELD.

The Importance of Good Seed.

EDITORS PRESS:—Being a constant reader of your most excellent paper and having gained many valuable hints therefrom, I feel it my duty to offer my mite for the good of all. My observations throughout the country lead me to say that farmers are too careless about the seed they sow. Allow me to diverge a little, and take up my favorite occupation to illustrate.

I took last April two stands of bees equal in every respect; both had old black queens. I killed the queen of one, and gave them eggs from a fine Italian, from which they raised a young queen that began to lay in due time. I let the other have their old queen, treating both hives the same in all other respects. Now, the result at the end of three months, is this: The one I gave the eggs to is a fine hive of Italians, and has given me 50 pounds honey more than the other. See the result of that little egg. The secret is simply this—good seed.

I was really delighted the other day while investigating a large crop of the finest Proper wheat I have ever had the pleasure of seeing, grown by Wm. H. Souther, on the Newhall tract. I asked Mr. Souther how he obtained such a perfect crop of wheat. The answer came: "My ground was clean, and I sowed the best of seed." No doubt this seed cost a little more than common grain, but Mr. Souther feels well paid for all it cost him to procure the best of seed. If any of your readers doubt the quality of this wheat, they can see it for themselves at H. M. Newhall's, San Francisco, where samples are on exhibition. Let us all be careful to sow good seed in our hearts as well as in our grounds.

J. MOFFATT.

Ventura Co., Cal.

Traction Engines on Hawaiian Sugar Plantations.

Mr. Williams, manager of the Kohala plantation, writes the following account of experience with three English traction engines; one of 10-horse power and two of 8-horse power each. He says:

To-day is the fourth week that I have not had a bullock team hauling cane. Two engines with four cars to each engine (2 small and 2 large) were hauling from one field $1\frac{1}{2}$ miles away, 6 trips a day; and one field near by, 9 trips a day, all ratoon cane, and are taking 23 clarifiers a day (with cattle we could only get cane enough for 21 a day). To get in this amount of cane would take 15 of our cane wagons, with five yoke of cattle to each team. We go right into the field close to the cane, just as we do with cattle, and can dump the cane closer to the cane carrier than we can with cattle.

Have been keeping account of coal used on each engine for three weeks full work every day, and find we have used about 51 or 52 tons a week on each engine. A tub weighs on an average 80 lbs. of coal, so 4,160 lbs., say to estimate 2 tons to each engine per week. I get in this amount of cane with 10 less men than if I had teams on. We have a driver (white man) and a native helper on each engine, and one native to walk alongside of the load and pick up cane that falls off, and help connect and disconnect in field and in mill.

Each engine has four wagons, two are loading in the field while the other two are being hauled in. There is no waiting in the morning till you get the cattle in and yoked up; the native helper gets his 20 cents overtime in the morning for getting up steam before the whistle blows to go to work.

Directly the mill starts, the engine starts out to the field; the wagons are left loaded in field over night. She takes out her two empty wagons and brings in the full ones, dump them, and if it is breakfast time, they go to eat. They leave the engine standing alongside the road, it is all right, no steam will blow off. We fetch in every trip equal to 4 of our large bullock wagons, (but this is with one large and one small wagon); with all English wagons we fetch in equal to 5 of our large bullock wagons at a trip. The other week we had two English wagons left loaded in the field at night; it rained heavily for the next two or three days, and being afraid the cane might sour, sent out some teams to unload them and fetch in the cane; it was as much as they could do to get the two onto five of our bullock wagons. As they did not know at the time they loaded the engine wagons, we call it a fair test. This is on ratoon cane, if on plant cane we can load more, as the ratoons are shorter than plant, so cannot keep as much cane on a load. Some two years ago, to give Mr. Watson exact figures, I weighed 10 wagons of ratoon and it made 52,350 lbs. cane; so I calculate that with all large wagons we haul in at each trip 10½ tons of ratoons, and 11 tons weight of plant cane.

On one road where we are hauling, we come up a hill with a rise of 1 ft. to 11 ft. 3 inches; coming up a hill they put on slow speed at about $2\frac{1}{2}$ or 3 miles an hour; on level ground they put on their fast speed at $5\frac{1}{2}$ or 6 miles per hour. The changing speed is done in half a minute, stop and change a pin in or out.

At mill the engine itself pulls off the load. We lay three ropes in bottom of wagon, made fast on side to bolts inside before loading.

These ropes are about 50 ft. long each. When they get to mill we let down one side of wagon, throw the three ropes over the load and make them fast; we have a snatch block and tackle made fast to cane carrier, hook the tackle onto the ropes, lead the end of tackle to engine; it unhooks from the wagons and walks off with the fall, pulling off all the cane. Before we got hold of this method, we used to have to stop the mill and put on 30 hands to pull on the ropes to pull the load off.

As far as I can estimate at present, charging \$5 per day for driver, the cost of native helpers, loaders in the fields, coal, oil, etc., 10% on cost of engines, and allowing for wear and tear, what costs us at the rate of \$90 per day with cattle, we haul in with traction engines for \$60 a day. In the \$90 for cattle, the rent of pasture lands and miles of fencing and keeping is not included, which is a large item, when a great deal of your pasturage will do for cane. You cannot work the engines in wet, showery weather, and they will have to be worked up into a system. They more than come up to my expectations. In fine weather, when it is hot and dry, and your cattle play out, is the time for the engines and the time to push your grinding.

THE APIARY.

Beginnings in Beekeeping.

EDITORS PRESS:—"Beginnings in Beekeeping" do not come along very fast of late, you may think. I do not know when the last was sent, but do know that these long, busy days without any evenings and everything to do, with sunflowers, cockle burs and every other kind of weed trying to take possession of the land and pump out all the moisture needed for the trees, while the fruit has to be marketed and bees overhauled to keep out the worms, besides the misfortune of having to build hives, etc., that should have been built last winter—had the means to buy timber been at hand—is not the best preparation for letter writing. To make the matter worse, while laborers struck for \$2 per day where it is a question if the farmer can afford to pay \$1, the bees also concluded to strike about a month ago, since which time very little honey has been gathered in this county. Our largest apiarian says while his bees have been giving him no honey, they were so determined to turn robbers that he did not dare to leave them to go to work in the harvest fields, which he wanted to do to make a living.

Why the bees have produced no honey is a mystery, as the flowers have continued to bloom, and we could discover no reason why they did not secrete the sweet liquid; but this failure of the honey crop is only another lesson for the farmer, to remind him: First—Not to go in debt, depending upon his uncertain crops to bring him out. Second—Have some variety, so if one thing fails, another may help him through. Third—Produce, as far as possible, everything needed at home, instead of going into debt to merchants and middlemen for them. And this reminds me of a subject that has somewhat (but should more thoroughly) agitate the mind of the enterprising farmer. We need some cheap and effective drying machine to save the waste of fruits, etc. We need something as handy as a drum stove, that will do to warm the house in winter and dry fruit in summer, not in large quantities, but 50 or 100 lbs. at a time, just to save the surplus that would otherwise go to waste; and said machine should not cost more than a good stove, say \$50. I was in to see the Plummer machine to-day, but it will not answer the purpose: 1st, it costs too much, \$200; 2d, it is nothing but a drier and is too large, and is permanent. Perhaps something like the Stewart cook-stove, with a large oven extending some three ft. above the stove, might answer, with suitable ventilators, etc., to carry off the moisture into the pipe. Something of the kind would save thousands every year, and be profitable to the inventor, if he did not want such a royalty that they could not be sold cheap enough to get them into every fruit raiser's family. The machine that is needed must be small, handy and cheap, even if it should have to use more fuel and make more labor than a larger one. I have no doubt the machine could be got up and sold as cheap as cook-stoves.

What a curious freak fruit has taken this year. Last season the Beatrice peach led off on the 5th of June and Alexander was ready June 10th, Tilliston, June 20th; but this season Alexander ripened from June 20th to 30th; Beatrice, July 1st until now; and Tilliston just ready to gather to-day, the 12th of July. Peaches were ahead of apricots here this year, while last year apricots were ahead.

July 13th.—My boy reports to-day the bees are working on the buckeye blossoms. They have had no sweet in them until very lately—I could taste a little. The general outlook is a small yield of honey this season, as we have the same unfavorable reports from Los Angeles; so it will be as well for those who have, not to be in a hurry to sell. We hoped to put up considerable fruit with honey, and if a little experiment in preserving grapes with honey, without cooking, succeeds as well on a larger scale as it did last year with a small quantity, it will open quite a market for our extracted honey.

ISAAC B. RUMFORD.

Bakersfield, Kern Co., July 10th.

HORTICULTURE.

Future Gardens of California.

The garden of the future in the coming California for those who truly love flowers will need for its development a varied surface of hill-slope and ravine, such as can easily be found in San Mateo, Marin, Alameda, Contra Costa, or Sonoma. From 5 to 20 acres of such land will be required. Near the house there might be a trim garden, and perhaps a small conservatory, but over the rest of the territory mountain plants of every land are to be coaxed into a sense of possession and security. The growth of our handsomest native shrubs, annuals and herbaceous perennials, should be also encouraged. There will be a constant succession of bloom upon such a homestead. Early bulbs and shrubs will begin first upon the warmer slopes, and, as summer advances, the northern ridges and the deep ravines will have their turn. In the whole year no day will be without its own peculiar charm; each hour, almost, will witness some new flowers unfolding. Many of the best shrubs, which, in less favored climates, need constant attention and expensive greenhouse treatment, can here be grown almost as readily as apple trees. Then, too, the immense variety of hardy bulbs now within the reach of the ordinary purse is an endless source of enjoyment. Crocuses, tulips, lilies, jonquils, daffodils, and gladioli, are only a beginning. One might have over 20 different species of the lovely anemones, and in dozens of distinct shades and colors. The ranunculus does well here, and the bulbs of Peru and Chile are perfectly at home on our hillsides.

Although, as we have hinted, a tract of varied surface, embracing about 20 acres, is best adapted to this sort of a wild garden, yet the happy possessor of a half acre need not utterly despair, for he can use the same principles in a lesser degree, and graceful Nature will come to his aid with her benign and gentle friendship. He may plant vines along the fences, and make piles of rock which shall seem to have a reason for their existence. He may choose only those plants which are at home in that region, and give them such care that they will take sturdy possession, in a liberal mood, even as they do on the hillsides. With such surrounding, the roots of the home itself run deeper, and bind more firmly, year after year. And, in all simplicity, it is fair and pure homes that California, or indeed, any land worth the loving, needs now, and will forever need.—Chas. H. Shinn in *August Californian*.

MEDICINAL PLANTS IN CALIFORNIA.—When the first Americans came to these shores they found that the Spanish and Mexicans were in the habit of depending largely, in case of sickness, upon simple extracts of native shrubs, herbs and roots. Some of the cures they performed bordered on the marvelous, and a knowledge of Yerba Santa, Yerba Langrado, Cascara Segrada, and a number of other medicinal plants, soon extended to the Americans, and found a place in the *Materia Medica* of civilized countries. The lists of leading druggists now contain regular quotations of several species, and shipments from this coast are increasing. The business, so far, is done by contract, Eastern firms, or parties on this coast, letting contracts to persons to furnish a given amount at a fixed price, there being as yet no sale in open market for these products. The price is, contractors say, very fluctuating. Grindelia Robusta grows near the coast, in blackish masses, and is not very plentiful; Grindelia Squarrosa grows on the uplands and great valleys, where it is called tar-weed by some, and is troublesome in the fields. Cascara Segrada grows on hillsides and uplands in great thickets.—*California Horticulturist*.

ORANGE DISEASE IN LOUISIANA.—An orange grower writes to a Louisiana exchange as follows: Our orange trees are doing badly. On this lower coast at least 10% of the young trees annually die. A disease, which we call sore skin, begins at the base of the trunks and in a short time turns the bark and leaves yellow, and the tree soon dies unless the disease is discovered in season and the affected part cut out. The wound thus caused will heal over in a year or two, but the very next season the tree may be attacked on the opposite side, and dies in spite of all that can be done. To avoid this serious evil, we are budding upon sour stocks with great success. The sour orange never has sore skin, and if an orchard is budded in this manner each tree will be of the same age and every space will be filled; the expense of frequent replanting is avoided and, when in bearing, there are no unproductive portions of the orchard. Budded trees bear much sooner than seedlings, and the fruit holds on much better. I have had them bear in two years from the time of budding.

A HINT FOR PRESERVING VALUABLE BUDS.—The Home and Society department of *Scribner's Monthly*, for Feb., 1880, contains a valuable excerpt from an unpublished report of the U. S. Consul at Florence, to the State Department upon the chestnut as food. The process of grafting by rings is given in detail. The author says: "A method of preserving the grafting buds, so that they may be good even after a year, is to place them in tin tubes filled with honey, and then hermetically sealed." For short distances and time, water is used instead of honey.

It has occurred to me that this would be an excellent way of preserving and transplanting buds and cions of all our best fruits.—J. C. C., Pasadena.

THE STOCK YARD.

The Census and Meat Production.

The census office is preparing to deal with the great meat-producing industry of this country in a valuable way. We learn from an interesting article in the *New York Evening Post* that Gen. Walker, Supt. of the Census, has appointed Mr. Clarence Gordon as an expert to gather all facts of importance in regard to the production, transportation and export of meat, including that of sheep and swine as well as of cattle. He began his task on the first of last August, and expects to be able to make his report to Gen. Walker in about a year from the present time. With five assistants, who are now at work in various parts of the country, he had already gathered an immense mass of information, having covered Texas, the Indian Territory, Kansas, Nebraska, Wyoming, Colorado, New Mexico, Utah, Nevada and Florida—the latter being really a grazing State, though this was not generally understood. He added that it had been his duty to organize the work in each State, and that his assistants had then attended to the minor details. About the middle of July he will start for an official tour through Dakota, Montana, Idaho, Washington Territory, Oregon and California, from which he will return, probably, by way of Arizona and New Mexico.

In regard to the character of his investigations Mr. Gordon said that he aimed to trace the whole system of meat production in this country from the time when the animals were on the hoof to the moment when the flesh was ready for cooking either here or abroad. An interesting feature of the examination was in regard to the origin of the grazing business in each State and Territory—whence the cattle were derived, and why their breeding and pasturing had attracted the special attention of settlers. In some cases in the far West the work of stock-raising had grown to huge proportions from the fact that it had been necessary for some of the early trains of immigrants to abandon a part of their cattle, who were afterward found to be thriving in a semi-wild state on the herbage supplied by the prairies.

During the last few years the improvements in every branch of meat production have been extraordinary. On the average a steer now weighs as much at three years of age as one formerly did at four years. The work of fattening hogs is now so well understood that the animals are usually killed when 10 months old, whereas the expense of their keep used to last for several years before they were ready for the market. The quality of the pork has improved also. Then many advances have been made in the business of sheep raising, for mutton in some regions and for wool in others.

Along with the examination of the different methods practised by graziers, etc., a careful study is made by the special agent and his assistant of the comparative facilities for stock raising in different parts of the country—the character and abundance of grasses, the supply and quality of water, the climate in summer and winter, the occurrence of drouths, and the amount of stock already kept in the various districts. In regard to herbage, it is found that forage plants which are very nutritious in certain places are less so in others, owing to the effect of climate, etc. Efforts will be made to ascertain the true value of different kinds of forage, and also to learn whether certain plants reputed poisonous are so in reality, or whether their ill name has been caused by the physical condition of certain animals at the time of eating the same. Special attention has been or will be paid to comparatively unsettled regions, concerning which the present supply of information is very meager, such as the northwestern part of Nevada, southern Montana, the northeastern part of Wyoming and the "pan handle" of Texas.

The exports from this country to Europe of live cattle and canned or preserved meats are enormous, and are constantly increasing. A single firm in Chicago is said to have supplied all the canned meats consumed by the English army in the Zulu war. American meat is sent to almost every part of the world, and the methods of preserving it are undergoing constant improvement. The refrigerating process for keeping meat fresh is of great importance, and the shipment of live cattle to England is another prominent feature of the export trade. The methods of transporting cattle by rail and in vessels, the percentage of losses, etc., are among the objects which engage the attention of Mr. Gordon and his assistants.

As the large graziers are constantly on the outlook for fresh feeding grounds it is believed that the statistics of the forthcoming report in regard to herbage, water, climate, etc., will be of much value to persons already engaged in the business of stock raising, as well as to those who are thinking of embarking in the occupation. The enormous drives of cattle and sheep to new grazing grounds, sometimes in another State or Territory, and the manner in which they are conducted, form an interesting subject for examination. The correct enumeration of the cattle,

sheep, etc., in the different States is of course a difficult task, but Mr. Gordon thinks that the figures will far surpass in accuracy anything of the sort ever attempted before. There is a good system of agricultural statistics in Colorado, in Nebraska and in the organized parts of Kansas, but otherwise in the Western States the county returns, etc., are generally very incomplete. In all cases the local statistics are carefully revised by the special agent and his deputies.

Mr. Gordon said that Montana would receive very close attention, as it possessed many inducements for settlers, and had fair to be a great grazing center. The country there was excellent for raising both cattle and sheep. In this connection he referred to the report that Lord Dunmore had obtained 80,000 acres of land in Montana, and had bought 30,000 head of Texas cattle as the nucleus of a herd to be improved by imported bulls, with the intention of sending meat directly to the London market. New Mexico was spoken of as an excellent sheep region, where some persons owned flocks of 100,000 each, and where even the Navajo Indians kept great numbers.

While the construction of new railroads has stimulated stock-raising by opening markets to the graziers, and the foreign demand has had a very important effect on the business, the development of mines in the West, by attracting great numbers of miners and others to the camps and new settlements, has created a local demand for meats, which has also aided to increase production.

THE DAIRY.

Methods on Jersey Farm.

R. G. Sneath, well known to our readers as the proprietor of Jersey Farm in San Mateo Co., has written a pamphlet giving much information concerning his policies and methods of milk production, with the design of giving city milk consumers an idea of the advantage of using country milk rather than the milk produced on the narrow enclosures within the city limits. Our readers do not need instruction as to the superiority of country milk, but from advanced sheets of Mr. Sneath's pamphlet we can draw paragraphs of interest on the general subject of milk production.

The Ranch and the Stock.

Mr. Sneath purchased about 2,700 acres of fine grass land, lying about four miles south of the city limits, and reaching nearly from the bay of San Francisco to the ocean. He has seeded about 1,400 acres into rye grass and orchard grass that are perennial, which now support about 1,000 head of stock; and when the whole place is cultivated, which he expects to do immediately, it will keep in fine condition about 2,000 head.

About 600 cows are in milk the year through, and the remainder dry in pasture. Pure Jersey bulls are alone in use, and the place is named after the large herd of Jerseys, which is its chief feature. Over 1,000 calves are dropped annually, and those from the best cows alone are raised. The bull calves not pure and heifer calves from poor milkers go to the butcher. The calves raised make fine milkers, gentle, and good heifer cattle; when they come from crosses with graded Short Horns or good American cows; and when raised, they take the place of inferior cows that are set apart for beef, and thus a continual selection and perfection raises the standard of excellence in the remaining cattle that must in time secure to Jersey Farm a noted breed of stock of its own Jersey blood. A great many young half-breed Jersey heifer calves are now being sold to dairymen and farmers who wish to improve their stock, at \$5 each when dropped, and 16 cents per day for any age thereafter, hundreds being on hand of various ages.

The dairy is now perhaps the largest one of its kind in the United States, or in the world, and when its lands are all cultivated and fully stocked with such a production of improved animals as are now being raised, the proprietor may well feel that he is engaged in an enterprise that has no equal in its magnitude or meritorious claims.

Springs of pure water in every field supply large troughs, to which the stock have easy access, and large reservoirs have been constructed at an elevation of some 300 ft. to irrigate hundreds of acres of land, furnish motive power to grind the grain, cut the hay, wash the cans, and sluice the barns, besides raising all the fish needed as food for the table.

Care and Feed.

Each barn has a foreman and a man for every string of 30 cows. Three hours are allowed for milking, or six minutes to the cow, and these men do nothing but milk, feed their cows, clean the barns after each milking, and wash their utensils. Two men are required with dump-carts to clean up around the barns and stables daily, and haul to the dump. From 2,000 to 3,000 two-horse wagon loads of compost is made yearly and applied to the pastures in the early winter. Twelve and one-half tons of green rye grass per acre is not an uncommon yield for the first crop, and three tons of hay is about the average yield of good land; while a fine green pasturage is kept up on dry land by irrigation throughout the dry season, and on moist land without irrigation.

A tabulated form is used at each dairy barn, and all the details of barn and farm hooked daily and footed monthly, such as: Number of fresh cows put in and dry cows put out daily; total number of cows milked; the quantity of milk given, morning and evening; the average quantity given by each, and the percentage of cream the milk furnishes; also the quantity and quality of each kind of grain or ground feed given; the quantity and quality of the hay; the condition of the grass pasture; the state of the weather; the quantity of salt used; and everything is noted for each day that is presumed to have any effect on the quantity or quality of the milk. The food is changed frequently, and experiments are being made continually; and the proprietor can now, by looking over his tables, ascertain the cause of any shrinkage in quantity or quality of his milk. Bad and sudden changes of weather will cause the greatest temporary shrinkage in quantity; and each kind of food has its effect, either for good or bad, and freezing weather dries up the cows rapidly.

It has been found that grass, grain, and clean, well-cured grain hay, or that from cultivated grasses, makes the sweetest, heaviest and most perfect milk. Beets and carrots make thin milk, potatoes and slops ruin its flavor and make thin milk; grass or hay and bran alone make thin milk also, although wholesome. The natural grasses of the country—that are mostly weeds—do not make good milk, butter or cheese. Grain is the main dependence, with good grass and hay, in making a rich milk; and even when the cows on Jersey Farm are up to their knees in the very best cultivated grasses, they get not less than 5 lbs. of ground feed daily, and from that to 15 lbs. as the dry season progresses. The latter amount, with 15 lbs. of hay to each animal daily, is called heavy feeding and necessary to produce a full flow of milk in the dry season.

Cost of Milk.

It requires the keeping of about 2 cows to insure one in milk the year through. The cows in the barn will not average over 2 gallons of milk daily for the year. Some cows will give from 5 to 6 gallons, while the strippers are only giving one gallon each for the day. In the grass season the average is 2½ gallons per cow daily, and in the dry season from 1½ to 2 gallons. It can thus be seen that if food costs one cent per pound, which is frequently the case, and 30 lbs. fed, and only 2 gallons obtained by keeping 2 cows—one supposed to be on dry pasture—that the milk would cost 15 cents per gallon simply for the feed of one cow. The other expenses are difficult to estimate, but must nearly double the cost of feed alone. The item of the milkers' wages being about 3 cents per gallon, and the wastage and cost of delivery, the wages of general employees, the use of the farm, the loss of animals, loss in collections, wear and tear of wagons, harness and implements of all kinds, with many accidents, runs up the cost fearfully, and with a high cost for feed, the milkman is almost sure to be bankrupted, unless he can escape by water.

The proprietor of Jersey Farm frequently keeps a year's supply of feed in advance that he may be insured against high prices and charge a uniform price for milk, and it is only because of an abundant capital, much forethought, with a vigorous and economical prosecution of the business, a large experience and personal acquaintance, that he has been enabled to prove that his theory and plans can be made financially successful. Hundreds of farmers in the vicinity of San Francisco have tried the same thing but have been unsuccessful, and they will continue to be so, as long as slop milk is permitted to be sold, and consumers are careless as to what they use.

Swill milk can be made for about one-half the cost of pure country milk from grass, grain and hay, and it will be made and sold and good country milk driven out of market so long as citizens continue to use the inferior article. Mr. Sneath has gradually developed a complete and economical system that will insure a reasonable profit in the business in ordinary seasons, and yet allow the proprietor to continue to carry out his cherished idea of making a purer and richer milk than was ever offered before, and yet make a living profit at the current rates for milk. The Jersey Farm standard is 12½%, and the average of cream in the milk supplied the city of Boston the past year as reported by Henry Faxon, milk inspector for 20 years, was from 8% to 10%, while the average price of milk was from 10% to 15% higher in Boston than in San Francisco, and he says in his last annual report that if the citizens of Boston could be supplied direct from the farmer without the intervention of middle-men (and their water) with pure rich milk, that the consumption would be far greater.

CURIOUS FACT.—If a small bit of camphor is laid upon water, it begins turning and moving about with great rapidity. If a few grains of lycopodium or other light powder have been previously scattered on the water, they are drawn toward the camphor by eddies in an inverse direction. These phenomena were observed in 1748 by Romieu. Cassamajor has, says *Les Mondes*, resumed the study of the question and adopted the views of Romieu. He instances the following crucial experiment: At the same time that the bits of camphor are thrown upon the water, insert a glass rod which has been rubbed with flannel; the motion immediately stops. If the electricity is removed from the rod by rubbing it with tinfoil, it loses its power of checking the eddies.

PATRONS OF HUSBANDRY.

We admit, unendorsed, opinions of correspondents.—Eps

California Farmers' Mutual Fire Insurance Association.

EDITORS PRESS:—As you give space in your columns to the opponents of the company I have the honor to represent, to air their imagined grievances, and combine their forces against us, I have felt justified in asking a like indulgence, that truth may be seen and fair play had.

I have hitherto refrained from trespassing upon you in this matter, from no doubt of your fairness in according to both sides a bearing, but, simply in the hope that our family quarrel might be kept out of print: "dirty linen should be washed at home." Longer to remain silent while our traducers use the loud voice of the PRESS, seems like admitting the justice of the complaint against us, which we in no sense do.

In all controversies there is a tendency to get confused the facts and issues really involved with fancied conditions and circumstances, the creatures of heated passions and excited imaginations. An occasional halt and review is desirable, that it may be seen what are existing conditions, what progress has been made, what the conflict is, and how the parties stand. Let us do this now.

When the Grange movement was starting on its progress of reform, among evils sought to be abated was the high rates of insurance charged on farm buildings.

The law did not permit mutual beneficial associations for insurance against loss by fire, such as had been put into operation in life insurance, but all fire insurance had to be confined to the established rules by organization of regular insurance companies, with paid up capital of a prescribed amount, conducted under the supervision of the State Insurance Commissioner. The rate to be charged, however, each company could put at what it chose, as any other person or corporation might set his own price on his services or merchandise.

This company was formed and inaugurated avowedly for the purpose of giving to farmers insurance at cost price. There could be no profit to the company on the so-called "mutual plan" of insurance; there never has been any attempt whatever to make any profit out of it in any way. By complying with the law and organizing as an ordinary insurance company, this corporation was in position to do a general insurance business. It had a right to do so; no policy holder could be injured by its so doing; every thing was fair and open, and the so-called "flat" plan was also inaugurated, on and by which the company conducted business. The whole difference between the two plans was that by the first mentioned system, insurance was given at cost, and the other at a profit.

Those insured on the cost-price plan agreed to pay the cost in this way. All of that class were to be kept separate; the entire cost and expenses of those insured on that plan were kept apart and the insured were to pay their relative amounts due thereon to make, and keep made up this cost, to the company. An estimate, as a starter merely, was made of how much would be requisite for five years; this had to be made in the dark and upon something on which no data was had; this estimated amount was two per cent. for five years. If it was too much, the excess was to be refunded; if too little, more was to be called for.

The cost-price plan became immediately popular, and a large number of policies were issued; as the company had no profits to look for in the premises it was not especially earnest to receive this deposit money until it should be needed, and gave, when desired, liberal credit on promissory notes for this two per cent. deposit.

Insurance is a peculiar business in that it always looks its best on the commencement; the general theory of it is "pay in advance," and hence, to persons unlearned in it, there is no difficulty in being deceived into a belief that a condition of great success is being attained when such is not the fact. This insurance was no exception to the rule. One general plan, applicable to all farm property, did not always work well. Expenses, to effectuate a scheme which became cumbersome, were considerable; losses were incurred and paid with promptness. Notwithstanding all these disadvantages, the scheme, on the whole, was a success and farmers got their insurance at less than the prevailing rates.

After about four years it was found that this 2% deposit was not enough to cover cost of insurance; that the cost-price plan was in debt to the corporation, and the directors of the company made a call on the contract for 1% more, as an additional deposit thereon, and also demanded payment of all the deposit notes above mentioned. Up to this time the insured on this cost-price plan were friendly, loud in their praises of the company, its officers, stockholders and directors. When called upon to pay their notes, or comply with their engagements on the contract, many of these recipients of the kindness of the said stockholders and directors, became equally loud in their vituperation of them, exhausting the vocabulary of all the vile terms of reproach applicable to State prison convicts, refused to pay anything and commenced an injunction suit to restrain the company from enforcing this call on the contract. In this injunction suit a temporary stay was granted,

and on hearing set aside. An amended complaint was sworn to and filed, containing charges of fraud and great wickedness; on this a second, temporary, injunction was ordered, provided a bond for \$2,500 was filed within a specified time.

Sufficient faith in the truth of these charges, to sustain them by a bond, rested not in those who preferred them. No bond was filed and the injunction never issued. In the argument on this case, "Carter vs. California Farmers' Mutual Fire Insurance Association," the court intimated a doubt of the strict legality of the mode in which the call on the contract was made; the presiding Judge, Daingerfield, being of the opinion that it should not have been in gross, a specified, equal percentage, but rather that the calls of the agreement were that each should pay the precise sum he owed. The directors always saw that point, but, as to make such call necessitated much computation, expensive clerical labor, which might be avoided, and would perhaps require several distinct calls and notices, they preferred to proceed, as in the first deposit, on a specified percentage, equal to all, and then carrying out the original plan, refund to those who had overpaid, making but one computation. Practically the directors' plan was the cheaper one for raising money, paying debts and ending the scheme; but, as strict construction had been forced on them, they conformed to the judge's views, abandoned their old call and made a new one wherein the only ascertained fault was corrected.

The plaintiff in the suit, acting under advice of his attorneys, Messrs. Fox and Kellogg, paid this call and had his policy canceled. Some of the persons who had given notes for part, or all, of their first 2% deposit, took advantage of this controversy, refused to pay, were sued, banded together for defense, employed good lawyers and were beaten; appealed to the Superior Court, and on full hearing were again beaten.

On the trial of these suits, to earn their fees, the attorneys found some technical defects in the original articles of incorporation of the company. The court, after impartial hearing, decided that these defects were unimportant. That bad the buildings burned, the company could not have avoided payment of loss, because the incorporation papers were not in precise accordance with the requirements of the law, and the notes of course should be paid. These are the facts and the true history of the case. Lawyers on both sides have made good fees and are the only persons benefited.

In his letter, one of your correspondents charges that the company, or its officers, have forfeited their claim to truth and veracity in their circular over a year ago, when they stated that suits would be commenced without further notice, and did not so commence suits. This is but a side issue; and in fact even that complaint is ill-founded. We kept our word and brought about 200 suits. These suits, against many individuals living far apart and distant from here, necessitated great outlay, and 200 ought to be enough. These costs, expense of attorneys and all others will have to be paid, if not by the several defendants, by the mass of persons insured on this cost-price plan, as a part of the expenses of that plan, and throughout the whole of this opposition to the company, the anomaly is presented of these men fighting themselves and piling up costs and expenses which in any event they must pay.

One more matter I desire to speak of—the abuse heaped upon the stockholders and directors who comprise this company. It is safe to call a corporation liar, a swindler, thief. Is it safe to apply such epithets to the men who comprise the company? See who they are: Dr. Thos. Flint, of San Benito, is President. The Directors are, with the above-named, as follows: G. W. Colby, Nord, Butte county; G. P. Kellogg, Salinas, Monterey county; A. D. Logan, Colusa; I. C. Steele, San Mateo county; J. C. Merryfield, Dixon; and the writer. The remaining stockholders are: Uriah Wood, San Benito county; A. W. Thompson, Petaluma; C. J. Cressey, Modesto; E. W. Steele, San Luis Obispo. Now which one of these men is to be called these harsh names and to be described as swindler and thief? There is no body of men in the State who stand higher in public estimation, or whose private life is more pure. Carefully I have stated their names and place of residence. And now I ask their several neighbors and acquaintances if they can conscientiously say they believe either of them guilty of wrong-doing, or think him a thief or liar?

This abuse is outrageous, unbefitting Christian gentlemen and good Patrons. It ought never to have been begun; it should cease at once. These gentlemen hold high positions in our Granges. Many of them are directors in the Grangers' Business Association and Bank, and of the latter the President is a member of the Board of Directors of this insurance company, and has been such throughout its term of existence. How can these men who merit honor and confidence in all else be utterly bad as comprising this company? It is all foolishness and temper which can achieve no good result.

I. G. GARDNER, Vice-President and Manager Cal. Farmers' Mutual Fire Insurance Association.

[We print the foregoing as a matter of news in reference to the issue which has been raised in our columns between the company and its customers. Many will be doubtless glad to know what the company has to say in its own behalf.—EDS. PRESS.]

W. M. Spilman's Appointments.

Secretary Amos Adams gives notice of a change in the appointments of the W. M., so that farmers generally may be through with pressing harvest work. The new list is as follows:

Petaluma, August 10, 1880.
Two Rock, August 11, 1880.
Santa Rosa, August 12, 1880.
Healdsburg, August 14, 1880.
Potter Valley, August 17, 1880.

AGRICULTURAL NOTES.

CALIFORNIA.

AMADOR.

SILK CULTURE.—*Dispatch*, July 17: We have in our office a small bunch of mustard stalks on which are deposited about 200 cocoons or balls of fine looking silk, from worms raised on the ranch of Mrs. G. A. Garbarini, near Slabtown. Mrs. G. is now quite extensively engaged in raising worms for the purpose of selling the eggs, and she says they will thrive here as well as in any part of the world.

BUTTE.

GRAIN YIELD.—*Register*, July 16: We have seen, within the past week, farmers from every section of the county, and they report the grain turn-out far beyond the expectations of the farmers themselves. Fields which their most sanguine expectations led them to estimate at 25 bushels per acre are turning out from 35 to 40 bushels. And these encouraging reports are not confined to any particular locality; the whole county seems to be yielding in the same proportion. And what adds still more to the happiness of the farmer is the fact that the threshing in almost every instance shows the grain to be first quality, instead of being shriveled as it was expected, four weeks ago, that it would be. The agreeable disappointment of the farmer in the yield of their crops is illustrated to us by the fact that we have not yet found a farmer whose first estimate of the number of bags he would require, did not fall short of his actual needs. To many of our farmers this result of their year's work means more than the mere pleasure of adding unexpected dollars to their bank account; it means the preservation of the home of their families from sale by the Sheriff.

CONTRA COSTA.

GRAIN BURNED.—*Antioch Ledger*, July 17: We are informed that a stack of wheat belonging to Mr. Frank McCabe, near Point of Timber, was burned Tuesday night. Threshing for the day had finished, and the workmen were at supper when the fire was discovered. The fire is supposed to have caught from the engine. Seventy sacks of wheat had been threshed, 40 of which, together with the remainder of the unthreshed stack, the separator and wheat cleaner, were totally destroyed. The loss in grain is, we learn \$450, but is insured. The loss to Mr. Sharp, owner of the separator, is placed at \$15,000.

ALFALFA.—In passing up the valley by rail recently, we noticed a field of alfalfa containing 25 acres belonging to the Taylor Bros., which, in contrast with the dry brown plains, appeared an oasis in a desert. The second crop of alfalfa was in blossom and being cut for hay. The yield was large and the profits from the two or three clippings will yield the owners a handsome revenue. Messrs. Plumley, Berlinger, Cople, Preston and others, we are informed have been equally successful in growing alfalfa, and no doubt it will be more extensively sown as the evidence of its thrift is better appreciated.

EL DORADO.

SOAP ROOT FIBER.—*Georgetown Gazette*, July 16: About 400 tons of soap root fiber have been gathered in the vicinity of Tunnel Hill by Chinese within the past four years, and shipped to San Francisco. It is put in bales of about 350 lbs. each. We understand that the Chinamen get \$50 a ton for gathering the fiber.

A CHERRY PARADISE.—Splendid, large delicious cherries are plentiful, and are being delivered to buyers at 40 cents per gallon. Hundreds of gallons of this fruit are being canned at the various cherry orchards hereabouts. This region is the natural home of the cherry.

KERN.

ARTICHOKES FOR HOGS.—*Californian*: The Jerusalem artichoke is being introduced with success in Kern county as food for hogs. On the Livermore ranch, C. L. Connor has planted some 15 acres this year, and Messrs. Pierpont & Hall have a tract of nearly the same size. They are also grown on the plains at the Poso ranch. It is said to require but little water in the alluvial soil of the island, and produces abundantly. When the crop is matured, hogs are turned in and allowed to do the harvesting. They root out the succulent tubers, leaving the ground in a mellow condition. As they cannot possibly take all the crop, it is only necessary in the spring to harrow down the land to prepare it for the next season, no further seedling being required. Hogs eat them eagerly and fatten on them. Chufas are also cultivated on the island for the same purpose, and are treated in much the same way.

LOS ANGELES.

BOYS FARMING.—*Express*, July 17: The two sons of Hon. Charles MacLay have set a fine example to the young men of the county. They rented a tract of land from him in the San Francisco valley. The tract forms a sort of inside

valley, hugging the foothills, and extending some distance lengthwise with the road. They plowed and put in themselves 200 acres of wheat, which now presents as fine a stand of grain throughout as there is in the whole valley. The boys have done all the work themselves, and will, when their crop is harvested, realize from it a net return of about \$2,000 each. The old gentleman is justly proud of this handsome achievement of his boys, and pointed out their field to us with manifest satisfaction.

MENDOCINO.

WOOL RAISING.—*Ukiah Press*, July 16: Those wool raisers who accepted our opinion and held on to their clip are reaping a benefit of 3¢ cents per lb. Several came in and asked us what to do, when 28½ was offering early in the market. We simply told them we would hold if we had it, as it was not commanding its value. The world's markets were bare, with decreased production all over the wool-growing countries, and on that we founded our opinion. The result is justifying predictions. Choice Humboldt and Mendocino is now quoted at 33 in San Francisco, with market active and firm. Donohoe was offered 32½ for his wool some days since by a local buyer. If our wool does not yet reach 35, we are only mistaken a little.

CAMPING AT THE FAIR.—We understand that several families from the coast will nite in a grand camping expedition at our county fair next October. Messrs. Stickney, Coombs, Morgan, Severance, Byrnes, Nelson, and several others have signified an intention to be present at that time, and make the occasion one of outdoor life and amusement. Mr. Willits has placed his large field, with abundance of wood, water, shade and feed, at the disposal of parties desiring their use, and none should stand back for fear of lack of room or hotel hills.

MERCED.

EDITORS PRESS:—The number of wheat stacks visible around here present a pleasant appearance, and the grain is a great deal better than expected. Harvest wages range generally from \$2 up, but \$2 is the rule unless for extra work. Hands are scarce. I was asked by a neighbor to get him a barvest hand. Though a good many unemployed were around town, I found it difficult to get one, even under the most favorable circumstances, for a harvest hand, the place being a good one. A neighbor whom I chanced to meet and brought along with me expressed himself so disgusted that "he no longer had any sympathy for the so-called Workingmen of California." I may add I have tried the Texas Millet grass and Prickly Comfrey and others, and I find the latter the better. The cattle seem to eat it readily, and it grows without irrigation, which the other requires, but I propose testing further before saying more on either. For a moneyed man there are fine openings here in new enterprises; fruit drying and growing, and saving of other farm products than this everlasting wheat so perpetually. No one will question but a mixed system of farming would pay better. Water could be stored here in the hills if not available from the Merced or San Joaquin rivers for irrigation. But time will accomplish much.—M. J. O'B., Merced.

MONTEREY.

SALINAS VALLEY HARVEST.—*Democrat*, July 17: Harvesting has been in progress for nearly three weeks in the upper part of the valley. From conversation had with various farmers from that section, the invariable report is that the crop, although very much short, is turning out better and makes a better showing as to quality than was expected a month or so ago. We have the same to report for the crops in the vicinity of Salinas, both wheat and barley as far as threshed turning out far beyond the expectations of the farmers. Local grain-buyers say that the barley is of a very bright cast, while the wheat is unusually dark in color. Castroville reports more than an average crop, and as that section seldom or never fails, a large quantity of grain will be shipped from that point. About Blanco the little barley that was sown this year promises a fair yield, that will be barely enough for home consumption. The wheat and English mustard crop will at fair prices be quite remunerative to those who were so fortunate as to seed their land to those crops. Notwithstanding the gloomy outlook a few weeks back, the amount of grain shipped from the Salinas valley this year will be considerably larger than any year since the harvest of 1876.

PAJARO PEACHES.—*Salinas Index*, July 15: Pajaro peaches will be few and far between this season, at least on the Monterey county side, the writer, during a two weeks' tramp through the township, seeing less than a dozen peach trees with fruit on, and hearing everywhere the same complaint, that when the leaves curled and fell off the fruit withered and fell also. Many of the trees appeared dead, though a large proportion had started new leaves before the sickly ones dropped, and the remainder, though looking so black, are starting fresh leaves. The only trees noticed unaffected by the curl-leaf were a few late cling-stones on damp ground, and a few other varieties on dry, sandy soil that had not been cultivated at all this season. The writer's impression is that peaches and apricots need light dry soils, and that the best location for both in the fog belt will be found on the sand hills instead of in the valley lands. While on fruit notes it may not be amiss to say that fruit generally grown on the sand hills is of a very superior quality, the apples being fully equal to any Eastern grown in crispness and flavor. In a few years when the many trees now planted come into

bearing, sand-hill apples will have quotations of their own in the market.

SACRAMENTO.

FIRST FRUIT EASTWARD.—*Bee*, July 17: The first fruit which has been sent to the East from California this season was forwarded to-day. It was a car-load of Bartlett pears and plums, consigned to dealers in Chicago, and was from the house of M. T. Brewer & Co., of this city.

SANTA CRUZ.

PAJARO NURSERIES.—Watsonville *Pajaronian*, July 16: Last Friday afternoon we paid a visit to the Pajaro Nursery, owned and managed by James Waters. The soil is naturally adapted to nursery purposes, and the ground has just enough grade to make irrigation perfect. All parts of the nursery can be easily watered now, and the supply of water is large. The nursery is young—three years old—but is well stocked. Mr. Waters has made it his principle to obtain the best and newest varieties of all trees, plants and shrubs. He has made a feature of the Japanese persimmon, and has sent large shipments of trees East, and the success has been gratifying. He has hundreds of these trees now on hand, many of them bearing fruit. The thousands of young apple and peach trees, comprising every known variety, are a prominent portion of the nursery. The large strawberry field, containing 16 standard varieties, some of them new to this State, is a marked feature. We saw strawberries picked there that were as long as a man's finger, and eight inches in circumference. Among the best varieties are the Columbian, Crescent Seedling, Great American, Sharpless and Monarch. The raspberry tract is also large, and contains every known variety, from the almost white Arnold's Orange to the black cap. This crop is very large this season, and Mr. Waters makes heavy daily shipments of this rich berry. His blackberry section is also large, and contains the best and newest varieties.

SAN MATEO.

HARVEST.—*Journal*, July 17: Harvesting is well commenced throughout the country. Hands are very scarce, and for the first time in years can it positively be well said now, that if there is one idle man in the State it is entirely his own fault. Wages are really higher than farmers can afford to pay. Many farmers are endeavoring to do as much of their harvesting as possible themselves, on economical grounds. This will make harvest time somewhat longer, with questions of doubtful economy, by reason of waste of grain, to be considered.

SIERRA.

FARM NOTES.—*Loyalton Cor. Reno Gazette*: The grasshoppers are doing some injury in some places, but they are late and the hay will be cut before they can do much harm. If they attack a field of hay now, the mowers begin at once, and if both begin the same day the mowers get the better of them. So far the hoppers are too much domesticated to suit the ranchers of the valley. During the last three years they were on the move as soon as they could hop, but not so this year. So far, they have done their principal damage where they were hatched. They have no wings yet. The grain here at Loyalton (and this is all there is in the valley) is heading out but it is very short, and will only be a middling crop, as it has had no rain since it was sown. Haying hands are scarce. The May flies are all gone. Butter being low, the dairymen are not in very good spirits, notwithstanding the hoppers are not doing much damage so far. The long, cold, hard winter left nearly all the dairymen in debt, as hay was scarce and high priced, and most of them had to buy hay or drive their cattle out of the valley the last winter. The cattle running on the plains here are fat and sleek, and show no signs of the hard winter just past.

SONOMA.

VITICULTURAL CLUB.—*Index*, July 17: The meeting of vine-growers and wine-makers, held on Saturday, July 10th, resulted in the organization of the "Sonoma Viticultural Club." The following officers were elected, to serve during the ensuing year: President, Julius Dresel; Vice-President, Wm. McPherson Hill; Sec'y, Robt. A. Poppe; Treas., O. W. Craig; Finance Committee—A. F. Haraszthy, S. H. Shaw, E. H. Morton. A great interest was manifested in the organization, and 32 members signed the roll. Messrs. Julius Dresel, A. F. Haraszthy and R. A. Poppe were appointed a committee to receive the speakers and visitors who will be present on the 23d and 24th inst., on the occasion of the meeting of the State Viticultural Commission.

HOPS.—*Healdsburg Flag*, July 15: Hops will all be ready for picking Sept. 1st; some at Alderson's are now an inch and a half long and will be ripe in 10 days.

SAN JOAQUIN.

ANOTHER COMBINED HARVESTER.—J. S. Kerr, of Lockeford, who for several years has successfully operated threshing machines in this county, has just completed a mammoth thresher and separator, embodying improvements which his long experience in the business has convinced him necessary. His object is the more speedy completion of the work and less waste. In most machines heretofore used, a portion of the grain is lost by passing out of the separator with the straw. The new machine of Mr. Kerr is constructed with the special purpose of remedying this defect. The number of teeth in the cylinder and concave is increased in order to prevent the possibility of a single head of grain passing through without being threshed. When the straw and grain pass the cylinder it falls

upon a straw carrier, made of wooden slats, which carries along the coarser straw, allowing the grain and chaff to fall through these slats upon a grain carrier, which revolves underneath the straw carrier, and is carried past the first set of fans when the chaff is blown away, allowing the grain to be carried to the spout, from which the sacks are filled. In most machines now in use there is but one set of fans for blowing out the chaff, but in the machine constructed by Mr. Kerr, there are three sets, and the straw and chaff are carried successfully past the three sets, each set having its grain and straw carriers. The attachment to the machine of two extra sets of fans of course increases the length of the separator, it being 30 ft. from the cylinder to the point where the chaff and straw leaves the machine. It is claimed that these several improvements will secure all the grain and thereby add materially to the profits of the farmer. Mr. Kerr has had his machine built at his farm under his own immediate supervision. A new engine, of 30-horse power, has been procured from the East to drive this mammoth machine, and it is expected within the next week it will be in operation in some of the extensive wheat fields in that portion of the county. Farmers of that locality are awaiting a trial of this machine with considerable anxiety.

THE AGRICULTURAL SOCIETY.—The necessary documents have been forwarded to Sacramento for the organization of the Agricultural Society under the act of the last Legislature. The following names were suggested to the Governor for appointment as Directors: L. U. Shippee, J. Shepherd, R. C. Sargent, J. A. Loufitt, H. W. Weaver, Fred Arnold, J. Moore, John H. O'Brien. All the foregoing, except Mr. O'Brien, were members of the Board of Directors of the old society.

THE LARGEST CROP YET.—*Herald*: J. W. Kerrick, a successful farmer and influential citizen from the vicinity of Colleville, brings in a splendid report of the yield of wheat in his neighborhood and also from the country further south, toward the Stanislaus river. In the neighborhood of Colleville the summer-fallow wheat is yielding from 30 to 35 bushels an acre, and the berry is plump and fair, though not so large as it is some years. Many fields that were thought, at the time of the drying winds, to have been seriously injured, are found to have been but slightly injured. It is found that on the west and north sides of the fields where the wind had a clean sweep at the wheat, the yield was somewhat decreased, but this evil effect of the wind was not noticed in the middle portions of many fields. Mr. Kerrick yesterday visited one of his fields located near the Stanislaus river, where great injury was supposed to have been caused. In that section he found the grain yielding 20 bushels an acre. He says that in his neighborhood there is more wheat this year than he ever saw there before in any one year.

CROPS AT NEW HOPE.—Ross C. Sargent was in town yesterday from New Hope. He states that the wheat in that locality is turning out all that can be desired. The water on the overflowed land is gradually receding, and preparations are making for repairing the injuries received by the flood.

THE ROBERTS ISLAND LEVEES.—*Herald*: The directors of the Glasgow-California Land Co., are not at all discouraged because of the disaster that befell their enterprise, the reclamation of the lower division of Roberts island. Yesterday they cabled instructions to their manager, J. W. Ferris, to provide a suitable dredger to take sand and heavy material from the bottom of the river channel, and repair and strengthen the levees wherever they may be broken or deemed too light and insecure. One of the difficulties experienced in leveeing the island has been to find material of sufficient weight to make the levees strong enough after they are constructed. This will be obviated by taking the sandy sediment from the river channel. Notwithstanding the disaster that overtook the lower division this season, there will in all probability be as large if not a larger area of grain sown there this year than there was last. The water inside the levees there has fallen five inches. It is being drained out by floodgates. The river is also falling gradually. George W. Hurey, a farmer on Roberts island, has just cut 50 acres of barley, which will yield 80 bushels to the acre. It is stated by farmers of the island that in some localities the yield will go as high as 95 and 100 bushels to the acre.

THE BUHACH MILL.—There has been erected on the north side of Lissenden & Norris' agricultural implement manufacturing establishment, a mill to pulverize the flowers of the buhach plant into fine powder for use in destroying insects. The machinery is similar to that of a flouring mill of small capacity. There is only one run of stones, and the motive power to propel the mill is obtained from the steam boilers in the adjoining manufactory. The average quantity of the powder now produced daily is about 250 pounds. The material is ground as fine as flour, and the powder is put up in packages in tin as rapidly as it is ground. The packages were put up by boys, six or eight of whom are constantly employed for that purpose. The packages vary in size. There are no flies to be seen in the establishment. The buhach plantation is in Merced county, and the yield this year will be comparatively limited, owing to the fact that the plants were only set out a few months ago, and have not, therefore, attained a large growth.

SUTTER.

RECLAIMED LAND.—*Banner*, July 16: We made a trip into district No. 70 on Saturday

last, going over a large portion of it, and were pleased to see the signs of almost universal prosperity presented. The people in this district deserve great credit. Confident that they had the most productive land in the State, if they could protect it from overflow, they went to an enormous expense, reaching as high as \$6 an acre, for levee purposes, and in spite of failures, have stuck to it, and this year held the waters back, and in consequence they have a crop of grain that will not be surpassed. Everywhere the grain is heavy and plump, in no case going below 30 bushels, and in one case at least, Ira Woods', one piece is estimated at 60 bushels to the acre.

THE DRAINAGE COMMISSIONERS.—The Sacramento *Bee*, of Wednesday, says: The State Board of Drainage Commissioners, consisting of W. F. Knox, Niles Searles and W. H. Parks, accompanied by State Engineer Hall, returned last night from Wheatland and vicinity. The Commissioners made a pretty thorough investigation of Bear river and a portion of the Feather, and interviewed the residents thereabouts as to the condition of the lands and the work necessary to be done. The Board held a brief meeting to-day at its office and authorized Mr. Knox to make an examination of the river and levees about Sacramento and report thereon at a future meeting. There appears to be some hitch in the matter of securing funds with which to prosecute immediately the work decided upon, and the Commissioners are endeavoring to come to a satisfactory understanding in regard thereto with the State Controller; Messrs. Parkes and Searles returned to their respective homes this afternoon.

TEHAMA.

BIG YIELD.—*Tocsin*, July 17: James Cope-land cut and threshed off 125 acres, near Vina, last week, 2,045 sacks of wheat, the sacks averaging 140 lbs. This is a big yield, making an average of 48 bushels to the acre. The land had been summer-fallowed.

GRAIN SPREADER.—A new and very useful invention, which we had occasion to see in operation on the separator of Simpson & Schultz, is the Bailey grain spreader, having an eccentric or vibrating motion, which plays over the grain-carrier, spreading the grain out so that it is impossible for too much to get in the separator. It also does away with the work of two men.

VENTURA.

WHITE RUSSIAN WHEAT.—*Free Press*, July 10: Last week we published a statement to the effect that the White Russian wheat sown in this county was rusting and was "a failure." From a dozen different sources comes to us the information that we were mistaken. On the Ojai, the Colonio, the Saticoy and other ranches, farmers have this wheat, and no sign of rust appears thereon. We therefore think that Mr. Chrisman was misled as to the seed used to grow the rusted sample shown us. In fact, we learn that the seed of the rusted wheat shown us was procured from Los Angeles, whereas the genuine White Russian seed was procured from Oregon, most of it through the firm of Chaffee & Gilbert. Mr. Alexander has handed us a sample of the White Russian grown on the Dixie Thompson place, perhaps the foggiest location in the county, which is very plump and heavy and entirely free from rust. We therefore now state, on information at present before us, that, so far, the Odessa and White Russian have proved themselves to be rust-proof wheats.

YUBA.

THE ARMY WORM.—*Appeal*: Mr. Reman has a large field of potatoes on the Par Wall ranch, near the Brown's Valley grade and about two miles east of the city, which is being devoured by army worms. This the first "corps" ever noticed on the north side of the Yuba. A few years ago a large "corps" attempted to cross on the railroad bridge, but moving trains slaughtered them on every charge.

WASHINGTON.

CALIFORNIA SHORT HORNS AT THE NORTH.—*Walla Walla Union*: Mr. M. Fisk, who lives in Walla Walla county, only a short distance from Walla Walla, was in the city last week. He is the owner of some very fine Short Horn and Durham cattle, which he had on exhibition at the State fair. This stock was recently purchased by Mr. Fisk from Col. Younger, who owns an extensive ranch near San Jose, California, and was brought to this State just before the fair. The stock consists of the following: Rosa Nell, a very handsomely formed cow, six years old, weight 1,845 pounds. This animal has taken the first premium at every fair at which she has been exhibited since she was one year old. Dolly, five years old, weighs 1,750 pounds; has taken many premiums along with Rosa Nell. Red Thorndale, a magnificent bull (certainly one of the finest animals ever brought to Portland), weight 2,400 pounds. This bull belongs to Col. Younger, who, it is said, would not part with him for \$5,000. Rosa Nell the Second, is a splendid looking cow, six years old, and weighs 1,750 pounds. She has been awarded many premiums. Hester Ann, another splendid animal, is six years old and weighs 1,700 pounds. In addition to the above, Mr. Fisk is the owner of a yearling heifer, weighing 900 pounds; a bull calf eight months old (sired by Red Thorndale); a two-year-old heifer who was her second calf; one yearling heifer and two fine yearling bulls, each weighing 1,000 pounds. This fine stock will be shipped up the Columbia next Monday. They attracted much attention at the State fair and were greatly admired.

News in Brief.

CHASTINE COX, who murdered Mrs. Hull in 1879, was hanged at New York, July 16th.

At Manchester and other towns in New Hampshire there was a lively earthquake July 20th.

SOME extensive sulphur beds are being opened up at Cove creek, and shipments will soon be made.

THE French government has ordered an agricultural course in every primary school in the country.

MR. BRADLAUGH has been pronounced by a leading English judge to be one of the best lawyers in England.

A WINNEMUCCA (Nev.) man says that plowing ground and turning sheep on it destroys the grasshopper eggs.

COMPLETE editions of Bulwer and Scott are sold on the Nassau street, N. Y., second-hand book stalls for \$1.50.

GARDEN concerts and public dancing are patronized in Berlin by high government officials and society leaders.

MOST of the cities in Virginia have fallen short of public expectation in the census, Richmond having 75,000.

BIG Cottonwood lakes, Utah, are now to be seen in their greatest beauty, and tourists are gathering around them.

TEXAS gives this year its largest yield of wool, 1,300,000 bales of cotton, and an unusually large crop of corn.

THE French Chamber of Deputies voted a credit of 9,000,000 francs for the construction of the Sahara railway.

THE Mormons are taking possession of San Luis Valley, southern Colorado, and have built a town called Manassah.

THE *Coast Mail* says that lately a dog went into the surf between Port Orford and Ellensburg and caught a fur seal.

A RUSSIAN priest was fined and banished for stating, from the pulpit, that the entire nobility of Russia is tainted with Nihilism.

At a public meeting in London a protest was entered against the erection in Westminster Abbey of a statue of the Prince Imperial.

A ROBIN has built its nest in a railroad switch, near a New Hampshire station, directly under the signal light, where 25 trains pass every day.

At San Antonio, Texas, July 20th, Gen. Trevino and Miss Ord, daughter of Gen. Ord, were married in church in the presence of 2,000 people.

In point of wealth the Elberon colony, Long Branch, is almost equal to Newport. It is said that six members represent thirty millions of dollars.

THE wheat crop of Napa county is larger than was anticipated, and the grape crop is expected to be the largest ever harvested in the valley.

THE necessity of raising the grade of the water front of Portland Or., is being discussed in consequence of the late overflow by the Willamette river.

OXFORD tutors are described as less revered by their pupils than formerly, but more in harmony with them and better companions than they used to be.

THE New York employment agencies report that there has been no such demand for labor, both skilled and unskilled, for numbers of years as there is now.

BULLS must be kept tied up this summer, otherwise the country will be dangerous for people who carry the Turkey-red calico parasols now so much affected.

THERE are in New York city 85 Episcopal churches and chapels, the number having doubled in 25 years, and 24,000 children in the Episcopal Sunday-schools.

COACHING has been revived at Newport in all its original glory, there being several members of the coaching club there. A grand parade of the drags is promised in August.

A NEW ORLEANS lady procured, a year ago, over 2,000 silk-worm eggs, from which she raised 2,000 cocoons, and from these she has obtained more than 80,000 eggs.

A NEW style of "society youth" has appeared at the seaside. He allows his hair to grow long, brushes it behind his ears, and refuses to talk upon any topic but decorative art.

THE St. Petersburg Society of Naturalists has given 1,000 rubles each to the two exploring expeditions which go this summer to Lapland and the Mourman coast of the White sea.

THE report that the Russian government will shortly prohibit the exportation of corn is semi-officially contradicted. Statements in regard to the failure of the crops are greatly exaggerated.

NOW that pockets are out of fashion in ladies dresses, bags of various kinds are coming in vogue, and one may expect to see before long some lady carrying a bag like that of the Widow Bedott.

A CHICAGO man makes a living by finding lost articles. He goes to public gardens, parks, etc., every morning before daylight, and looks for anything which persons may have dropped during the previous evening.

Mlle. GREVY, daughter of the French President, has received from one of the Siamese Ambassadors in Paris, as a gift, a dress of a peculiar make and material always reserved for royal wear in his native country.

At Phoenix, Arizona, watermelons are coming in in large quantities. In a few days sweet potatoes will be in the market, and peaches, grapes and figs will be plentiful by the 1st of August, all raised within a few miles of Phoenix.



The Old Home.

Little house lost in the heart of the lindens,
What would I not give to behold you once more!
To inhale once again the sweet breath of your roses
And the starry clematis that climbed 'round your door—

To see the neat windows thrown wide to the sunshine;
The porch where we sat at the close of the day,
Where the weary foot traveler was welcome to rest him,
And the beggar was never sent empty away;

The wainscotted walls, and the low-raftered ceilings
To hear the loud tick of the clock on the stair;
And to kiss the dear face bending over the Bible
That always was laid by my grandfather's chair!

O bright little garden beside the plantation,
Where the tall fleur-de-lis their blue banners unfurled,
And the lawn was alive with the thrushes and blackbirds,
I would you were all I had known of the world!

My sweet pink pea-clusters! My rare honeysuckles!
My prim polyanthus all of a row!
In a garden of dreams I still pass and caress you,
But your beautiful selves are forever laid low—

For your walls, little house, long ago have been leveled;
Alien feet your smooth borders, O garden have trod;
And those whom I loved are at rest from their labors,
Reposing in peace in the bosom of God!

Rags, Sacks, and Bottles.

He wore a broad-rimmed hat, and his hair was long and his whiskers bushy. He was a small man, and drove a mule that was also small, and so old that the memory of its youth must have been the merest shadow. The wheels of the little old cart were so loose on the axles that they would get themselves into the most unaccountable positions, sometimes lurching so far to one side or the other that wreck seemed inevitable. On such occasions, which were always unexpected, the little man had to lean the other way.

"Rags, sacks, an' bot-tels!"
Whoa, Beauty! Wonder what this gentleman wants. Want to sell some rags, sir? No? Could I ride with him? No use stoppin' a fellow—a business man—fer aech a question ez thet. In dead earnest? Well, well, well! Ef thet didn't beat him all holler. A fine, dressed-up gentleman a-ridin' through the streets in sich a fake ez thet there cyart—why, the boys 'ud gny me me out'n my senses.

"Rags, sacks, an' bot-tels!"
Well, jump in, then, if I *would* like to hev a lift. Mebbe I was tired o' walkin'.

"Rags, sacks, an' bot-tels!"
He had a curious assortment of wares in the cart; under his feet, under the board that served for a seat, everywhere, mixed and mingled; gunny-sacks filled with strange things; a box for bottles, and cups with the handles knocked off; fragments of looking-glass; dainty old shoes run back at the heels and burst at the toes (he imparted to me in strict confidence the name of the young lady who had worn them—a great society belle); riff-raff and scum of finery, flimsiness and poverty—a very curiosity shop of exhausted economy and impatient extravagance gone to waste.

"Rags, sacks, an' bot-tels!"
It was the most doleful chant I ever heard. It employed but two notes, which he always struck with exact precision. There was no reference to a tuning-fork, nor clearing the throat, nor testing the vocal organs by running up and down the scale. The burden of the chant was on the key-note, the only variation being the dropping to the fourth on the first syllable of "bottles," and then resuming the old position in the scale on the last syllable. This gave the word a strange sound, and I did not recognize it; so I inquired its meaning.

"Bottles," he replied, looking surprised and somewhat contemptuous.

There were ale bottles and whisky bottles, a bottle the baby had used, bottles from the Rhine and Bordeaux, square bottles and round bottles, long bottles and short bottles, bottles of every nationality and pedigree, lean bottles and fat bottles, bottles with druggists' labels and bottles without labels, dirty bottles and clean bottles—a ragged and hungry army of bottles that had been through many struggles, and that were destined for many more; bottles of strong principles, and bottles whose characters were so frail that they would crumble under the least touch of calumny or adversity—the rag end of all the disreputable bottles in creation.

"Rags, sacks, an' bot-tels!"

I noticed his keen little eyes carefully and rapidly scanning upper-story windows, throwing a quick glance into alleys leading into back yards; and the comprehensive look with which he regarded a clothes-line, with its burden fluttering in the wind, conveyed whole volumes of analytical discrimination.

Whoa, Beauty! He had caught a signal from a back stair, given by an untidily dressed, though good-looking matron. Beauty came so suddenly to a dead halt that the cart wheels, which had been running peacefully along at a considerable inclination to one side, lurched over to the other, as if they wanted to rest themselves by standing on the other leg, and threw me violently against the little man.

"The streets," he said, in an apologetic tone, "is skimpety like, an' yer can't jess calkilate when you're a-runnin' a-foul of a rut."

The good soul! It was the crazy old cart that was at fault; but he would hide its infirmities, even at the expense of truth.

"Will yer set in the cyart," he said, "an' hol' Beauty 'gainst I come back? She's mostly purty gentle, an' moutn't run away; but she gets lively'n strong at times, an' hez notions of her own, jess like a woman."

Beauty run away! Why, I have no idea such a thought had found place under her thick old skull for a quarter of a century.

As I awaited the return of the little man, my attention fell upon the patient and decrepit disguise of anatomy that stood so quiet in the patched and spliced shafts of the cart; and I could not help thinking that Beauty was made entirely of rags, sacks and bottles. Her brown hide, patched and torn, and covered with the filth of the stable where she had lain, looked more like a sack than anything I had seen before. I was sure her ears were the dilapidated shoes of some broken down song-and-dance man, whose trumpery had gone to the rag-picker. I speculated considerably on what the old sack was stuffed with, and was forced to the conclusion that the great prominences all over her emaciated body were bottles; that the jagged ridge along the back was propped up by soda-water bottles, with the necks broken off; and there was no doubt in my mind that the lumps at the hips were Dutch bottles that were cracked, and fit for no other use. What kind of rags was Beauty stuffed with? A problem. But I thought the poor old stomach contained only rags that the junk dealer had refused—such as half-wool stockings, worn out at the heels and toes; old red-flannel rags, and rags that were mildewed and rotten; rags that had been rags for three generations, and sold because a stitch would no longer hold them together. Ah! but what kind of a soul had Beauty? Was it, too, made of rags, sacks and bottles?—or was it woven of fine white thread? I think not the latter, but rather that it was composed of rags that had served for blisters, poultices and ointments; rags from which all life and color had faded, leaving them blank, but white, for all that; rags that had felt all the privations to which rags can be subjected, that had been torn and tattered by the winds, left uncleansed all their natural lives, and that the rats and mice had eventually stuffed away in damp and dismal places to make nests of; rags that had served as handkerchiefs to conceal a sigh, or brush-away a tear. There were sacks in the soul, too—empty dreams of emptier oat-sacks; and bottles in which flowers had been put and left to wither when the water dried up.

"Rags, sacks an' bot-tels!"
The little man came out of the gate, lugging a sack full of rags and bottles. He deposited his burden in the cart, opened the sack, peered into it, buried his arm in its contents, and fetched up an empty bottle. This he deposited in the box, and repeated the operation until he had taken out all the bottles, leaving only the rags.

"Are rags dear?" I asked.
"Oh," he replied, with a shrug, "a business man can't growl about trifles, you know. Them rags'll weigh 'bout 10 pounds."

"How much did they cost you?"

"Well, yer see, people wants all the money they kin git. Them people in there's mighty close." And he added, with a knowing look, "There's queer stories about 'em. An' then, times is purty close. They wanted 25 cents for 'em, an' kinder stuck to it like; but I warn't on the buy thet strong, an' when I got 'em down to 15 cents, I tuck 'em."

As we jogged down the street, he continued his cry:

"Rags, sacks an' bot-tels!"

The house from which we had just made the purchase was apparently that of well-to-do people. There was neatly trimmed shrubbery in the garden, a smooth grass-plat and flowers. The handle of the door-hell was silver-plated. My fancy clung to that house, with its slovenly matron, stood upon the door-step, on which was a mat bearing the word "Welcome," turned the handle and entered. Then I found a rug at every door, but they were all woven of rags. There were rag carpets everywhere. Underneath the spotless white bed-spreads were quilts made of odd bits of cloth and rags from unimaginable sources. I was so disheartened in the search for something new and fresh and whole, that was hidden from outer sight, that I went down into the hearts of these people to find, perchance, a single thing that was not torn and tattered and empty; but a great night-mare there confronted me. It was a scare-crow, dressed in rags that it had worn so long they were falling off by piecemeal, exposing a frame that was warped and awry; that was split where the nails had been driven into it, and that was tied up with odds and ends of strings and leather thongs cut from old boot legs. Terrified with the spectacle, I hid myself in the innermost closet of that slovenly matron's (the mother's) heart, and there I was blinded by cobwebs and choked by dust. I stumbled upon a heap of ashes in a very dark corner. They enveloped me in a cloud. I was suffocating and gasping for breath, when I was borne down into the ashes by a heap of rags, sacks and bottles that fell from above and crushed me with the weight of a mountain. Struggling madly, I fought my way out. I gained the top of the mountain and clambered down the side. I fell over something as I turned to leave. The darkness was oppressive, the dust suffocating. I

felt at my feet in the utter blackness, and found, grinning, and ghastly, all dry, and parched, and shriveled, and whitened—a skeleton.

"Rags, sacks an' bot-tels!"

We did a driving trade that day. All the rags, sacks, and bottles in the town seemed to flock to us as to a haven of rest; for they must have known that a great future was opening up before them, in which purified and transformed, they would come to occupy higher positions in life, and serve nobler purposes. But we drove terribly hard bargains, and sometimes exhibited a meagerness of soul that was contemptible. It must be understood that we could not avoid this; for did we not have at home five or six little empty, tow-head bottles, that had to be filled so often? Did we not have five or six little bundles of rags that *would* shiver, and that *had* to be kept warm? And we loved them, even if people did say we were mean and hard-hearted; even if dogs did growl at us; even if we were cursed, and kicked, and driven out of back yards, drenched with dirty water the kitchen-maid had thrown upon us. But this occurred only once, and then there happened to be a silver spoon in the bottom of the dish-pan. It struck us scornfully, and fell to the ground, and we very slyly and very quietly put it in our pocket.

"Rags, sacks, an' bot-tels!"
The day's work was finally done, and the little man turned Beauty's head homeward. His business-like look went out, giving place to one of sadness and anxiety.

"My little girl is very sick," he said.

"Ah!"

"Yes, very sick. Most afeared she won't live long."

I accompanied him home. His house was a miserable hovel, with neither floor nor chimney. The furniture consisted of a broken table, an old chair, and a quantity of rags spread in the corner for a bed. The little man approached the bed, and, with womanly tenderness, stooped down and kissed a little bundle of rags almost buried in the pile.

"How is my little Mag?"
A wan, thin face smiled and a weak voice replied, as two emaciated little arms sought his neck:

"Oh, papa, I'm so glad you've come. Give me some water, papa."

The little man held up her head, and she eagerly swallowed some water from a broken bottle.

"I've been so lonesome, papa—so lonesome. They all went away and left me, and a great big rat got on the bed."

"Where is the mother?" I asked.

"Dead," he replied.

I approached the little sufferer, took her tiny hands in mine, and found them cold. I kissed her forehead and lips, and found them hot. An indefinable horror was stealing over me, as if I stood in the presence of something invisible that was repulsive to nature.

"Papa," she said, "did you bring me any pretty rags?"

"Lots of 'em, Mag, lots of 'em. Whole heaps of 'em."

"Let me see 'em, papa. And—and will you make me a pretty rag doll?" she asked me, hesitatingly. "Papa can't make 'em as pretty as I can, and I am so weak I can't make 'em any more."

Her poor eyes sparkled as I rummaged the sacks for the finest and brightest rags, and made them into a very princess of rag dolls. She clasped it to her breast and kissed it again and again, and laughed some, and cried some, and called it pet names, and said it was the prettiest doll she ever saw. Then she kissed me, and laughed and cried again. I asked her if she wanted something nice to eat, for I was prompted to this by the dreadful feeling that I could not understand. She shook her little flaxen head slowly, but sadly.

"Wouldn't you like a nice, big, round orange?"

A great, hungry eagerness came into her eyes, and the pale little face slightly colored.

"Oh!" she said, "an orange; I never tasted but onc."

Somehow my eyes became so dim that I turned away, and discovered the rag-picker quietly crying. Then the truth came upon me, and overpowered me. There lay before me, on the bed of rags, a human being, drifting away. While church spires pointed proudly to heaven; while there were people in the world with generous but ignorant impulses; in the broad light of day, when the birds were singing, and the sun shining brightly; in the fullness of time, and by the grace of God; at the very footstool of the throne in heaven, lay that little mortal dying—of what? *Starvation.*

Was I already too late? I rushed from the hovel, stunned and staggering, looking for life; and, ringing in my ears, rousing every energy, was the solemn, funeral, heart-breaking cry:

"Rags, sacks, an' bot-tels!"

That was 10 years ago. The little man and Beauty have long since passed away. My ward has just grown into lovely womanhood, pale, thoughtful, beautiful. I cannot imagine why the other boarders look at each other and smile when I kiss Mag "good night," and when she turns at the door and throws me a kiss, with her eyes full of pure affection. But, somehow, the world is brighter than it used to be. I am greatly mortified to find a few gray hairs in my head, for I am afraid people will think I am getting old. I am told that I am much more careful with my dress than I was a few years ago. I am sure I feel younger than I did 10 years

ago. Those are very meddlesome boarders, and, comparing them with Mag, I care no more for them than for so many rags, sacks and bottles.—*W. C. Morrow in Californian for August.*

The Course of Empire.

"Westward the course of empire takes its way" quotes the *Chicago Journal of Commerce*. Since the census of 1870 the Western States and Territories have shown a wonderful increase in their populations. It is yet too soon to obtain results, but as a striking instance of this increase, we may cite Nebraska. The returns so far received from that State show that its population has increased from 128,000 to 500,000. Under the new reapportionment Nebraska will secure about four additional Congressmen. Notwithstanding the large increase in the State—nearly 400%—the population of Omaha has increased but 16,000 in the past decade. As Senator Paddock says, "this illustrates the desire of the European immigrant to possess a farm rather than a city." Unquestionably when the returns are in from Kansas, Wyoming Territory, Dakota and Minnesota, we shall find that their increase has been little else than remarkable. Nebraska has rightly assumed the place of one of the most prosperous States of the Union within the past 15 years. Her progress has been a marvel of energy and success. When the Colfax party went up the Platte valley in a stage coach in 1865, there were a few scattered settlements and cities on paper along the Missouri river, and Fort Kearney, with a few houses surrounding it, with stage stations at regular intervals, were all the signs of life found to the west line of the State, and, in fact, all the way to Denver. For 200 miles or more there were new-made graves to mark the slaughter of white men and women and children by the murderous redskins of the year before. The Union Pacific railway has changed all this, and now farms and hamlets and thriving towns dot the valley of the Platte all the way to the mountains. And it should be known that this great valley, prosperous and growing rapidly as it is, is by no means the best part of the State. The country on either side, beyond the bluffs that bound it, is richer by far than what the tourist sees as he dashes by on the cars in the Platte valley. It is a rich, rolling prairie, well watered, and is still rapidly settling by an energetic, thrifty population. The valleys of the Niobrara, the Elkhorn and the Loup Fork drain the northern half of the State. The Platte sweeps nearly through its center from east to west, while the Republican and other streams drain the southern sections. The result of the census just taken goes to show how ignorant the old geographers were when they marked a large portion of Nebraska and Kansas, which we used to see in the atlas of our school-boy days, as the "Great American Desert."

A WIFE'S MESSENGER.—Joseph Stewart, of Cohoes, is convivial by nature and occasionally so in practice. Joseph is married and has a wife whom he loves, but she has a rival in Joseph's affections in the shape of a beautiful mare that Joseph owns, and of which he has made a great pet. Now the mare is never easy unless when in company with her lord and master, and, from long companionship, is acquainted with Joseph's haunts, and if left alone will follow him like a dog. Now, last night Joseph was out with some friends canvassing the probable result of the Chicago convention, and the party were enjoying themselves in a saloon. Joseph, knowing his favorite mare was safely housed in her stall, and fancying his wife in bed and asleep, did not dream of any interruption to his pleasure. When midnight came, however, the party were astounded by the appearance of the mare in the open doorway, and the animal, stretching her head forward in the direction of her master, whinnied in a manner which seemed to say plainly, "Joe, it is time you were at home." An instant later the knowing animal repeated the summons, and was about to step inside, when Joe said, "Boys, it is my mare and I have got to go; but I would like to know how she got out," saying which he departed, the faithful beast following, with her nose over her master's shoulder. Mrs. Stewart, who jumped into bed just as her husband opened the front door, and who was chuckling inwardly, might have explained how the mare got loose; and Joe guesses, but he don't say much.—*Troy Times.*

A BAREFOOT BRIDEGROOM.—About 20 years ago a young fellow named Johnson, in the wilds of the Cheat mountains, in West Virginia, made up his mind to get married. "But you have not a penny," remonstrated his friends. "I have two hands. A man was given two hands—one to scratch for himself, and the other for his wife," he said. On the day of the wedding Johnson appeared in a whole coat and trousers, but barefooted. "This is hardly decent," said the clergyman. "I will lend you a pair of shoes." "No," said Johnson. "When I can buy shoes I will wear them—not before." And he stood up to be married without any thought of his feet.

SONGS.—"The Temperance Light" is a new collection of gospel temperance hymns and sacred songs. By G. C. Hugg and M. E. Servoss. Published by Oliver Ditson & Co. It is a cheap (10 cents) temperance collection, whose price will at once commend it, as its contents are not at all "cheap," but evidently carefully selected and condensed. There are 32 tunes, and the words and music were procured of 27 different writers.

Chaff.

A PAPER in the neighborhood of Rochester advertises a church pew for sale, "commanding a beautiful view of nearly the whole congregation."

AN AMBITIOUS young lady was talking very loud and fast about her favorite authors, when a literary chap asked her if she liked Lamb. With a look of ineffable disgust, she answered that she cared very little about what she ate compared with knowledge.

AN OLD miser, who was notorious for self-denial, was one day asked why he was so thin. "I do not know," said the miser. "I have tried various means for getting fatter, but without success." "Have you tried victuals?" inquired a friend.

A WEST-SIDE man got out of bed early the other morning to look for burglars, but finding none, came back muttering: "I thought I heard something breaking." "I guess, dear," said his wife, glancing toward the window and the rosy beams in the east, "I guess it was the break of day."

WHAT part of the eye is like the rainbow? The iris. What part is like the school boy? The pupil. What part is like the globe? The ball. What part is like the top of the chest? The lid. What part is like the piece of a whip? The lash. What part is like the summit of a hill? The brow.

BRETHREN, before we sing the next verse of "John Brown's body lies all mouldy in the grave," let us look into the grave and see if it is there. In these days of medical colleges a cemetery is no safer than a savings bank, and it may be that political glee clubs who have been singing the song quoted above have been chanting a rhythmic lie for the past 15 years.

A DOCTOR in Scotland made a nerve and bone all-healing salve, and thought he would experiment a little with it. He at first cut off the dog's tail and applied some of the salve to his stump. A new tail grew out immediately. He then applied some to the tail which he cut off and a new dog grew out. He did not know which dog was which.

A MAN was sawing wood yesterday afternoon in a back yard. He severed two sticks as thick as your wrist and then went into the house. "Mary," said he to his wife, "my country needs me; there's no use talking. We've just got to slaughter all these Injuns. No true patriot can be expected to hang around a wood pile these days." "John," said his wife, "if you fight Injuns as well as you saw wood and support your family, it would take 118 like you to capture one squaw, and you'd have to catch her when she had the ague and throw pepper in her eyes." John went back to the wood pile, wondering who told his wife all about him.—*Salt Lake Tribune.*

THE GOOD WORK OF A FRENCHMAN.—An agreeable duty of the French Academy each year is to award the Monthyon prizes, says the *New York Mail*, of which one is given to the author of the work most conducive to the promotion of public morals. The latter prize was bestowed last year on Hector Malot for a novel, which has been translated under the title "No Relations," and published by Messrs. J. B. Lippincott & Co., Philadelphia, in an inexpensive though well-printed form. It would be wise for those story-tellers who desire their works to teach a good moral lesson to study the art of Malot. Without preaching, without sermonizing, without enunciating moral axioms, by the acts of his personages and the development of his plots alone, the charming art of the author renders virtue attractive. He depicts with entire probability a child sold by the husband of his foster mother to a strolling fiddler, and yet growing up free from vice, and with a loving, grateful and good nature. The child is supposed to be a foundling, but turns out to have been stolen from a rich mother to whom he is restored. From the account of the vagabond life of the lad we rise with a better opinion of human nature, and deep admiration of the healthy imagination of the author, who, by his simple, sweet and unaffected narrative, has cast the glow of romance over people in very humble circumstances, and given a succession of descriptions remarkable for clearness and delicacy.

WANTED—MORE THOROUGHNESS.—Thoroughness is the one thing needed in our systems of education. We have far too many clever smatterers—too many jacks-of-all-trades. One of our critics, himself well equipped for the battle of life, has declared that the difficulty in our America is, that while we are all "pretty well" educated, "very few of us are first-rate" and carry as many guns as we might. We forget that if a man does not know a thing accurately he positively does not know it at all. The same authority remarked that during the past 25 years "there has not graduated from any American college a man who has yet made any great mark either as a lawyer, an orator, a statesman, a poet, a preacher, an essayist, or an historian." Inaccuracy is our besetting sin. Such phrases as "pretty near," "about right," "near enough," are rarely heard in any other country, and may be set down as peculiar to Americans. Thoroughness is a marked quality of German training, and German specialists command the admiration and the money of the world. American young men must become more accurate, thorough and downright, or our places of honor and emolument will be filled by the stranger.

Young Folks' Column.

Our Puzzle Box.

Geographical Enigma.

I am composed of 38 letters.
My 4, 5, 6, 7 is a cape of North America.
My 15, 11, 37, 16, 12, 17, 35, 13, 6, 27, 36 is one of the U. S.
My 19, 3, 20, 26, 21, 13, 35, 23, 5 is one of the U. S.
My 33, 8, 31, 26 is a mountain in Africa.
My 31, 25, 15, 1, 23, 38, 22, 12, 7, 30 is a country in Europe.
My 33, 23, 10, 19, 15, 34 is a lake in Africa.
My 9, 14, 7, 10, 2 is a river in Scotland.
My 33, 17, 24, 20, 19 is an island in Europe.
My whole is a quotation from Psalms.

ADONIS.

Letter Arithmetic.

O R C E N T S
H A LR S N T N R A L
H T H R T H E C
C T T A H C S R

H H C H S T N R R L

My whole is a city in the Southern States.

JENNIE.

Hidden Trees and Animals.

1. Shall Aurelia pin evergreen upon her hat?
2. Hang that sign up over the door.
3. Many uses are made of iron.
4. Eli once was a person of fame.
5. Estelle, O, pardon this intrusion.
6. Hogan thinks his balm a pleasant thing to give to a king.
7. The lady has bought some gauze braid.

W. P. W.

Diamond Puzzle.

1. Found thrice in the Philippine.
2. A vessel.
3. By one's self.
4. Ground of hope.
5. An instrument used by butchers.
6. A diocese, transposed.
7. Found twice in shelter.

W. H. G.

Decapitations.

1. Behead a troublesome animal a leave a preposition.
2. Behead greater quantity and leave a mineral.
3. Behead a garment and leave a kind of grain.
4. Behead an animal and leave an acquirement.

CLAUDE.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Itacolumi.
LETTER CHANGES.—1. Rod, red; 2. Clock, clack; 3. Chink, chunk; 4. Dress, dross; 5. Spare, spire.
CHARADE.—Man-chester.
ANAGRAMS.—1. W. C. Bryant; 2. O. W. Holmes; 3. W. F. Williams; 4. W. W. Story; 5. Our Country's Call; 6. An Appeal; 7. Mitchell; 8. War Song.
CURTAILMENTS.—1. Pearl, pea; 2. Pearl, pear; 3. Stage, stag; 4. Spare, spar.

A Little Lecture for Boys.

The author of "Nuggets of Gold," writes to the boys as follows: "When a thrifty farmer's or mechanic's boy imbibes an ambition to do something other than what his father has made his money at, that ambition may be very well, and when his father strains a point to educate him for that something else, the education is surely very well, for it will qualify him for a better farmer or mechanic in case he does not succeed in the other thing. But when duly qualified for that higher calling, as he thinks it is, and when, wherever he goes for a situation, he finds a dozen applications for every vacant place that occurs, he should remember that his education has not necessarily unfitted him for the work that he has been trained to, or any other that he can get to do, and also that his life mission is to do something, and not to be wasting his time in an unavailing hunt for something that he thinks genteel and agreeable. And so of all the hordes of idle young men, who throng all the towns and cities vainly looking for certain classes of employment, I say retire from such unequal contest; start out—go somewhere and do something. There is something for you to do somewhere; go and find it. If you are not too good to do the work that you are looking for and cannot get, you are not too good to do the next best thing that you can get. There is no honest work that is not really respectable. Most of the wealthy men of this country commenced life upon work that you are in the habit of thinking too low for you to begin on. I think it is generally the case that those who are too good to do the work that comes along, and seems to be necessary for them to do, are never good for much of anything."

EXPLORING BOYS.—Colorado Springs has a "Boys Exploring Association," organized and conducted by Rev. R. T. Cross, of the Congregational church. "The object of this association is to carry on explorations in the vicinity of Colorado Springs, and to secure physical, mental and moral improvement." On the first trip, two of the boys discovered in Williams canyon what is declared to be the finest cave in the State. It is not yet fully explored, but has many chambers, and wonderful stalactites.

"You should never let your temper turn sour," said a teacher to a little girl; "it spoils everything to have it turn sour." "Then my mamma's pickles are all spoiled," exclaimed the child in a tone of regret.

A PRETTY answer was given by a little Scotch girl. When her class was examined, she replied to the question: "What is patience?" "Wait a wee, and dinna weary."

A MERCHANT was asked the other day how many children he had, and he replied: "Five boys, and each boy has two sisters." How many children were they?

Good Health.

What to Do in Cases of Diphtheria.

In the first place, as diphtheria is a contagious disease, and under certain circumstances not entirely known, very highly so, it is important that all practical means should be taken to separate the sick from the well. As it is also infectious, woolen clothes, carpets, curtains, hangings, etc., should be avoided in the sick room, and only such material used as can be readily washed.

All clothes, when removed from the patient, should be at once placed in hot water. Pocket-handkerchiefs should be laid aside, and in their stead soft pieces of linen or cotton cloth should be used, and at once burned.

Disinfectants should always be placed in the vessels containing the expectoration, and may be used somewhat freely in the sick room; those being especially useful which destroy bad odors without causing others (nitrate of lead, chloride of zinc, etc.) In schools there should be especial supervision, as the disease is often so mild in its early stages as not to attract common attention; and no child should be allowed to attend school from an infected house, until allowed to do so by a competent physician. In the case of young children, all reasonable care should be taken to prevent undue exposure to the cold.

Pure water for drinking should be used, avoiding contaminated sources of supply; ventilation should be insisted on, and the local drainage must be carefully attended to. Privies and cesspools, where they exist, should be frequently emptied and disinfected; slop water should not be allowed to soak into the surface of the ground near dwelling-houses, and the cellars should be kept dry and sweet.

In all cases of diphtheria fully as great care should be taken in disinfecting the sick room, after use, as in scarlet fever. After a death from diphtheria, the clothing disused should be burned or exposed to nearly or quite a heat of boiling water. The body should be placed as early as practicable in the coffin, with disinfectants, and the coffin should be tightly closed. Children, at least, and better adults also in most cases, should not attend a funeral from a house in which a death from diphtheria has occurred. But, with suitable precautions, it is not necessary that the funeral should be private, provided the corpse be not in any way exposed.

Although it is not at present possible to remove at once all sources of epidemic disease, yet the frequent visitation of such disease, and especially its continued prevalence, may be taken as sufficient evidence of insanitary surroundings, and of sources of sickness to a certain extent preventable.

It should be distinctly understood that no amount of artificial "disinfection" can ever take the place of pure air, good water and proper drainage, which cannot be gained without prompt and efficient removal of all filth, whether from slaughter houses, etc., public buildings, crowded tenements or private residences.—*From the Circular of the Massachusetts State Board of Health.*

The Use of Pain.

The power which rules the universe, this great tender power, uses pain as a signal of danger. Just, generous, beautiful Nature never strikes a foul blow; never attacks us behind our backs; never digs pitfalls, or lays ambushes; never wears a smile upon her face when there is vengeance in her heart. Patiently she teaches us her laws; plainly she writes her warnings; tenderly she graduates their force. Long before the fierce red danger-light of pain is flashed, she pleads with us—as though for her own sake, not ours—to be merciful to ourselves, and to each other. She makes the overworked brain to wander from the subject of its labors. She turns the over-indulged body against the delights of yesterday. These are her caution signals, "Go slow." She stands in the filthy courts and alleys that we pass daily, and beckons us to enter and realize with our senses what we allow to exist in the midst of the culture of which we brag. And what do we do for ourselves? We ply whip and spur on the jaded brain as though it were a jibing horse—force it back into the road which leads to madness and go on full gallop. We drug the rebellious body with stimulants; we hide the signal and think we have escaped the danger, and are very festive before night. We turn aside, as the Pharisee did of old, and pass on the other side with our handkerchief to our nose. At last, having broken Nature's laws and disregarded her warnings, forth she comes—drums beating, colors flying—right in front to punish us. Then we go down on our knees and whimper about it having pleased God Almighty to send this affliction upon us, and pray him to work a miracle in order to reverse the natural consequences of our disobedience, or save us from the trouble of doing our duty. In other words, we put our finger in the fire and beg that it may not hurt.—*Ex.*

HEALTH IN GREENHOUSES.—Dr. J. M. Anderson in a paper in the *Medical Times* on the hygienic and therapeutic relations of house plants, asserts that plants are not injurious, but quite the contrary, and that persons accustomed to the moist air of greenhouses, are not, as a general rule, short-lived or consumptive.

Domestic Economy.

Tomato Catsup and Sauce.

[Written for RURAL PRESS by Celia Hamilton.]

Cook the tomatoes soft, then strain through the cullender. To one gallon strained tomatoes add two tablespoons of salt, cook three hours, then add one and a half tablespoons of ground black pepper and one of allspice; let it boil two hours longer. Just before taking from the fire, add one and a half pints of strong vinegar; let it just boil up, then bottle and seal.

Tomato Sauce.—Ripe tomatoes, seven lbs., boil till quite soft, strain through a cullender, cook them quite low, then add four lbs. of sugar, boil one-half hour; then add one ounce of powdered cloves and one of cinnamon, boil a half hour, add one pint of vinegar; let it boil up, then bottle and seal.

Oakland, Cal.

PRESERVED LIMES.—Whether preserved limes are worth what they cost or not is one question. We do not propose to answer that but supposing some of our readers might like to try preserving the fruit, we give a method: Lay them in salt and water strong enough to bear an egg, closely covering them for several days. Cut them enough to get out all the seeds, and place in cold water for one day, changing the water often so as to remove all the salt. Boil in water (to which soda has been added in the proportion of one teaspoonful to six quarts of water) till tender enough to put a straw through; then soak again in cold water one day, changing the water often. To each pound of fruit allow 2½ lbs of white sugar and three pints of water. Boil the syrup 15 minutes, put the fruit in, cook 5 minutes, remove, put into jars; let the syrup cook 15 minutes longer. They will keep any number of years.

LAMB CUTLETS AND CUCUMBER.—Trim the cutlets neatly, egg and bread crumb them, and fry them in lard, a light brown color; drain and arrange them in a circle on a dish, placing in the center some cucumbers prepared as follows: Cut up a large cucumber in rounds an inch long, cut each round into quarters lengthwise, remove the seeds and rind and trim each piece to a uniform size; then let them remain in salted water for a couple of hours; drain them, and throw them into boiling salted water and when they are nearly cooked strain and put them into cold water, there to remain until wanted. At the time of serving, take the pieces out of the water and put them into a stew-pan with a piece of butter, some parsley finely minced, and a sprinkling of white pepper; shake them gently till quite warm, and they are ready.

BROWN PUDDING.—Take ½ lb of bread crumbs, ½ lb of flour, 3 ozs. of suet, a small teacupful of brown sugar, ½ teaspoonful of carbonate of soda, ½ teaspoonful of baking powder, ½ teaspoonful of salt, 1 teaspoonful of cinnamon, ½ teaspoonful of mixed spice, 1½ pts. of milk poured upon a tablespoonful of jam; mix well together; steam for two hours. Sauce for the pudding: Beat the yolk of an egg with a tablespoonful of sugar, add a teaspoonful of corn flour, 1 oz. of fresh butter, and a teacupful of water; pour it into a small saucepan and stir until it boils; add a glass of sherry, and serve in a sauce tureen.

APPLE CHUTNEY.—Take 1 lb of sharp apples, pared, cored and finely chopped; 8 ozs. of tamarinds carefully stoned; ½ lb Sultana raisins; ½ lb tomatoes cleared from skins; ½ lb of salt; ½ lb brown or castor sugar; 1 oz. of red chillies chopped; 2½ ozs. of powdered ginger; 1 oz. of shred shallots; and if the flavor is liked you may add a handful of mint leaves very finely chopped. Mix all well together, and add one quart of vinegar previously boiled and allowed to get cold. Keep the chutney for a few weeks in a warm place, and then put by in small pots or bottles well corked.

STRAWBERRY CUSTARD.—Make a nice boiled custard of a quart of milk and yolks of five eggs properly sweetened. Boil till it thickens to the right consistency, take it off the fire and put in the flavoring. Take a gill of sugar and a pint of ripe strawberries; crush them together and pass through a fine strainer. Take the whites of four of the eggs, and while beating them to a stiff froth add a gill of sugar, a little at a time. Then to the sugar and egg add the sweetened strawberry juice, beating all the while to keep it stiff. This makes a beautiful pink float, which is to be placed on top of the custard.

A SURE AND SAFE RAT POISON.—The following mixture is sure death to the rats, and not poisonous to other animals, in the ordinary sense of the word: Take of old cheese 10 parts; glycerine, 2 parts; carbonate of baryta, 5 parts; rye or corn flour, 1 part, and form into pills or boluses of convenient size.

LIGHT PUDDING.—Put 2 tablespoonfuls of sago, tapioca, or rice in a pie dish; pour over it 1 pt. of milk; add 1½ tablespoonfuls of sugar, and a little grated nutmeg, if liked; bake two hours in a slow oven; if rice is used bake three hours.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.

Per line.....	.25	.80	\$2.00	\$ 5.00
Half inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, July 24, 1880.

TABLE OF CONTENTS.

EDITORIALS.—A Loss to Agriculture; Hillside Cultures; The Growth of Cereals, 49. The Week; Country vs. City Milk, 56. Vital Importance of Sanitary Regulations; The International Exhibition of 1883; Ruins at Aztec Springs, in Southwestern Colorado, 57. Notices of Recent Patents, 60.

ILLUSTRATIONS.—Scene in the Bohemian District of China, 49. Ruins at Aztec Springs, 57.

ENTOMOLOGICAL.—Grain Aphis at Pescadero; Large Black Flies in Nevada County; Apple Tree Borer; Sierra Valley Locusts, 58.

QUERIES AND REPLIES.—Growing Osage Orange for Hedges; Sorghum Halapense; A Plantain, 58.

CORRESPONDENCE.—Los Angeles County Notes, 50.

POULTRY YARD.—Conditions of Success, 50.

THE VINEYARD.—Growing Seedling Grapevines, 50.

THE FIELD.—The Importance of Good Seed; Traction Engines on Hawaiian Plantations, 50.

THE APRIARY.—Beginnings in Beekeeping, 50.

HORTICULTURE.—Future Gardens of California; Medicinal Plants in California; Orange Diseases in Louisiana, 51.

THE STOCK YARD.—The Census and Meat Production, 51.

THE DAIRY.—Methods on Jersey Farm, 51.

PATRONS OF HUSBANDRY.—California Farmers' Mutual Fire Insurance Association; W. M. Spilman's Appointments, 52.

AGRICULTURAL NOTES from the various counties of California and Washington Territory, 52-53.

NEWS IN BRIEF, on page 53 and other pages.

HOME CIRCLE.—The Old Home (poetry); Rags, Sacks, and Bottles; The Course of Empire; A Wife's Messenger; Chaff; The Good Work of a Frenchman; Wanted—More Thoroughness, 54-55.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; A Little Lecture for Boys, 55.

GOOD HEALTH.—What to Do in Cases of Diphtheria; The Use of Pain, 56.

DOMESTIC ECONOMY.—Tomato Catsup and Sauce; Preserved Limes; Lamb Cutlets and Cucumber; Brown Pudding; Apple Chutney; Strawberry Custard; A Sure and Safe Rat Poison; Light Pudding, 55.

THE PUBLIC LANDS.—Void Entries of Public Lands, 58.

Business Announcements.

Fireman's Fund Insurance Company, S. F.
Wool Commission Merchant—Eugene Ayr, S. F.
The Kennedy Repeating Rifle—E. T. Allen, S. F.
Thrashing Engine for Sale—J. F. Bean, Benicia, Cal.
Choice Rams for Sale—L. U. Shippee, Stockton, Cal.

The Week.

Notes from the grain counties are still cheering, and to one who traverses the country the obese stacks and the rectangular piles of well-filled sacks appear as evidence of what many fields have done. In some counties the returns from the separator are surprisingly good, and districts most tortured by the wind are doing far better than was expected. Some yields of almost fabulous amount are heralded, as for example, 90 or 100 bushels to the acre, and a well-informed writer in one of our leading wheat counties assures us that their warehouses and corncries will all be full. The weather of the last few weeks, with its low temperature and damp atmosphere, has been severe upon those with sensitive diaphragms, but it has been the secret of growth to the standing grain, and the result is vastly different than it would have been if ripening weather had come quickly upon the fields which were weakened by excessive evaporation.

But while the tardy weather has improved the grain it has kept empty the pockets of many commanders of pleasure resorts, and some of the seaside hotels and bathing beaches have been like banquet halls deserted, painful in their impressive loneliness. The same influence has retarded the ripening of fruit. Some grape growers still report indications that their fruit will be nearly a month late, and those who have vast amounts of grapes to turn into raisins before the return of rainy days will probably feel the effects of the shortened season. The sun is already well along on his southward journey, and slanting rays through shorter days will soon be descriptive of his service.

Aside from belated crops and the pangs of delicate frames, which pine for warmth, the cool summer is a contribution to comfort. While the Eastern people are tossing about on sleepless beds clad in little more than the entry air, the Californian wraps the double blankets of his couch about him and lies down to pleasant dreams.

Country vs. City Milk.

The issue between country milk and city milk has been for some time in progress in San Francisco, and so far as appearances go there seems to be a tendency toward the survival of the unfittest. For sad it is to relate that the tenants of fragrant hillsides and velvety meadows are being pushed towards the slaughterer's corral by an ill-fated bovine sisterhood born to unrestful tramping of barren sand lots in the outskirts of the city, and doomed to fill their bellies with the deadly slushes from distillery vats or city swill tubs. The progress of the urban dairyman is seen in the gradual dissolution of the suburban dairies. Railroad trains which some years ago brought many cans from miles out of the city, now carry but few and they from the nearby stations. One of the largest country dairies, famous a decade ago, is now dwindling into insignificance. It is true that another magnificent dairy enterprise has sprung into existence, and peopled the rich pastures near San Bruno with a fine herd of dairy cows, but this successful undertaking of an individual is but the exception to the general rule of the decrease in the amount of country milk delivered to city consumers. We sincerely regret this tendency of affairs both for the city and the country.

It is certainly for the interest of city babes, and their grandfathers as well, that a pure article of milk should enter into their diet. It is beyond controversy that milk from cows kept on country pastures, with fresh air to breathe and room for healthful exercise, and fed upon such food as country dairymen give their stock, is in every way better than milk from cows in close corrals, close air, uncleanly, and fed upon distillery refuse. We know that there are some dairymen keeping herds within or near the city limits who do not make their milk upon the materials we have indicated. We know that there are individuals in this milk trade who are wide awake to the improvement of dairy stock and observant of all enlightened dairy methods. But these are but rays of light amid the gloom of milk production in this city and in other large centers. Such men are out of place. They and their herds should be domiciled upon the hillsides of some of the adjacent counties and then their milk would come to the city bearing the fragrance of country pastures. But they could not live in such situations and compete with their less honorable colleagues who would remain near the sources of refuse which serves as dairy feed. So the city will continue to receive inferior and sometimes absolutely dangerous milk from city milk ranches unless the consumers learn the facts and rise in the might of their patronage and call for country-made milk. The only way to counteract the growth of city milk production is to refuse to purchase it. Then the producers must betake themselves to better locations and to healthier food and surroundings for their cows. It remains to be seen whether the city will serve its own interests in this way or not.

But there is another reason why we wish to transfer the production of milk away from the city and into the country. The business of producing milk belongs of right to the country. The country is best adapted to the business, and it is taxed upon this adaptation. The growth of city dairies robs the country of the chance to utilize its adaptations to the best advantage. Take for example Marin county with its peerless dairy fitness. Marin county dairymen are now reduced to exceedingly small profits and sometimes worse, because they are forced to continue butter making when the supply from new regions further from the city lowers the market value close upon the cost of production. When the outside counties learned their dairy qualities and began the business, it would have been the natural course of Marin county to find her chance for profit in supplying San Francisco with a splendid article of country milk. This has been the course in dairy regions adjacent to other large cities. For example, when it was found that other more remote counties in New York could make as good butter as Orange county, the butter-making naturally fell to their lot, and Orange county dairymen exchanged their churns for shipping cans. This course of affairs has proceeded so far that New York has received peerless butter from as far west as Wisconsin, and the region for supplying country milk to the metropolis has extended, as her population and milk demand has increased, until milk trains run over all the railroads to the metropolis, bringing fresh milk from the distant pastures. San Francisco's growth should have worked a similar benefit, though, of course, on a smaller scale, for the dairy interest of this State. The butter market would have been relieved and the dairymen around the bay of San Francisco would have full pockets and prosperous homes instead of the many privations to which they have been subjected. Instead of this there comes the ground for the belief that the number of country dairies is constantly decreasing and San Francisco is drawing more and more of her milk from swill-fed kine stalking on barren sand lots.

What can work a change? We have said the people of the city alone. Sooner or later the people must awake. The announcement of the dairy abominations practiced in New York and Brooklyn and other Eastern cities opened the eyes of city milk consumers and there was an

increased call for country milk. The same course of affairs may, in the future, be looked for in San Francisco, and the result will be for the good of the city and for the advantage of the whole dairy industry of the State, as we have pointed out.

ENTOMOLOGICAL.

Grain Aphis at Pescadero.

EDITORS PRESS:—I send you a small box containing insects that are very numerous on wheat here. I received a package of wheat of the Early Amber variety that was sent out by the Agricultural Department at Washington, which I planted in drills about the middle of November. It promised to be a grand success until in the milk, when portions appeared to ripen prematurely, and now the shrunken grain is falling to the ground while other portions remain green and bright. Gradually the difficulty advances, and I have discovered the cause to be the insect sent you. They feed on the base of the kernel, on the stalk and leaf, and the grain is arrested in filling when attacked. The box contains insects in every stage of growth up to a full-winged specimen. If they reach you safely you will be able to judge of them better than from any description I can give you.—I. C. STEEL, Pescadero, Cal.

The insects are of the *aphis* family, although apparently a different species from the *aphis* found on grain in Humboldt county, and which we described at length in the *RURAL* of June 21, 1879. Their habits and method of reproduction are, however, similar to those described at that time. The insects are cousins to the *aphis* on the rose, the strawberry and on other plants. There is no known way to fight them when they take possession of a grain field, although they are easily killed by showering with whale-oil soap suds, when on shrubs or small trees. The best allies of the husbandman in the war against the *aphidians*, are the lady-birds (*coccinelle*) and some other insects, which make quick work with large quantities of the lice. It is a fact for encouragement when visitations of the grain *aphis* occur, that the insect is very evanescent in its character. Fields may be well nigh destroyed one year and the insect so few in numbers as to be unnoticed the following year.

We have also received leaves of a fruit tree affected with an *aphis*, from Prof. J. D. Smith, of Livermore College, with a request that we tell how to destroy them. The remedy is as we have stated above, showering with a weak suds of whale-oil soap. Alkaline washes, such as common soap suds, weak solutions of concentrated lye, etc., will also kill the *aphis*, but are not quite so effective as whale-oil soap suds. In destroying these insects on our rose bushes, we use Buhach powder with one of Mr. Milco's insufflators, as the dose is always ready and is cleanly. Our four-year-old girl is a sharp *aphis* warrior and runs for the insufflator whenever she discovers an *aphis* colony.

Large Black Flies in Nevada County.

EDITORS PRESS:—I send you one-half dozen of the black-mill or flies that are stripping trees, clover and grasses here. I inclose them with the peach leaves for name and information whether they are injurious, or after some to us invisible parasite.—Mrs. C. F. Y., Nevada City, Cal.

EDITORS PRESS:—The "black fly" inclosed in the box with the borers is a *Neuropterous* insect belonging to the family *Sialidae*. The statement that it was eating tree leaves must be an error, as the insects of this family are carnivorous. Perhaps they were feeding upon some insect destructive to the leaves. The specimens were referred to Dr. H. A. Hagen, of the Museum of Comparative Zoology at Harvard University, for specific determination, and he states that the species is new to science.

I expect to start for your State in a few days for the purpose of investigating the insects injurious to fruit and especially to oranges. I hope to have the pleasure of meeting you.—J. HENRY COMSTOCK.

[We see Prof. Comstock's name among the passengers to arrive during the present week. We trust he may arrive soon enough to attend the Sonoma meetings on Friday and Saturday and take part in the phylloxera investigation. Our citrus fruit growers will give Prof. Comstock a cordial welcome and abundant opportunity to study the pests which are proving grievous foes to our trees. We trust Prof. Comstock may be able to make a long stay, for there is no end of material to investigate.—EDS. PRESS.]

Apple Tree Borer.

EDITORS PRESS:—Having found on a little apple tree a perfect insect of the common "borer," I send it to you in case you have not seen one before. It is a showy little beetle, I believe, and comes out about this time of the year.—FELIX GILLET, Nevada City, May, 1880.

EDITORS PRESS:—The apple-tree borer which you send is the common flat-headed apple-tree borer (*Chrysobothris femorata*). The eggs of this insect are laid upon the trunks and principal limbs of trees, during the month of June and the early part of July. The larvæ bore into the bark and into the soft sap-wood at first. Later, they bore into the more solid heart-wood. The larvæ are much enlarged and flattened anteriorly. The perfect insect (rather flat greenish-black beetles about one-half inch in length) appear about one year from the time the eggs are laid. This species infests apple, peach, oak, soft-maple and other forest trees. For remedy: Dig larvæ out with a knife or gouge. Rub soft soap on the trunk and larger limbs of the tree during the season of laying the eggs; this will keep the female from ovipositing upon them.—J. HENRY COMSTOCK, Entomologist, Dept. of Agriculture, Washington.

Sierra Valley Locusts.

EDITORS PRESS:—I am at home on a two or three days' visit, among the locusts. I find them very thick in the south end of the valley, taking a large share of the grass and grain, but greatly diminishing in the north end where they have ravaged so thoroughly for three years past. This indicates a slow migration south and west, and we fear they will scourge this part of the valley for two or three years yet. I am going down the valley through the locust belt to morrow to get more items.

I have found that the big white grub so hopelessly seen among the egg nests last year, develops into a beautiful thick-bodied, velvet "bumble-bee fly" the *Pompilus*, and is now darting about among the locusts. Another active enemy is a species of *Bombilyus* or "Digger wasp" that stings great numbers of the locusts, and digging a hole in the soil, drags them to it and covers them in, first placing an egg in the victim's body.—J. G. LEMMON, Sierra Valley, Cal.

QUERIES AND REPLIES.

Growing Osage Orange for Hedges.

EDITORS PRESS:—I wish to know how to start osage orange plants for hedges. Must the seed be sown in place or in nursery? Where can good seed be obtained and at what price?—INQUIRER, San Francisco.

The plants should be started in nursery. Prepare the ground thoroughly by plowing or spading and pulverize it finely with harrow or rake. To sprout the seed, put it in a vessel and cover with warm, not hot, water. Keep the vessel in a warm place, and change the water once a day. Let the seed soak from 5 to 10 days, after which pour off the water and cover the vessel with a damp cloth. Keep in a warm room and stir the seed occasionally; in about one week more they will begin to sprout and are ready for planting.

There are over 5,000 seeds in a pound, and it is safe to calculate that a pound will produce 3,000 plants, if it is properly managed. The seed should be planted, in this State, in March or April, according to the season, and in drills 18 or 20 inches apart, with 12 good seeds to the foot in the drill.

If the season should prove very dry, and the seed are not on very moist soil, they will want some irrigation; but if on sandy and moist soil they will probably not need it. If the weeds grow freely it may become necessary to hand-weed the rows before the plants will show themselves, as they are very delicate and tender until they get three or four inches high, and require careful culture and a clear entrance into light. When once fairly out of the ground they will become hard and strong in a few days.

The rows will now require to be cleaned once or twice a month with a cultivator and hoe, until the weeds cease to grow. The plants in good soil will make an average growth of from three to four feet the first season. The next spring, or when one year old, they should be transplanted in the hedge rows, and cultivated throughout the following year. The seed can doubtless be obtained from our seedsmen.

Sorghum Halapense.

EDITORS PRESS:—Some time ago I saw described in your paper a new kind of grass, called the "Green Valley grass," and said to grow without irrigation. Will it grow at an altitude of 4,000 ft., where frost and snow exist in winter? Is it an annual or perennial? What time of year should it be propagated? Would it live if sown in July or August?—JOHN E. HAWKS, San Bernardino.

It is still quite an open question as to what this grass will stand in the way of cold. It has been grown in some of the coldest Eastern States, and has not proved hardy when the ground is deeply frozen. In milder localities, where there are frosts without deep freezing, the plant has started again in the spring from its roots. We presume this would be its behavior in the colder parts of the State. We shall know better shortly, for it has been planted high up on the Sierra foothills. The grass is perennial. It may be grown either from seeds or by dividing its fleshy roots. It would grow if sown in midsummer, providing the ground is irrigated, but the proper time for sowing in the mountain climate without irrigation would be in the spring when the ground becomes warm.

A Plantain.

EDITORS PRESS:—I enclose the leaf and head of a plant called "Irish Grass," but as the name has been disputed we refer it to you. It is said to make fine pasture, grows on upland to the height of 18 to 24 inches, has 8 to 12 heads on each plant and is perennial. Each leaf and seed stalk separate at the ground.—E. H. PARNELL, Santa Rosa.

The plant is a member of the plantain family. Specifically it is *Plantago lanceolata*, often called "rib-grass," also "English plantain." This plant has been introduced all over the United States, and is particularly abundant at the East in upland meadows. Its seed is nearly the size of clover seed and is frequently sown with clover seed without design. Nearly all kinds of stock eat the plant freely, and it has been somewhat cultivated at the East for sheep pasture, but is generally disliked. There are several species of plantain growing in this State.

IMMIGRANTS ON THE WAY.—On the evening of the 15th a party of nine, consisting of Mr. and Mrs. Craven, and Charles Craven, Mr. and Mrs. Britton, Mr. and Mrs. Hoover and Mr. and Mrs. Aberdeen left Galesburg, Knox county, Illinois, for Riverside, San Bernardino Co., where they will locate.

Vital Importance of Sanitary Regulations.

Huxley, in his Lay Sermon devoted to the "Advisableness of improving Natural Knowledge," directs the attention of his readers to the deadly plague by which London was smitten in the memorable years of 1664-5; when "death, with every accompaniment of pain and terror, stalked through the narrow streets of old London, and changed their busy hum into a silence broken only by the wailing of the mourners of 50,000 dead." And the learned preacher enforces the lesson that the dire experience of mankind has always taught that the condition of health and life depends on the knowledge and observance of natural laws. Men are "learning that pestilences will only take up their abode among those who have prepared unswept and ungarnished residences for them. Their cities must have narrow, unwatered streets, foul with accumulated garbage. Their houses must be ill-drained, ill-lighted, ill-ventilated. Their people must be ill-washed, ill-fed, ill-clothed. The London of 1665 was such a city. The cities of the East, where plague and cholera have an enduring dwelling, are such cities. We in later times have learned somewhat of nature, and partly obey her; but because that knowledge is still very imperfect and that obedience still incomplete, typhus is our companion and cholera our occasional visitor." While it is true that London, with its teeming millions, is to-day freer from causes of fatal sickness than it was during the time of Milton, its sanitary regulations based on known natural laws are so incomplete as to be appalling. Just think of this condition of things existing in the foremost city of the world! Mr. Torrens, M. P., in treating in the *Macmillan Magazine* of the water supply of London, says that even in the Mansion House itself (as an instance of what occurs in in-door cisterns in the houses of the wealthy) the cistern "was found to contain three-quarters of an inch of fungi scrub at the top, and three-eighths of an inch of mud at the bottom," while "in a bottle of water on the Lord Mayor's table could be seen hundreds of nematoid worms." From cisterns thus situated "probably nearly one-third of the inhabitants of London obtain their only stock of drinking water; and when we reflect on the liability of water to absorb germs and ferments without actual contact, and to become putrid, under certain conditions, in a few hours, we can hardly escape a shudder."

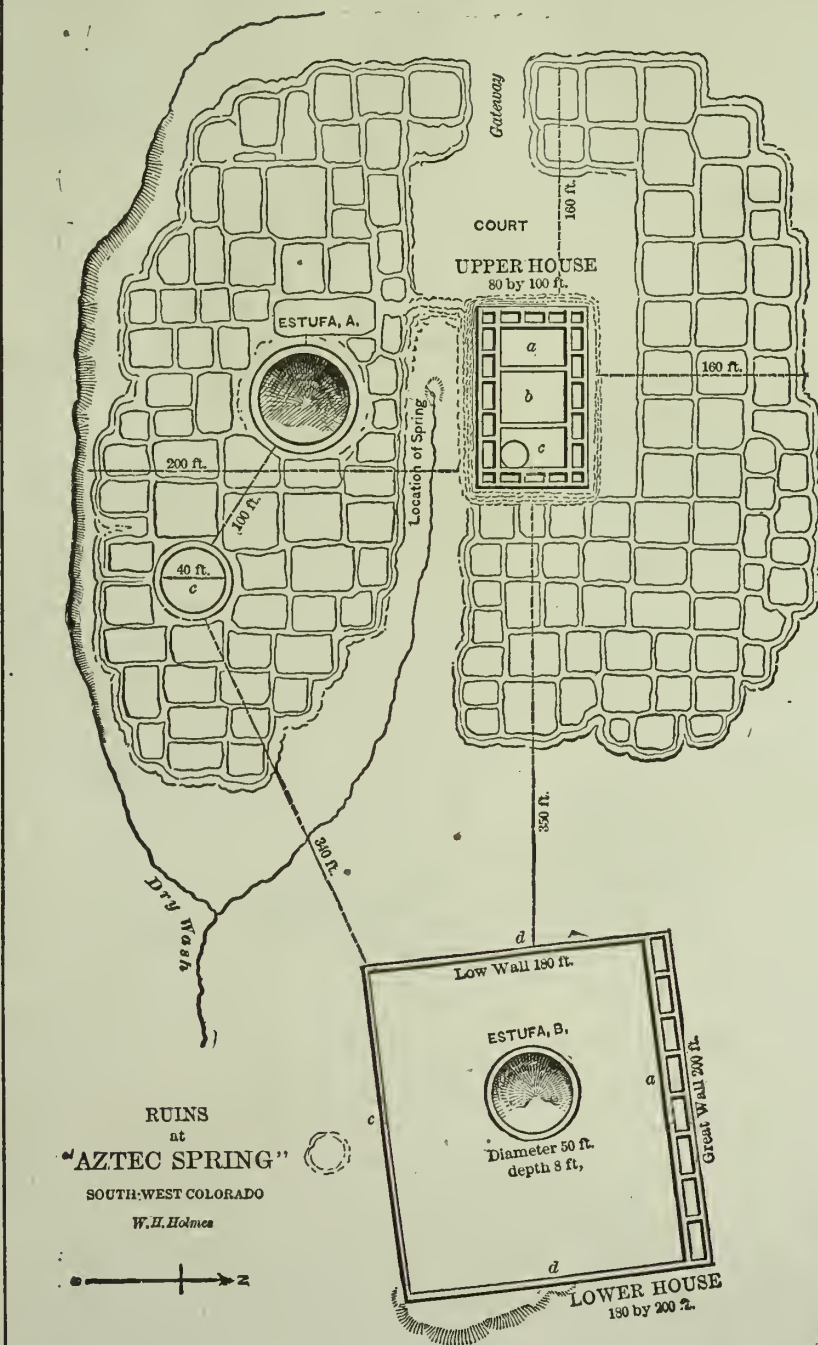
We are unhappily only too familiar with the melancholy history of fever-stricken Memphis, where the yellow fever had come to appear as certainly as the return of the season. She was in many degrees just such a city to welcome pestilence as the pen of the master has described. Her late experience in the terrible loss of 15,000 lives, and of an incalculable sum in money, was a tremendous penalty for the disregard of natural laws. But Memphis has learned her costly lessons in the bitter school of experience, and has at last bravely attempted to cure and prevent the supreme evil which has afflicted her. She has put her own shoulders to the wheel to lift it out of the mud. She has adopted a perfect system of drainage and sewerage and water supply, and general sanitary regulations which are both intelligent and practicable. And now the Memphis *Appeal* boasts with a just pride that "it is the only subsoil-drained city in the world;" and that from "heing wet and boggy, the soil has become dry and healthful; and from being the most unsanitary city, Memphis has become the most thoroughly clean and sanitary city on the continent." The cost of these improvements has been vast, but they will be found to be infinitely cheaper than one year's visitation of the fever.

Perhaps the most remarkable example of the woeful disregard of the simplest natural laws occurred recently at Princeton College—an institution specially founded for "increasing God's honor and bettering man's estate." An outbreak of malarial fever in the college building prostrated some 40 of the students, and has already caused eight deaths. This unlooked-for disaster has excited general discussion.

The history of the outbreak of the pestilent fever goes back a little more than a month. Prior to that time there had been the usual sickness in college, but the simultaneous prostration of seven of the students drew special attention to the fact and led to investigation. An analysis of all the wells from which the students drank was ordered, and the result was that the water in a dozen of the wells was found to be impure. The investigation begun by the faculty of the college has revealed a frightful condition of affairs. Several years ago water-closets were put into all the dormitories on the ground floor, while sinks were placed in each hallway for lavatory purposes mainly. The water came from a pure spring. The sewage was carried off in a 12-inch pipe across the college grounds to a large cesspool having an overflow pipe at one end. Neither sewer nor cesspool had any adequate ventilation. The investigation disclosed the appalling facts that the cesspool had never been cleaned and was full to the brim, and that the sewer was more or less choked by the backing of the deposit. The drains from all of the dormitories connected with this cesspool. In most of the college buildings there was absolutely no bar to the noxious gases in the sewer and cesspool from entering the bedrooms of the luckless students. The tainted atmosphere had become specially

offensive, and still the poison was permitted to do its work. The interposition of sickness and death at last aroused the college authorities to the shocking sanitary condition of the buildings, and they have at last sought the advice of scientific experts in order to correct their glaringly defective drainage. At the late commencement of the college, Pres. McCosh, who is both a good and learned man, in referring to the death by malarial poison of the eight students, asserted that the calamity was "a dispensation sent to chasten and humble us." This remarkable assertion was made with the full knowledge that the improvidence of the college authorities was alone responsible for the criminal negligence of the simplest sanitary provisions by which the college buildings were converted into breeders of filth-disease. In the words of an acute thinker, the conditions of existence will not yield to man's perversity, nor relax because of his ignorance or weakness. "Obey or suffer," is the alternative.

RUST-PROOF OATS IN GEORGIA.—As rust-proof grain is now one of the most interesting



topics under discussion, it will be timely to note that there is now much attention given in Georgia to what they style a rust-proof oat. This grain, according to the reports of the State Agricultural Commissioner, Mr. J. T. Henderson, resists rust completely, while other varieties are almost destroyed. The Commissioner says: "The average yield per acre of the rust-proof varieties this year, fall sown, is 16 bushels per acre; spring sown, 12.6. Other varieties, fall sown, 4.3; spring sown, 2.7. The yield in the State, all varieties, notwithstanding the loss by rust, is 10.6, showing that the larger part of the crop was of the rust-proof varieties. It is hoped and believed that none who can procure seed of the rust-proof will sow any other kind this year." The only description we find of this oat is a letter to the Commissioner from Daniel A. Horn, of Boston, Thomas county, Georgia, in which this passage occurs: "The oat I plant is the red rust-proof (bearded); but is known generally in southwest Georgia as the 'Horn Oat,' from the fact that I introduced them here." Some of the oat-growers in the rusty parts of our State should certainly try this Georgia oat.

IMMENSE quantities of water, valuable for irrigation, is said to be going to waste in Kern county, through the Bucna Vista slough.

The International Exhibition of 1883.

The act of Congress incorporating an International Commission for holding a World's Fair at New York in 1883, calls for the appointment of two commissioners from each State and one from each Territory—these to be joined to the commissioners named in the act—the entire number to constitute a commission for initiating and conducting the fair. Pursuant to this act the necessary appointments have already been made, and the commission will soon commence active work. The appointments for this coast, so far as we have learned, are as follows:

CALIFORNIA—Henry George and Warren B. Ewer, Commissioners; with Geo. Francis Dawson and Walter Hart as alternates.

NEVADA—John W. Mackay and M. P. T. Finch, Commissioners; with Richard S. Rising and Allen A. Carter as alternates.

NEW MEXICO—H. M. Atkinson, Commissioner; with S. H. Newman as alternate.

The first duty of the commission will be to

Ruins at Aztec Springs, in Southwestern Colorado.

One of the most interesting of the many groups of Aztec ruins scattered throughout Colorado, New Mexico and Arizona, are those at "Aztec Springs," located in a depression between the Mesa Verde and the Late mountains. It is said that, until within six or seven years, there has been a living spring at this place, located at the point marked on our illustration, the presence of which undoubtedly determined this as a desirable point for settlement. Hayden, in his report, says that these ruins form the most imposing pile of masonry yet found in Colorado. The whole group covers an area of about 480,000 square ft., and has an average depth of from three to four ft. This would give in the vicinity of 1,500,000 solid ft. of stone work. The stone used is chiefly of the fossiliferous limestone that outcrops along the base of the Mesa Verde a mile or more away, and its transportation to this place has doubtless been a great work for a people so totally without facilities.

The upper, probably principal, house is rectangular, measures 80 by 100 ft., and is built with the cardinal points to within 5". The pile is from 12 to 15 ft. in height, and its massiveness suggests an original height at least twice as great. The plan is somewhat difficult to make out on account of the very great quantity of debris.

The walls seem to have been double, with a space of seven ft. between. A number of cross-walls at regular intervals indicate that this space has been divided into apartments, as seen in the plan.

The walls are 26 inches thick, and are built of roughly-dressed stones, which were probably laid in mortar, as in other cases.

The enclosed space, which is somewhat depressed, has two lines of debris, probably the remains of partition walls, separating it into the three apartments, a, b, c. Enclosing this great house is a net-work of fallen walls, so completely reduced that none of the stones seem to remain in place; and I am at a loss to determine whether they mark the site of a cluster of irregular apartments, having low, loosely-built walls, or whether they are the remains of some imposing adobe structure built after the manner of the ruined pueblos of the Rio Chaco.

Two well-defined circular enclosures, or *estufas*, are situated in the midst of the southern wing of the ruin. The upper one, A, is on the opposite side of the spring from the great house, is 60 ft. in diameter, and is surrounded by a low stone wall. West of the house is a small open court, which seems to have had a gateway opening out to the west, through the surrounding walls.

The lower house is 200 ft. in length by 180 in width, and its walls vary 15" from the cardinal points. The northern wall, a, is double, and contains a row of eight apartments about 7 ft. in width by 24 in length. The walls of the other sides are low, and seem to have served simply to enclose the great court, near the center of which is a large walled depression (*estufa B*). No other ruins were observed in the neighborhood of these, although small groups are said to exist along the base of the Late mountains, a few miles to the southwest.

The little squares which surround the more imposing portions of the ruins are probably the remains of less pretentious dwellings. They are not of uniform size; neither are they arranged in regular order. The walls are simply marked by low lines of loose rubble, the quantity of which would indicate nothing but a very low wall, and all of which, as well as the larger structures, when occupied, were covered with some kind of a roof. As they now appear, they are more like a cluster of open pens, such as are used at the present time by the Moqui tribe of Indians for the keeping of sheep and goats. A somewhat singular circumstance may be noticed, in connection with this portion of the ruins, viz.: the fact that the number of minor divisions in dwellings upon each side of the open or dividing space is exactly equal in number—70.

THE SEAT OF COMMOION.—A dispatch from London the 9th instant, announces an earthquake at St. George, one of the Azores, and the formation of another island about 600 yards distant, and some 1,800 square yards in extent. Those western islands have been the scene of violent upheaval and disturbance since they were colonized in the middle of the 15th century. In 1591 there was a violent concussion of the earth during 12 days; and a devastating earthquake occurred in 1757. In 1808 a volcano on the island of St. George destroyed the town of Ursulina; and three years later a volcano appeared in the sea near the island of St. Michael. And an island called Satrina gradually disappeared in 1812. No where else on the globe, perhaps, are the ups and downs of life so marked as on the Azore group.

TULARE farmers urge the construction of a canal from Bakersfield to Watson's ferry on the San Joaquin, and down the river to Antioch, so as to move farm produce cheaply.

COL. E. C. FELLOWS, Ass't. Supt. of the Central Pacific R. R., died at Oakland, July 20th,

effect a temporary organization and provide for the opening of books of subscription to the capital stock. They will then adjourn, and the subscription books will remain open for 60 days, at the expiration of which time there will be a meeting of the commissioners and stockholders, who will elect a Finance Committee of 25, to superintend that special department. The entire commission will then effect a permanent organization, elect officers, adopt by-laws, appoint committees, etc., when strenuous efforts will be at once commenced to complete the arrangements for the exhibition, and make the same a grand success.

FIREMAN'S FUND INSURANCE Co.—This well-known company has an attractive advertisement in this week's issue of the PRESS. It is worthy the attention of those having property to insure. Our acquaintance with the managers of the company, our knowledge of its general reputation among men who invest money in insured buildings, and our own experience in the matter of insuring, all lead us to express confidence in the company and its dealings.

THE census shows that the value of San Francisco real estate is \$197,800,000, and the personal property \$64,000,000.

THE PUBLIC LANDS.

Void Entries of Public Lands.

Commissioner Williamson, of the General Land Office, issued July 9th a series of detailed instructions to all registers and receivers which prescribe the regulations necessary for carrying into effect the law enacted at the last session of Congress for refunding all excess of payments of ordinary purchase money, fees and commissions of void entries of public lands. The act affects thousands of settlers throughout the Western States and Territories. The first section authorizes the repayment to "innocent parties" of fees and commissions paid by them on entries of fraudulent "soldiers' and sailors' additional homestead scrip," of which very large quantities were set afloat in Western States some years ago. Commissioner Williamson's instructions require thorough proof of the innocence of applicants for relief under this section. The second section provides for the repayment of the purchase money and of fees, commissions and excess payments in all cases where entries of public lands have been cancelled, or for conflict, or where from any cause the entry has been erroneously allowed by local land officers and cannot be confirmed, and also for refunding the extra \$1.25 per acre paid by settlers for lands supposed to be "double minimum lands," within railroad limits, but afterwards discovered to be outside of such limits, and therefore purchasable at the ordinary minimum price of \$1.25 per acre. All these repayments may be made to the party who made the original entry, or to his heirs, executors or administrators, or to any assignee specially authorized to receive such repayment, but the mere conveyance of land will not be deemed to carry with it the right of repayment, unless expressly so stated in the assignment. Where there has been a conveyance of land and the original purchaser applies for repayment, he must conclusively show he has indemnified his assignee, or perfected the title in him through another source. Assignees of title to land must show by affidavit otherwise that they have not been indemnified by their grantors for failure of such title. Where there is a specific assignment of purchase money, evidence of non-indemnification by grantor is not required. In case of desert land entries, assignees of purchase money are only assignees. Recognized applications for repayment are to be transmitted, together with all papers in the case, to the Commissioner of General Land Office, through the registers and receivers of the proper districts, who are required to make a due report upon each case transmitted, and the money finally found due will be paid out of the Treasury upon the warrant of the Secretary of the Interior.

"What's in a Name?"

Peculiarities of California Nomenclature.

If there is any one thing connected with our State that we are pleased at more than another, says a writer in the *Golden Era*, it is the peculiarity of the names of localities, which, although not always perfectly elegant and euphonious, are characteristic and suggestive, and not confounded with any other in the Union. Where but in California can be found a Hangtown, Red Dog and Rattlesnake? The great beauty of California names is the interesting scraps of local history which they most generally perpetuate. Thus they combine with peculiarity the rough notes of unpublished history. Fiddletown, for instance, took its name from three jolly fiddlers who pitched their tents upon its site in 1850. They fiddled all day, drank whisky at night, and finally went out of the world together, at the earnest solicitation of a hurricane, which prostrated a giant tree across them. Jenkins' Bar owes its name to a certain Jenkins, a tailor by trade, an ambitious tailor, a tailor who had a soul above buttons and the "goose," and became the pioneer of Jenkins' Bar. Singular stories are told of Jenkins—how he stole a female digger and came to his death by the knife of the enraged father of the dusky Helen. Slug Gulch was so called for the interesting reason of the abundance of "slugs" (large pieces of gold) once found there. Condemned Bar was once pronounced worthless, but afterwards found to be very rich, several millions in gold dust being taken from a space less than a mile in length and a hundred yards in width. Murderers' Bar was once the scene of a horrible tragedy, and was named accordingly. Hangtown (Placerville now) suggests its own signification. Suttersville was named after Captain Sutter, the man who built the mill-race in which Marshall found the first lump of gold. The Captain is still alive, and is passing his declining years among some relatives in Pennsylvania. So, it will be seen that what our California names lack in euphony they make up in utility.

Classic Names.

[By SAM W. SMITH—Author of "Struck Oil."]

Ye scholars of ye ancient days
May boasting praise the classic glory
Of names by which old Homer's lays
Were fitted up for Virgil's story.
Well, boast ye each classic name—
From Hercules to Jove Ammon—
Our Golden Land can put to shame
Your classic names as classic gammon.

Forsooth, your cognomens are found
In half-way creek or diphthonged Latin,
While ours have pure rhythmic sound,
As soft as mind, as smooth as satin.
Then turn aside from classic land,
Into poetic mining regions,
Beholding names sublimer, grand,
Than e'er were known in classic legends.

"Lost Cabin," near the "Devil's Ranch,"
Across "Blue Gap" from "Bogus Thunder,"
"Slide" "Roaring Camp," up "Whisky Branch,"
"Wake-Up-Shakes," so "Stand from Under"—
And let "Long Jack," from "Hungry Bear,"
"Come Down" to "Red Rock," where he "Struck It"
Near "Methodist" and "Never Swear,"
"Round" "Gouge Eye," "Red Dog," "Nip-and-Tuck-It."

Go "Sloshing Round," "Taken-In" "Freewill,"
From "Yaukee Jim's" across "Blue Ruin,"
Don't "Flicker Out" at "Bottle Hill"—
'Tis a "Long Pull" from "Nothing Doin'"—
But "Go Ahead" down "Devil's Ride,"
Where "Tim-Buck-too," o'er "Hill o' Quaker,"
Went "Up the Flume" through "Hot Divide"—
A "Salted Claim" for "Hell's Half-Acre."

Leave "Shirt Tail Canyon," "Out o' Sight"—
"Last Chance" to hear the "Deadwood" story;
How "Six-Toed Pete," from "Hell's Delight,"
Broke "Poker Bill" of "Ground Hog's Glory,"
Then left "Jacktown" for "Bitter Pill,"
"Panned Out" the boys and grew so cheeky
They "Walked his Log" to "Sutter's Mill"
And saw'd it up to plank "Eureka."

We'll "Leave Out" "Humbug," "Lady's Vale,"
For "Nigger Camp," by "Greenhorn Cut-Off,"
Through "Let-er Rip" beyond "Bob-Tail,"
By "Panther Trap" at mouth of "Shut-Off,"
And climbing up by "Lousy Ridge"
To "Mud Springs" "Lookout" for "Coon Holler,"
Cross "Bloody Run" o'er "Smash-up Bridge,"
"Slumgullionville" to "Bottom Dollar."

"Hangtown's" "Down Grade" o'er "Bull Dog Hill,"
Through "Badger Hole" to "Town o' Scatter,"
"Dead Beat," "Dead Broke" and "Whisky Mill"
To "Rake Out Flat," near "What's-the Matter,"
By "Fiddletown" to "Rancherie,"
Where "Joaquin's Band" "Corral" -ed the rabble,
To find "Long Neck" could "Climb a Tree"
At "Robbers' Roost" without "Hardscrabble."

But farther on towards "Last Jump,"
Past "Angels' Camp" to "Dead Coyote,"
By "Porcupine" and "Turned-Up Stump,"
"Ring Tail," "Rawhide" and "First Gar-roto,"
Down "Moccasin" and "Rattlesnake,"
"Tarantler Nest" and "Horn-Toad Level,"
To "Dismal Heights," where "Jump-Off-Jake,"
"Poor Soul," "Pegged Out" to "Beat the Devil."

From "Fly-away" and "Helltown Claim"
Our names begin to "Pungle Rosy"
For mining parlance rather tame
As "Mary Ann" and "Mary Posey"—
"Aqua Frio," "Bum" and the rest
Will never do for any rhymers
That writes for fame; they'd "Better Best"
Go North, where names are far sublimer.

Old "Shasta's Diggins" once could boast
Mellifluous names, but harsh in meter,
From "Fifer's Hill" to "Hanging Post,"
"Churntown," "Gas Point" and "Never Beater"—
"Horsetown," "Shake City" and "Mad Ox,"
"Mad Mule," "Dog Creek," poetic "I Go,"
"Soap Springs," "Muletown" and "Take the Socks,"
"Stump Ranch," "Salt Pork," "Hy-Yu" or "Fly Blow."

In "Trinity" you'll "Never nd"
A classic name for "Big Flat" reason—
The "Forty-Niners" went it "Blind"
And planted names in "Slip Shed" season—
"Red Hill," "Burnt Ranch" and "Sliprock Slide,"
"Caved in" by "Shakes" and "Golden Fever,"
That year that "Dry-Up-City" died
With "Canyon," "Junction," "Lake" and "Weaver."

So "Let-er Pass"—such names are pat,
Yet each could tell a wondrous story,
Without "Port Wine" or "Poker Flat,"
Sweet "Tangle Leg" and "Miner's Glory,"
Bright "Shady Run," "Moonshine," "Slap Jack"
And hundred other golden places—
"Root Hog," "Jay Hawk," "Fair Play," "Jim Craek,"
Are all "Suiced Out"—"Gone to the Races."

Last name is "Ran-ta-dod-lar Bar"—
Experts affirm 'tis French extraction,
At least our "Frogmen" swear "By Gar"—
"Yuba Dam" pronounce "Noir Satisfaction,"
But I'll "Dry Up," "Collapse," "Subside,"
By asking plagiaristic pardon
Of poetic cuss who firstly tried
This mining "Hard-read" metered Jordan.

POPULATION OF SAN FRANCISCO.—According to the returns of Supervisor Langley, the population of this city is 233,066, including 20,549 Chinese. There will probably be a slight increase in the total by the addition of absent residents and through the correction of errors in the returns of some of the enumerators. The census makes our population some 70,000 less than the estimates of the city directory. Those estimates were extravagant, of course; but there is little doubt that many thousands of people have left the city within the past three years for Oregon and Washington Territory, and for the mining regions generally. During the five years preceding 1876 the population of the city was swelled enormously by the attractions of the mining share market, and when that collapsed the tide of population began to ebb and carried off more than the flood brought in. It goes without saying that the number of Chinese in the city has always been greatly exaggerated; but the cold facts show that we have many more than enough.

TO KEEP WAGON TIRES ON THE WHEEL.—A practical mechanic suggests a method of so putting tires on wagons that they will not get loose and require resetting. He says he ironed a wagon some years ago for his own use, and, before putting on the tires, he filled the felloes with linseed oil, and the tires have worn out and were never loose. This method is as follows: He used a long cast-iron heater made for the purpose; the oil is brought to a boiling heat, the wheel is placed on a stick, so as to hang in the oil, each felloe an hour. The timber should be dry, as green timber will not take oil. Care should be taken that the oil is not made hotter than a boiling heat, or the timber will be burned. Timber filled with oil is not susceptible of injury by water, and is rendered much more durable by this process.

Railroad Building in Mexico.

A writer of note recently expressed the opinion that the railroad system was destined to be the chief agent in regenerating the republic of Mexico. It would appear that the zeal which the more intelligent and substantial people of that country are manifesting on the subject of railroads, is likely to soon put the soundness of this judgment to the test of experiment. The U. S. Minister to Mexico has just sent a communication to Washington, conveying the intelligence that various projects for the construction of railroads had seriously engaged the attention of Congress and the people, and that this condition of things would be likely to produce a corresponding interest in the United States, whose capitalists would probably be called upon to supply the means to carry out those enterprises. The Mexican people were, until a recent period, decidedly opposed to railroad projects, but it is represented that they now very earnestly favor them. The construction of such roads as are most necessary and feasible will require the expenditure of millions of dollars.

The valuable concession made to Camacho and others in 1874, to construct a broad-gauge railroad and telegraph line from the city of Mexico to Leon, in Guanajuato, was declared forfeited in December, 1876, by the supreme authority of that State. This contract, with enlarged concessions, was transferred by the President to Symon & Co., April 3d, 1880. Previously, however, in November, 1877, W. J. Palmer & Co. had entered into an agreement with the Minister of Public Works to build a network of narrow-gauge roads from the city of Mexico to the Pacific on the one side, and to the frontier of the United States on the other. Consequently, as the subject demanded the approval of the Mexican Congress, its session, which has just closed, has been agitated by the respective claims of these two companies. As a compromise, the question of which shall enjoy the right has been referred by Congress to the decision of the President of the republic. Either of the companies to which the contract may be awarded, would be entitled to a subsidy from the Mexican government, but it goes without saying that the payment of subsidies would be onerous, difficult, and, perhaps, impracticable for many years. The railroad in Mexico means the establishment of law and order, and full protection to property, the promotion of industry and trade, easy and rapid communication and the gradual conversion of isolated, remote and discordant States into homogeneous and friendly neighbors. The steady operation of a system of railroads through the interior and to the frontiers, would doubtless effect such a radical and beneficent change in the condition of Mexico, as to gradually render the subsidies of practical value. But in our judgment the railroad must come first.

CRICKLING THE NORTH POLE.—Lieut. Weyprecht's proposition for a circle of observing stations around the north pole region, is about to be practically carried out, says *Nature*. The Danish government has resolved to establish a station at Upernivik, in west Greenland; the Russian government has granted a subsidy for an observatory at the mouth of the Lena, and another on the new Siberian islands; Count Wilczek will defray the expenses of a station on Nova Zembla under the direction of Lieut. Weyprecht; the U. S. Signal Service Bureau, under Gen. Myer, has received permission to plant an observatory at Point Barrow, in Alaska; and it is expected that Canada will have a similar establishment on some point of her Arctic coast. At the Hamburg Conference it was announced that Holland would furnish the funds for a station in Spitzbergen; and it is expected that Norway will have an observing post on the extremity of the Province of Finnmark. This is a good beginning, and it is hoped that some sort of agreement will be established to have all the observations made after a uniform method, otherwise their value will be greatly decreased.

THE WILD GARDEN.—We have received from B. K. Bliss & Sons, of New York, a packet of seeds with this enticing inscription, "The Wild Garden." It contains what we judge to be a mixed collection of Eastern wild flower seeds, and it is intended that they shall be sown in a corner of one's grounds, and there allowed to spring up and blossom as they will. This idea of giving a corner to the wild plants is one which has often been urged, for it is indeed delightful to have the children of the forest and the moor, upon which the eye may fall after gazing upon the highly bred and pampered specimens of improved nature. We regard it as a piece of praiseworthy enterprise on the part of Bliss & Sons to put the material for a wild garden within the reach of every one who has a waste corner fit to grow the plants. We shall sow the seeds and watch for signs of the flowers we used to seek years ago in Eastern woods and meadows.

ANY fibrous material can be stuck to metal, whether iron or other metal, by an amalgam composed of good glue dissolved in hot vinegar with one-third of its volume of white pine pitch, also hot. This composition, it is said, will give a sure and certain result.

AN ENTOMOLOGICAL REPORT.—We are informed from Washington that Prof. Comstock's report on entomology has been completed, and will be prepared for publication immediately. The report describes the habits of about 50 species of insects, among which are the army worm and a new species of hopper, which devastated the wheat fields in the South during last spring; it also treats of the habits of several species of insects which are injurious to clover, to forest, shade and fruit trees, and to gardens and vegetables. A preliminary report is made of an investigation of insects which are injurious to orange trees. This highly important investigation was begun in Florida last winter, and will be continued in California this winter. It is an excellent feature of the report of Prof. Comstock that it is written in popular style, and is designed for circulation among farmers. However, the scientific features of each topic discussed are given for the benefit of entomologists.

SHOCKING RAILROAD DISASTER.—A New York city dispatch of July 14th, informs us of a shocking disaster on the Long Island railroad, between Pearsall's station and East Rockaway. A gravel train with 300 Italian laborers on board ran under a heavy wire rope by which a derrick was braced, and the men were swept off the cars. It appears that the wire rope was lowered as the train approached, and the steam whistle was knocked off of the engine. The men were maimed in a shocking manner; 26 were seriously injured, and six are reported fatally hurt.

NEW THEORY OF THE FORMATION OF HAIL.—Colladon supposes that the heavy rains and the hail-storms which follow them produce, by the very effect of their fall, a vertical wind due to the air which they draw from the upper regions of the atmosphere by their own friction. This vertical wind, which extends from the cloud to the ground, necessarily leaves behind it a partial vacuum, which produces an influx of air during the whole continuance of the storm.—*Les Mondes*.

A COLORADO STORM.—Denver dispatches say that a severe storm prevailed in Colorado on Monday and Tuesday, July 12th and 13th, during which some 10 miles of the Denver and Rio Grande railroad, between Pueblo and Colorado springs were washed out, and every bridge, culvert and cattle-guard for a distance of 21 miles is more or less damaged. On the Platte river hailstones fell to the depth of several feet. Fortunately no lives were lost.

THERE are 43,000 postoffices in the United States—an average of almost one postoffice to every 1,000 inhabitants, which speaks well for our public means of inter-communication.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotati Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grade.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEEES.

JOS. D. ENAS, Sunnyvale, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

CHOICE Irrigated Vineyard Lands. PLEASANT HOMES, Good Society and Good Schools!

THE WASHINGTON IRRIGATED COLONY,
In Fresno Co., Cal., presents
GREAT INDUCEMENTS

To those seeking HOMES and PROFITABLE INVEST-
MENTS. This Colony, situated within five miles of the
Railroad and County Seat, contains over

7,000 Acres

Of Rich Irrigable Lands, subdivided into lots with
Streets and Avenues with ABUNDANT WATER RIGHTS
and IRRIGATING CANALS CONSTRUCTED, and with
Perfect Title to both Land and Water.

Fresno County is already recognized as the best in the
State for Vineyards; and the abundant facilities for Irriga-
tion affords

Complete Protection from Phylloxera,
Which is already so destructive to the dry vineyards of
the State. These lands are being sold at

Low Prices and on Liberal Terms.

Nearly 3,000 Acres are already purchased, and are being
improved by excellent families, whose numerous Alfalfa
fields, fine cows, and FLOURISHING CHEESE FACTORY
attest the industry and sagacity with which they provide
a support, while they cultivate their Fruits and ample
Vineyards. For full information apply for Circulars at
the office of the

WASHINGTON IRRIGATED COLONY.
22 Montgomery St., S. F. or at the Colony.
WENDELL EASTON, Treas. J. W. NORTH, Genl. Agt.

GRANCERS' BANK Of California, SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. GRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the
transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the
usual way.

GOLD and SILVER deposits received.
CERTIFICATES of DEPOSIT issued for Gold and Silver.
TERM DEPOSITS are received and interest allowed as
follows: 6% per annum if left for 3 months; 7% per annum if
left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.
ALBERT MONTPELLIER,
Cashier and Manager
San Francisco, Oct. 15th, 1879.

OXYGEN.

What is it? Everybody knows it is as
essential to life as food itself. Yet when people are ill
for the very want of revitalization through respiration,
they dose themselves with drugs and bitters to the effect
of demoralization! All Invalids should read Drs.
STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*,
which is sent free to all who may ask for it. The subject
is worthy of investigation. References to physicians in
San Francisco, who use and prescribe Compound Oxygen
in practice. As prepared for home use (conveniently sent
to any address) it may be obtained of H. E. MATHEWS,
606 Montgomery street, S. F., upon the same terms as
furnished by Drs. Starkey & Paley, Philadelphia, Penn.
Complete instructions with each package.

MONEY TO LOAN! \$500,000

To loan, in one sum or in amounts to suit on Wheat Lauds,
Wheat in Warehouses, and other good collaterals at cur-
rent rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and
Loan (Clay St.), Odd Fellows', Masonic, French, Farmers
and Mechanics', by

JOHN T. LITTLE,
302 Montgomery St., rooms 1 and 2, San Francisco.

LAND IN FRESNO.

6,000 ACRES ADJOINING THE TOWN AND THE
Central Colony. Choice, easily irrigated, canal
already on the land. For sale in quantities to suit. Apply
to the undersigned, or to THOMAS E. HUGHES, in
Fresno. Also, 35,000 acres in Kern county.
E. JANSSEN, 210 California St., S. F.

SEND FOR THE \$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for
use. Also Veterinary cases and books. Send for cata-
logue. Address BOERICKE & TAPEL,
Homœopathic Pharmacy, San Francisco.

50 Perfumed, Snowflake, Chromo, MottoCards, name in
gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Educational.

ST. MATTHEW'S HALL,

SAN MATEO, CAL.

A Classical and Military SCHOOL FOR BOYS.

The next term commences

Thursday, July, 22d, 1880.

For information address the Principal,

REV. ALFRED LEE BREWER, M. A.

SACKETT

BOARDING SCHOOL FOR BOYS.

Fits Boys thoroughly for the

University of California, for College or for
Business.

The best instruction is provided by Teachers of Expe-
rience and ability.

Location most healthful and home equipment un-
equalled by any Boys' School in the State.
For Catalogue, address the

Principal, D. P. SACKETT, A. M.

No. 529 Hobart St., Oakland, Cal.

CALIFORNIA MILITARY ACADEMY AT OAKLAND.

The Next Session Will Begin
July 19th, 1880.

Rev. DAVID McCLURE, Ph. D., Principal.

Oakland, Cal.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than
which there is none better in the State or on this coast,
will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House,
721 Market St., San Francisco, or at Hardy's Bookstore,
959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,

Washington Corners, Alameda Co.

W. E. CHAMBERLAIN, JR. THOS. A. ROBINSON

PACIFIC Business College, 320 POST ST. SAN FRANCISCO.

Life Scholarships, \$70.

SEND FOR CIRCULAR.

MRS. POSTON'S SEMINARY,

Oak St., bet. Tenth & Eleventh, Oakland.

THE NEXT SCHOOL YEAR BEGINS

Wednesday, July 28th, 1880.

E. C. POSTON, Principal.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS

BEST CABINET OR PARLOR ORGANS
IN THE WORLD; winners of highest
distinction at EVERY WORLD'S FAIR FOR 13
YEARS. Prices, \$51, \$57, \$66, \$84, \$108, to
\$500 and upward. Also for easy pay-
ments, \$5 a month or \$6.35 a quarter
and upward. Catalogues free. MASON
& HAMLIN ORGAN CO., 154 Tremont
St., Boston; 46 East 14th St. (Union
Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - SAN FRANCISCO.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested.
Young Queens ready April 1st. Also, Wintered-over
Queens. Purity and safety guaranteed. Comb founda-
tion, smokers, knives, bee-books, etc. Sample Premium
Hive. Address with stamp.

JOS. D. ENAS,

Sunny Side, Napa Co., Cal.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown
Leghorns, Spangled Hamburgs and Partridge Cochins.
All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

A. AITKEN.

F. N. FISH

AITKEN & FISH,

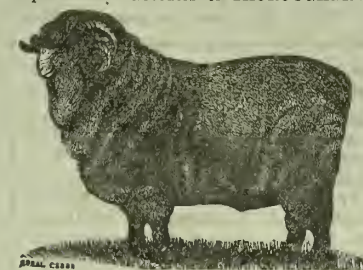
Premium Pioneer Marble Works,

617 K St., Bet. Sixth & Seventh, - SACRAMENTO, CAL.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHBRED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Ver-
mont and California. Unsurpassed in quality and condi-
tion. Purchasers are invited to examine. We are cultivating
the style of wool pre-eminently required on this coast.
Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at
San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with
great care from the best herds of imported stock in the
United States and Canada, and for individual merit can-
not be excelled. My breeding stock are recorded in the
"American Berkshire Record," where none but pure bred
Hogs are admitted. Pigs sold at reasonable rates. Cor-
respondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

RAMS FOR SALE.

300 THOROUGHBRED

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first impor-
tation of Spanish Merino
Sheep to California, in 1854.
Prices to suit the times. Residence, one mile north of
McConnel's Station, Western Pacific Division C. P. R. R.

P. O. address, MRS. E. McCONNELL-WILSON,
Elk Grove, Sacramento Co., Cal.

ANGORA GOATS.

FIVE HUNDRED HEAD of GRADED ANGORAS
from 2 to 15-16, for sale for cash or exchange for cattle.

Apply to D. F. NEWSON,
Arroyo Grande, Cal.

B. K. BLISS & SONS. HAND BOOK. A COMPLETE GUIDE FOR THE GARDEN & FARM SEEDS, PLANTS, BULBS, SMALL FRUITS GARDEN REQUISITES. 300 ILLUSTRATIONS 150 PAGES. PRICE 10 CTS. 34 BARCLAY ST. NEW YORK.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000
tons. Goods taken from the Dock and Cars of the C. P.
R. R. and S. P. R. R. free of charge. Storage at Current
Rates. Advances and Insurance effected.

ANY KEY THAT WILL OPEN ANY WATCH AND NOT
WEAR OUT.
SOLD by Watchmakers, by mail, 30 cts. Circulars
FREE. J. S. BIRCH & CO., 38 Day St., N. Y.

YOUR NAME PRINTED on Forty Mixed Cards for
Ten Cents. STEVENS BROS., Northford, Conn.

Lands for Sale and to Let.

FRUIT FARM

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for
\$25,000. Is offered for \$20,000 and
will pay a Good Interest on the in-
vestment.

There are 118 acres of choice land—40 acres in Straw-
berries, 7 acres in Blackberries, 700 young Pear Trees,
and an Old Orchard. Has several flowing wells, a large
house of 10 rooms, marble mantels, etc. The house is
completely finished, Brussels carpets on most of the floors;
parlor, sitting-room and bed-room furniture all nearly
new.

With Stock consisting of Horses, Cattle, Hogs, Farming
implements, etc., sufficient for the place, all for the price
above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Dairy Farm For Sale.

Four miles west of Watsonville, in Santa Cruz county,
Cal. One Thousand Acres of first-class Dairy Land,
which will be sold in whole, or in part to suit purchaser,
very cheap. The place can be divided into 10 or more
small Farms, with

Lasting Springs of Pure Water,

On each 50 acres. All under fence, and 400 acres under
cultivation. Living water, enough to irrigate nearly all
the place.

Plenty of Firewood.

For particulars enquire of

FRANK LARKIN, on the place.

Pajaro Valley Nursery

FOR SALE.

Situated in the Town of Watsonville.

WAS ESTABLISHED IN 1867.

Contains 27 acres of land. There is about 60,000 trees
under cultivation, embracing all the leading varieties of
Fruits, with Shade and Ornamental Trees, 7 acres of the
best varieties of Strawberries, Raspberries and Blackber-
ries, together with all the necessary Tools, Buildings,
etc., for conducting a first-class business. An abundance
of water for irrigation.

The proprietor being compelled to sell for the reason
that he is about to leave the State, offers to any one wish-
ing to engage in a profitable and well-established business
a very great bargain. For further particulars apply to
JAMES WATERS, Prop.,
Watsonville, Santa Cruz Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins
and corals; plenty of good water. Has a front-
age of four miles on Elder Creek, and is situated
in Tehama county, in T. 25 and 26 N., R. 6 W., M.
D. M.; will keep 6,000 Sheep. I have a good summer range
which I will let go with it. For further particulars apply at
the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California.
March 20th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in
the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits;
half mile east upper Stockton road; 800 Fruit trees, one acre
Grapevines, two acres Blackberries. Sixty-five acres in Grain
will be sold with or without crop. Good House and Out
Buildings. Farm well fenced; five Windmills and Horse
Power; Fish Pond; three-quarters of a mile from good
School. This property will be sold cheap. Terms cash.
Apply at the ranch. J. K. HOUSTON.

LAND

Good land that will raise a crop every
year. Over 14,000 acres for sale in lots to
suit. Climate healthy. No drouths, bad
floods, nor malaria. Wood and water
convenient. U. S. Title, perfect. Send stamp for illus-
trated circular, to EDWARD FRISBIE, Proprietor of
Reading Ranch, Anderson, Shasta County, Cal.

California Inventors

Should con-
sult DEWEY
& CO., AMER-
ICAN AND FOREIGN PATENT SOLICITORS, for obtaining
Patents and Caveats. Established in 1860. Their long
experience as journalists and large practice as patent
attorneys enables them to offer Pacific Coast inventors
far better service than they can obtain elsewhere. Send
for free circulars of information. Office of the MINING
AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202
Sansome St., San Francisco.

60 Elegant Perfumed Cards, Ohromo, Motto, Lily, Etc.
15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.]

FOR THE WEEK ENDING JULY 6, 1880.

229,586.—EXTRACTING METALS FROM ORES.—T. C. Clark, Oakland, Cal.
229,590.—FIRE KINDLER.—H. Finck, S. F.
229,590.—FILLING CANS.—L. Cutting, S. F.
229,606.—SAFETY CLUTCH.—B. E. Henriksen, S. F.
229,599.—CHURN.—Geo. W. Freeman, Rocky Point, Cal.
229,619.—COMPASSES.—J. D. Little, Petaluma, Cal.
229,624.—DERRICK.—E. J. Marsters, Stockton, Cal.
229,636.—GUINE ROLLER.—T. Pusey, Stockton, Cal.
229,625.—BILLIARD TABLE.—S. R. Mathewson, S. F.
229,632.—GRAIN SCREEN.—B. F. Pettit, San Luis Obispo, Cal.
229,637.—FAUCET.—C. C. Redmond and A. W. White, San Jose, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

DIVIDING COMPASS.—John D. Little, Petaluma, Cal. Patented July 6, 1880. No. 229,619. In the ordinary carpenter's compass an arc is attached to one leg and passes through a slot in the leg, a set-screw passing into this slot, so as to impinge on the side of the arc and secure the moving leg to the arc. After a measurement has been taken, this set-screw is turned and the measure retained. In doing this, both hands must be used—one to open or adjust the compass, and the other to set the screw. This set-screw, moreover, wears out rapidly and does not always work satisfactorily. In this improved method of securing the moving leg to the arc, only one hand has to be used to manipulate both compass and retaining device—this retaining device being of such a character as to be very durable and easily operated.

CHURN.—George W. Freeman, Rocky Point, Sierra county, Cal. Patented July 6, 1880. No. 229,599. The inside of the churn has peculiarly shaped corrugations, formed longitudinally through it, so as to prevent the butter from slipping while working it. Small strips of wood extend from the ends of the churn lengthwise and fit into the backs of the corrugations, so the zinc which forms a cooling cylinder will not be bent, and the form of the ledges or corrugations will not be altered. This enables the churn to be cleaned much better than could be done if strips of separate material were introduced to form the ledges. The device also contains other novel features which form a complete butter-worker without the necessity of using hands or other apparatus.

GRAIN SCREEN.—Benjamin E. Pettit, San Luis Obispo, Cal. Patented July 6, 1880. No. 229,632. This invention relates to certain improvements in screens or sieves for separating grains, and cleaning grain of chaff, and other worthless seeds and foreign substances. It consists in the construction of the metallic plate of which the sieve is made, with slits which are cut and raised to such a height and width; and to permit the passage of seeds, grains and other matter it is intended to save, those of larger size not passing through, but being directed off at the end. The peculiar construction of the sieve is such that the separation depends on differences of size or shape, and not on specific gravity of the grain or seeds, and different sized slots may be used for different grain.

FIRE-KINDLERS.—Henry Finck, S. F. Patented July 6, 1880. No. 229,596. This invention relates to that class of fire-kindlers wherein a series of bits of wood are coated with resinous, oleaginous matter, and consists in fagoting or binding together the bits of wood or other material by means of the tenacity of the inflammable matter into which they are dipped, so as to avoid the use of nails, or tacks, or offsets in fastening them.

THE METRIC SYSTEM.—We have received from A. L. Bancroft & Co., a neat handbook of the Metric System, by E. Beach, Jr., and E. A. Gibbons, principals of the Fifth Avenue school, New York. The metric system of weights and measures has been in use in France, by legal decree, since 1840; and since then its accuracy and simplicity have brought it into favor and practice among every civilized people. The system was legalized in this country by act of Congress in 1866, and it is employed in the mint, in the offices of the coast survey, and in all the larger postoffices. The precision and simplicity of the system render it indispensable to scientific men. Length, surface, volume, capacity and weight, are all based upon a single unit of length—the meter; and this simple base is not subject to loss or variation. The system aims to establish uniformity among all nations. The little book gives a clear and full exposition of the beautiful system in a series of practical examples.

Chatanqua Literary Circle.

The annual meeting of the Pacific coast branch of the Chatanqua Literary Circle was held last week at Pacific Grove, about two miles from Monterey. There the members gathered from all parts of the State to enjoy the annual course of lectures, and also the relaxation of a summer vacation. The evenings were devoted to lectures, and the day to picnics, botanical explorations and bathing in the surf. The following is an outline of the matters considered: Rev. Dr. Dwinelle delivered the opening address, July 4th; Prof. Norton gave a course of lectures, "Insect Pests" and "Economy in the House hold;" Dr. Wythe, expounded "Marine Zoology," with exhibitions by aid of microscope; Dr. Anderson, Santa Cruz, lectured on "Marine Botany;" Prof. More and McChesney, "Astronomy;" Prof. Sanders, "Economic Botany;" Miss E. B. Norton, general botany, and names of all plants growing in the locality; Dr. Stratton, "Authenticity of the Bible;" Prof. Martin, "Greek Literature;" Rev. Dr. Rice, Sacramento, "Heroes of the Reformation;" Dr. Cray, editor *California Christian Advocate*, gave a lecture on "Crystallization." Bishop Simpson, and other eminent divines in attendance, conducted religious exercise. The Literary and Scientific Circle have a membership of about 800. The attendance at the annual meeting was very large. The place of meeting this year has been Pacific Grove near Monterey. Gov. Stanford owns the land, and seems to be striving to make it the resort of persons desiring conference and association on religious and scientific subjects.

THE "CALIFORNIAN."—We have received *The Californian* for August, and it is not too much to say that this now famous magazine improves with each succeeding issue. Prof. Henry G. Hanks, State Mineralogist, opens with an interesting paper on "Casa Grande," the famous ruin of Arizona. Albert W. Havens contributes a description of that fascinating sport "Modern Archery." John A. Wright has a well-considered political article on "Probable Changes in American Government." T. H. Rearden has an able review of Fritz Reuter, the popular Plattdeutsch writer, and Charles H. Shinn gives some valuable hints concerning California gardens. Prof. George Davidson contributes a very able paper on the northwest coast. Mr. James Wyatt Oates has been traveling in Sonora, Mexico, and relates, in a pleasant manner, his experiences there. In the field of lighter literature, Miss Anna Alexander finishes her charming story, "St. Bartholomew;" Philip Shirley gives an account of "An Adventurous Nun;" and Mr. W. C. Morrow has a powerful little character study entitled "Rags, Sacks and Bottles." It is announced that a brilliant serial from this latter popular writer will be commenced in the next number. One of the most humorous articles which has appeared in any magazine for years, is Helen Wilman's "Jack's Boys." It is running over with laughter. The poetry is contributed by Seddie E. Anderson, Carlotta Perry and Charles H. Phelps. Several departments, with editorial, science and art notes, are added, and complete the best and cheapest magazine now published. The people of the Pacific coast have reason to be proud of this fascinating home publication.

THE TEHUANTEPEC RAILROAD.—The Inter-oceanic Tehuantepec railroad is under construction. The number of workmen has been increased to 600, and in a short time will attain 1,000, as the magnitude of the work requires it. The company readily employs every man who asks for work, and they pay \$1 per day per capita. The works have begun at the Coatzaacoalcos bar, where the wharf is now ready for the landing of materials for the road. The line is to follow the slope of La Malinche hill, toward Oluta and Acayucan, reaching Sayula and Los Quemados, where a depot is to be established, and this will be the site of a new city. The track is to have only one per cent. grades, and when completed and opened to traffic as far as La Ventosa, the Pacific terminus, the transit from ocean to ocean may be performed in four hours and a half, for the locomotives they are going to employ will be of great power, and will run at the rate of 40 miles per hour.

NEW USE OF NICKEL.—Nickel is more infusible than iron, more malleable, more ductile, tougher and not affected by atmospheric influences. M. Fleitmann has found that when melted it absorbs some carbonic acid, and if a small quantity of magnesium is then added the metal becomes remarkably ductile and malleable. It can be drawn out into very fine wire or beaten into extremely thin leaves, and can be readily welded either to nickel or to iron.—*Chron. Ind.*

THE KENNEDY REPEATING RIFLE.—Attention of hunters and sportsmen is requested to the advertisement of this gun in this week's PRESS. It is recommended to us as a very effective arm. All interested should send to the agent for descriptive circulars, which contain full information about the weapon.

IN LAKE COUNTY.—Our representative who has been spending a few weeks in Lake county promises us some items from that section for next week's PRESS.

RED SNOW.—On the 25th of April there fell in the French departments, Basses-Alpes and Isere, an abundant snow strongly tinged with red dust. The red matter was so abundant that from Barcelonnette all the mountains looked ochrey up to 2,800 to 3,000 meters. Above this the snow remained quite white. A Notary of the place had a quantity of the snow collected, and, after fusion and filtration, sent some of the dust to M. Daubree, who found in it a large proportion of carbonate of lime; also mica and two feldspars, one of them being orthoclase. The powder, then, had probably a terrestrial and not a cosmic origin; but it appears not to be volcanic, like the ash which has sometimes fallen in Scandinavia after Icelandic eruptions; it also differs from the sand of the Sahara, often carried great distances by winds. The point whence it came is still uncertain, but it is interesting to note that the same kind of substance had fallen in 1846, precisely in the same departments, and in 1863 in the Eastern Pyrenees. Showers of similar dust seem to have fallen in Saone-et-Loire on the 15th of April, and in certain parts of Algeria on the 24th.

PHOSPHORESCENCE OF THE GLOW-WORM.—WHAT IT IS.—Joussot de Belleme has repeated the experiments of Matteucci upon the glow-worm with some precautions which lead him to more satisfactory results. He removed the cephalic ganglia so as to destroy all voluntary phosphorescence, and substituted the passage of a moderate electric current through the body, or in the luminous organ, thus producing a brilliant phosphorescence. When the insect thus prepared was plunged into carbonic acid, or into either of the inert gases, nitrogen and hydrogen, the electric excitement produced no light. His investigations lead him to regard phosphorescence as a general property of protoplasm, consisting in a disengagement of phosphureted hydrogen.—*Comptes Rendus.*

EVERY new subscriber who does not receive the paper, and every old subscriber not credited on the label, within two weeks after paying for this paper, should write personally to the publishers without delay, to secure proper credit. This is necessary to protect ourselves and subscribers against the acts and mistakes of others.

Nothing short of Unmistakable Benefits

Conferred upon tens of thousands of sufferers could originate and maintain the reputation which AYER'S SARSAPARILLA enjoys. It is a compound of the best vegetable alteratives, with the Iodides of Potassium and Iron, and is the most effectual of all remedies for scrofulous, mercurial or blood disorders. Uniformly successful and certain in its remedial effects, it produces rapid and complete cures of Scrofula, Sores, Boils, Humors, Pimples, Eruptions, Skin Diseases and all disorders arising from impurity of the blood. By its invigorating effects it always relieves and often cures Liver Complaints, Female Weaknesses and Irregularities, and is a potent renewer of vitality. For purifying the blood it has no equal. It tones up the system, restores and preserves the health, and imparts vigor and energy. For forty years it has been in extensive use, and is to-day the most available medicine for the suffering sick anywhere.

FOR SALE BY ALL DEALERS.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove, to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

Windmills.

EDITORS PRESS:—I see in your last an enquiry from a subscriber asking which is the best kind of windmill. I have used, and have now running on my rancho, Halladay, Todd, Eclipse and Enterprise windmills. The Enterprise, manufactured by Horton & Kennedy, Livermore, Alameda Co., is by far the best mill. Mine has been running steadily since June 1875, and has never cost me one cent for repairs, which is more than I can say for any of the others.—D. FREEMAN, Los Angeles, Cal.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

FASH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Prop.

PAY IN ADVANCE and get the RURAL PRESS for \$3 a year. J. G. COLMERN is requested to report to this office from Humboldt Co.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

A Peer of the Realm.

The peer of the realm of horticultural weeklies stands the RURAL PRESS, just entering on its twentieth volume. As a record of our agricultural prosperity, it is a history complete; as a faithful guide and assistant to our various horticultural industries, the 19 volumes carefully preserved in our library, show the ability of its talented editor and liberality of its proprietors, as men worthy of the extensive patronage it receives. We have no greater enconiums to offer than to wish it god-speed in its mission of love.—*Petaluma Courier.*

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, July 21, 1880.

There is but little of interest this week. The markets are generally quiet. Some little interest was awakened in Wheat, owing to better English advices a few days ago, but to-day there seems to be a relapse into dullness.

The cable from Liverpool this morning was 9s 10d@10s 4d for No. 1. Red American Spring was quoted at 8s 8d@9s 4d @ ctl.

Range of Cable Prices of Wheat.

The course of the Liverpool quotation for Wheat to the Produce Exchange during the days of last week has been as recorded in the following table:

	CAL. NO. 2.			CAL. NO. 1.		
Thursday....	9s	6d@9s	7d	9s	8d@ 9s	10d
Friday.....	9s	6d@9s	7d	9s	8d@ 9s	10d
Saturday.....	9s	7d@9s	9d	9s	7d@10s	8d
Monday.....	9s	8d@9s	10d	9s	10d@10s	8d
Tuesday.....	9s	8d@9s	10d	9s	10d@10s	8d
Wednesday...	9s	8d@9s	10d	9s	10d@10s	8d

Flour and Grain on hand July 1st.

Report of Flour and Grain Remaining in the State of California, on July 1, 1880, as taken by the San Francisco Produce Exchange.		LOCALITIES.		Produce.	
		Wheat.	Barley.	Oats.	Beans.
San Francisco and Oakland wharf, including wheat stored in harbor....		16,150	391,562	15,882	48,391
Northern coast, Russian river and Petaluma....		940	14,075	1,586	2,739
Napa Valley R. R. Valley, and California Pacific R. R.		6,340	25,482	2,035	110
Sacramento valley and river....		2,600	92,347	60,990	425
Lower Sacramento, Lower San Joaquin and Susan bay....		45	4,042	110,025	570
San Francisco bay landings, east side....		109	11,373	300	100
W. P. R. R. from San Leandro to Livermore....		2,600	102,000	15,300	2,000
Stockton and San Joaquin valley....		1,000	13,713	41,544	100
S. P. R. R. from Redwood to Hollister, including Alviso....		1,200	100,000	500	100
Salinas and Pajaro valleys....		1,200	25,730	850	8,850
Southern coast....		30,934	323,621	106,291	36,221
Totals....		30,934	323,621	106,291	36,221
W. H. WALKER, Secretary.		62,217	83,672	6,989	

The Foreign Review.

LONDON, July 19.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: The weather has continued showery and unsettled. Heavy rains in certain districts have laid the Grain crop. The excessive rainfall at this critical period has tended to emphasize the firmness which has recently characterized the Grain trade, owing to the depletion of granary stocks, for English Wheat prices have been well sustained, and in some cases slightly higher, but offerings are so small and quality so inferior that choice has been much restricted. Consequently there has been a good demand for such qualities of Grain as can be substituted, notably Australian and New Zealand, which readily brought from 40s to 51s. Red Wheat continues unusually scarce, particularly Saxonska and Winter American, both of which are readily taken at 55s. In spite of the good harvest prospects in America and Europe, there appears little chance of any decline in the immediate future, while the possibility of a smart rise is quite on the cards. The stocks of Wheat in London on July 1st were nearly 92,000 quarters less than at the same date in 1879, while it is estimated that a total of about 136,000 quarters included a large proportion of the foreign Wheat which, during the past fortnight, has gone rapidly into consumption. Stocks of Maize are also largely diminished, while Oats show a little variation. Business in both was quiet, but in the case of Maize this was chiefly due to a scarcity of spot. Sales were readily made on Friday at 24s. Continental buyers were also in the market, but their operations were restricted by a lack of available produce. Sales of English Wheat were 16,699 quarters at 43s, against 23,419 quarters at 44s 10d, during the same week of the previous year. Imports into the United Kingdom, for the week ending July 10th, were 1,185,116 cwt of Wheat, and 131,358 cwt of Flour.

Eastern Grain and Provision Markets.

NEW YORK, July 17.—Early in the week there was quite an active demand for Wheat, on reports from the North-

west of serious damage to the growing spring crop by rust and insects. These reports, coming by wire and mail, created no little apprehension for the crop, and greatly enhanced the views of holders. The change in the weather there and the conflicting reports in regard to the injury, soon changed the tone of the market, and later more favorable weather reports caused a reaction, and the market closed quiet and steady. Provisions, after some activity, are more quiet.

CHICAGO, July 17.—The Wheat market has been fairly steady, with no very decided motion either way, but with a disposition to await development abroad and at home. Corn, on the contrary, has hardened under depleted stocks and the unparalleled European demand. The receipts have also somewhat decreased, and the stock in store is considerably less than last year. Oats were very steady. Provisions have fluctuated sharply, and the Pork deal has manifested a tendency to milk the market without letting it down very much. Sales for the August option for the week were as follows: Wheat, 88¢@91¢; Corn, 34¢@36¢; Oats, 22¢@23¢; Pork, \$13.45@14.45; Lard, \$6.00@6.90. Closing August prices were: Wheat, 89¢; Corn, 35¢@36¢; Oats, 22¢@23¢; Pork, \$13.90, bid; Lard, \$6.80, bid. The closing cash prices were: Wheat, 94¢; Corn, 37¢@37½¢; Oats, 24¢@24½¢; Pork, \$13.50@13.75; Lard, \$6.80. The outlook for the crops has been fully discussed in these dispatches of late. It is exceedingly good. Not better than a year ago, in some respects, nor so good, but the prospect of good prices—and this is equally important to the farmer—is exceptionally encouraging, and there is every indication on 'Change and in the country of supreme contentment with the prospect.

Freights and Charters.

The British ship *Maggie E. Seed*, 1,367 tons, is chartered for Wheat to Cork at £2 15s, prior to arrival.

Eastern Wool Markets.

NEW YORK, July 17.—Wool remains quiet, but very steady in price, and holders are very confident. Sales include 93,000 lbs Spring California, part at 34c. Dry Goods have been more active, and purchases for the California market have been more free than for a long time.

Boston, July 17.—The Wool market is quite steady and firm, with small receipts, but manufacturers are purchasing only as wanted. The principal movement of the week has been on Michigan fleeces, some 345,000 lbs of this kind having been sold. Combing and delaine fleeces are firm, with a good demand, but comparative stocks interfere with sales. The better grades of domestic combing are wanted. In unwashed Wools sales were comparatively light. The best medium Wools cannot be quoted over 35¢@36¢, including Missouri, Kentucky, Lake and Georgia. In California Wools sales were rather light, comprising for the week 205,200 lbs of Spring at 28¢@33¢, mostly Northern at 30¢@33¢, and 32,000 lbs at 22¢@32¢. Pulled wools are in fair demand. Choice Eastern and Maine super are still held at 55¢, but it must be very choice to command over 50¢, above which price very little super Wool has been sold. Sales include Ohio and Pennsylvania X and XX, and No. 1, at 45¢@50¢; Michigan X and No. 1, at 40¢@48¢; Wisconsin and New York, at 35¢@46¢; combing and delaine fleeces, 42¢@50¢; Kentucky, Indiana and other unwashed combing, 34¢@38¢; Georgia, 35¢@36¢; Texas, 30¢@35¢; Kentucky clothing, 35¢; Territory, 21¢@32¢; unwashed and unmerchantable fleeces, 27¢@40¢; scoured, 40¢@50¢; super and X pulled, 42¢@52¢; Montevideo, 37¢; Australian, 45¢. The sales for the week were 6,538,500 lbs, of which 1,399,050 were domestic.

PHILADELPHIA, July 20.—Wool is in improved demand and prices are steady.

Oregon Prospects and Markets.

PORTLAND, July 20.—Reports received from different counties in the Willamette valley indicate that the Fall Wheat yield promises to be at least 15% above the average, and the increased acreage will bring the total yield of Fall Wheat to 30% more than in 1879. In the produce market to-day there is but little feeling. Receipts generally are not heavy, though considerable Wool is coming forward, and sales are reported ranging all the way from 22c to 29c, the latter being the best figure. The clip is being moved pretty rapidly under fair prospects. The receipts here since Saturday noon to noon to-day exceed 200,000 lbs. In Wheat there is an utter stagnation.

New York Dried Fruit Markets.

NEW YORK, July 17.—Foreign Fruits remain quiet for most descriptions. Valencia Raisins are firmer at 8½¢@8¢. Prunes are dull and steady for old; new 6c. Dried Apples are neglected and more or less nominal.

BAGS—Dealers report a better trade in Bags, and the lower rates at which Bags were purchasable before are now withdrawn. The requirements are more than was thought while the north was at its worst.

BARLEY—Barley prices are unchanged. The new crop is coming into the market freely, and some sales have been made. There is now sharp distinction made in the quality of Chevalier. It must be bright and clean and weigh 54 lbs to the bushel to bring \$1.40; ½ lb decrease in weight affects the price just now. We note sales of 600 sks bright Bay Feed and 275 do old Coast do at 75¢; and 1,000 sks and 50 tons light new do at 72½¢. A lot of 50 tons choice new Chevalier changed hands at private rates.

BEANS—There is no change in rates.

CORN—Corn is unchanged. We note sales of 90 sks Small Round Yellow at \$1.17½; and 100 sks do do at \$1.20.

DAIRY PRODUCE—Butter is quiet at last week's prices. Cheese has taken an upward turn, and some of the best has sold at 12½¢ @ lb.

EGGS—Eggs are a shade higher than a week ago, the best now bringing 22½¢ @ doz.

FEED—Hay has sold a little better for choice lots. Ground Feeds are not changed.

FRESH MEAT—The only change is in live Hogs, which are ½¢ higher.

FRUIT—The Fruit list is extending. The first Grapes arrived during the week. On Tuesday there was a glut of Peaches, and sales were made as low as 25¢ @ basket. This is not likely to occur often this season, for the supply must be short, according to all reports we receive.

HOPS—Hop picking will begin in the Russian River district about Sept. 1st. Small lots of choice California crop of 1879 have sold better, some reaching 45¢ @ lb. The New York market is reported quiet. Emmet Wells, in his circular of July 9th, says:

Under the combined influence of more favorable reports from the English plantations, and continued encouraging news from our own districts, coupled with renewed anxiety on the part of holders here to get rid of their stocks, the market has exhibited increased depression, and prices show a further decline of 1c @ lb on nearly all descriptions. Holders are unloading, and 33c will now buy as choice Hops as can be found in market.

OATS—A sale of new Feed Oats is reported at \$1.40 @ ctl.

ONIONS—Both Red and Silver Skin Onions have advanced about 20¢@25¢ @ ctl during the week.

POTATOES—New Early Rose are a shade lower, the best having sold at 75¢ @ ctl.

PROVISIONS—The trade is quiet. California Smoked Shoulders are quoted ½¢ higher, and one brand of Eastern Hams is advanced.

VEGETABLES—Our vegetable list will be found to contain many changes. Canteloupes are now in, and have sold to-day at \$2.50@3¢ @ doz.

WHEAT—Our prices are now for new Wheat. The only advantage which pertains to old Wheat is the outside price of \$1.62½ @ ctl for choice Milling lots. The market is rather easier to-day. It was better in tone a day or two ago.

WOOL—There has been an advance of 1c on choice Northern County Wool. Eastern Oregon also has improved 1c @ lb, while choice Valley Oregon has sold as high as 34¢. We note sales of 60,000 lbs at 32¢@33¢, Northern County Wool.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., July 21, 1880.	
BEANS & PEAS.	
Bayo, ctl.....	95 @ 105
Butter.....	10 @ 15
Castor.....	25 @ 35
Pea.....	25 @ 35
Red.....	95 @ 105
Pink.....	95 @ 105
Sm'l White.....	105 @ 115
Lima.....	50 @ 70
Field Peas, b'l eye.....	25 @ 35
do, green.....	10 @ 25
BROOM CORN.	
Southern.....	10 @ 20
Northern.....	20 @ 30
CHICORY.	
California.....	4 @ 4½
German.....	6½ @ 7

WEDNESDAY M., July 21, 1880.	
DAIRY PRODUCE, ETC.	
Cal. Fresh Roll, lb.....	20 @ 22½
Fancy Brands.....	20 @ 23
Pickle Roll.....	20 @ 23
Firkin, new.....	20 @ 23
Western.....	20 @ 23
New York.....	20 @ 23
CHEESE.	
Obeese, Cal. lb.....	10 @ 12½
N. Y. State.....	10 @ 12½
Cal. fresh, doz.....	20 @ 22½
Ducks.....	17 @ 18
Oregon.....	16 @ 17
Eastern, by exprs.....	18 @ 19
Picked here.....	18 @ 19
Utah.....	18 @ 19

WEDNESDAY M., July 21, 1880.	
FEED.	
Bran, ton.....	13 @ 14
Corn Meal.....	8 @ 10
Hay.....	8 @ 10
Middlings.....	8 @ 10
Oil Cake Meal.....	30 @ 40
Straw, bale.....	40 @ 47½
Extra, City Mills.....	25 @ 50
do, Country Mills.....	40 @ 50
do, Oregon.....	40 @ 50
do, Walla Walla.....	40 @ 50
Superfine.....	30 @ 40

WEDNESDAY M., July 21, 1880.	
FRESH MEAT.	
Beef, 1st quality, lb.....	6 @ 6½
Second.....	5 @ 6
Third.....	4 @ 5
Mutton.....	3 @ 4
Spring Lamb.....	4 @ 5
Pork, unpressed.....	7½ @ 8
Dressed.....	7½ @ 8
Veal.....	6 @ 7
Milk Calves.....	6½ @ 7
do, choice.....	7 @ 8

WEDNESDAY M., July 21, 1880.	
GRAIN, ETC.	
Barley, feed, ctl.....	70 @ 75
do, Brewing.....	75 @ 80
Chevalier.....	135 @ 140
do, Coast.....	100 @ 110
Buckwheat.....	30 @ 40
Corn, White.....	10 @ 12½
do, Yellow.....	10 @ 12½
Small Round.....	15 @ 17½
Oats.....	10 @ 12½
Milling.....	65 @ 60
Rye.....	65 @ 60
Wheat, No. 1.....	52½ @ 55
do, No. 2.....	42½ @ 45
do, No. 3.....	42½ @ 45
Choice Milling.....	57½ @ 62½

WEDNESDAY M., July 21, 1880.	
HIDES.	
Hides, dry.....	17½ @ 18
Wet, salted.....	10 @ 10½

WEDNESDAY M., July 21, 1880.	
HONEY, ETC.	
Beeswax, lb.....	22½ @ 25
Honey in comb.....	11 @ 13
do, No. 2.....	11 @ 13
Dark.....	11 @ 13
Extracted.....	5½ @ 6½

WEDNESDAY M., July 21, 1880.	
HOPS.	
Oregon.....	25 @ 30
California, new.....	35 @ 45
Wash. Ter.....	25 @ 30
Old Hops.....	5 @ 10
Walnuts, Cal.....	12 @ 15
do, Chile.....	8 @ 10
Almonds, hd shl.....	8 @ 10
Soft shl.....	18 @ 20
Brazil.....	14 @ 15

WEDNESDAY M., July 21, 1880.	
FRUITS AND VEGETABLES.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

WEDNESDAY M., July 21, 1880.	
FRUIT MARKET.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

WEDNESDAY M., July 21, 1880.	
FRUIT MARKET.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

WEDNESDAY M., July 21, 1880.	
FRUIT MARKET.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

WEDNESDAY M., July 21, 1880.	
FRUIT MARKET.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

WEDNESDAY M., July 21, 1880.	
FRUIT MARKET.	
Apples, basket.....	30 @ 50
do, box.....	50 @ 100
Apricots, bx.....	150 @ 175
Bananas, bnch.....	250 @ 400
Blackberries, chst.....	30 @ 40
Cherries.....	6 @ 9
do, B. Tartan.....	10 @ 15
Cherry Plums, bx.....	30 @ 75
Citrons, Cal.....	100 @ 120
Cocoanuts, 100.....	700 @ 800
Corn Apples, bx.....	50 @ 75
Currants, chst.....	50 @ 60
Figs, black, bx.....	75 @ 85
Gooseberries.....	5 @ 8
Grapes.....	75 @ 150
Sweetwater.....	10 @ 12
Limes, Mex.....	10 @ 12
do, Cal, box.....	175 @ 225
do, large, box.....	500 @ 700
Lemons, Cal bx.....	350 @ 400
Sicily, box.....	800 @ 900
Australian.....	450 @ 500
Oranges, Cal bx.....	375 @ 475
do, Tahiti.....	30 @ 35
do, Mexican.....	30 @ 35
Peaches, box.....	40 @ 100
Pears, basket.....	50 @ 75
Pineapples, doz.....	700 @ 900
Plums, bx.....	50 @ 125
Raspberries, chst.....	450 @ 650
Strawberries, chst.....	800 @ 1000
Sugar Cane, hdl.....	2 @ 250

O. DITSON & CO. are Sole Agents for the United States for the extensive catalogue of

Novello's Musical Publications.

Among them are more than a thousand Anthems and Choruses, Part-Songs and Glee Books, Cantatas, Oratorios, Operas, etc. Send for Catalogue.

We call especial attention to the valuable series of Primers or Easy Instruction Books, of which very popular ones are, **THE PRIMER OF MUSIC**, (50 cents, by CUMMINGS) **THE ART OF PIANO-FORTE PLAYING**, (51), by PAUL, **THE ORGAN**, (51), by DR. STAINER, **SINGING**, (52), by RANDROCK, **MUSICAL FORMS**, (51), by PAUL, **HARMONY**, (51), by DR. STAINER, **INSTRUMENTATION**, (51), by PAUL, and **THE VIOLIN**, (51), by TOURS.

Send for Gen. Garfield's Grand March (40 cts.), and Hancock's Campaign March (40 cts.). Fine Music and elegant portraits of the Presidential candidates.

TEACHERS WILL NOT FAIL to examine, during the summer, the books needed for their winter's work. We mention **THE TEMPLE** (51), and the **VOICE OF WORSHIP** (51), for Singing Schools and Choirs; and for the latter, **THE AMERICAN ANTHEM BOOK** (51.25), and **EMERSON'S ANTHEM BOOK** (51.25). For High Schools, **THE WELCOME CHORUS** (51); for Common Schools, **SONG BELLS** (50 cts.), nearly ready; for Sunday Schools, **WHITE ROBES** (30 cts.); and for Temperance work, **TEMPERANCE JEWELS**, (35 cts.) and **TEMPERANCE LIGHT** (12 cts.). All are FIRST-CLASS books. Don't fail to examine.

OLIVER DITSON & CO., BOSTON.

O. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.
MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE

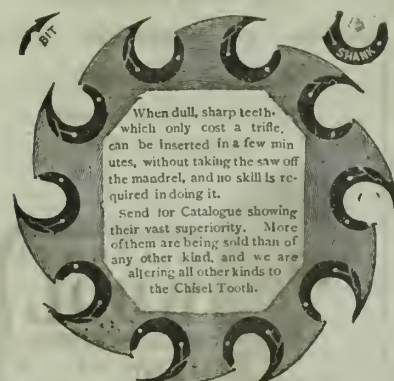
BUCKEYE FORCE PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.



Stearns' M'fg Co.'s Unequaled Pacific SAW MILL MACHINERY.

Automatic Slide Valve, Universal Automatic Corliss and Cheap Hoisting ENGINES and BOILERS.

TATUM & BOWEN,

329 Market Street, 3 Fremont Street

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

DO

NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 927 & 929 Wabash Ave., Chicago, Ill.

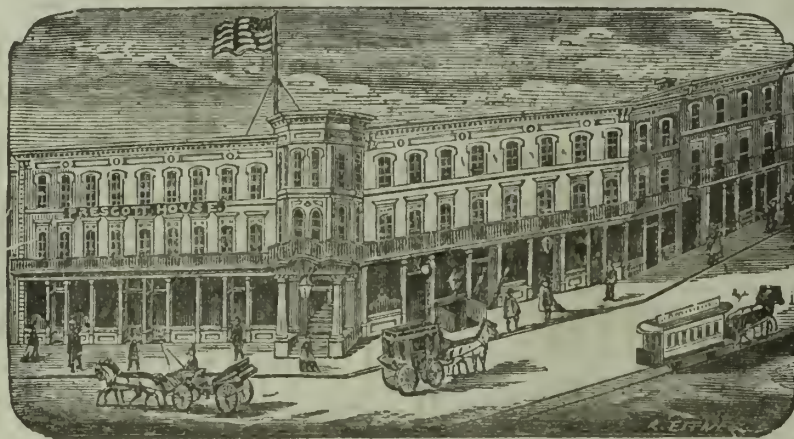
Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

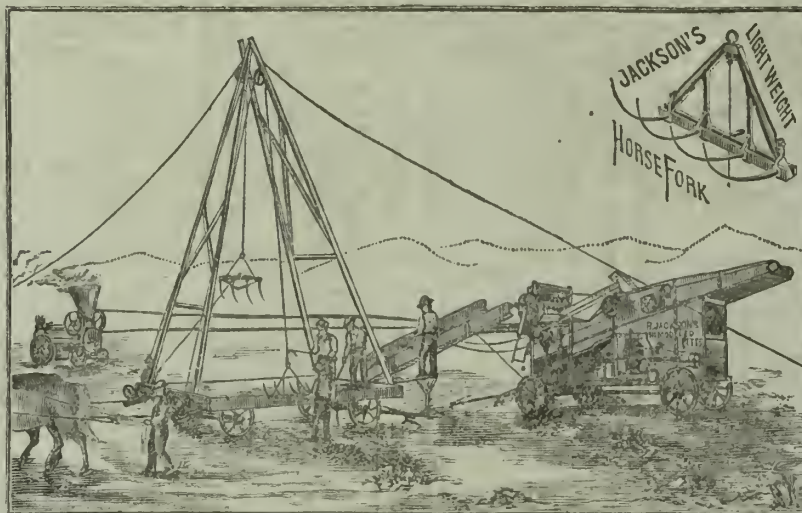
O. F. BECKER, Proprietor.

Free Coach to the House

JACKSON'S AGRICULTURAL MACHINE WORKS,

Established at Woodland, 1872, moved to San Francisco, 1879.

HARVESTING MACHINERY A SPECIALTY.



BAYLEY'S PATENT SPREADER, for Elevators or Feeders, spreads the grain more evenly than men will. Absolutely preventing large bunches from going into the cylinder, thereby saving labor, grain, damage to the machinery and increasing its capacity. Sold on trial. Price, \$50.

Manufacture **WINDMILLS** at popular prices. They are noiseless, anti-friction, SELF-REGULATING, durable and ornamental, have less number of parts and greater power than any other mill. Be sure and see it before purchasing elsewhere.

THE JACKSON LIGHT-WEIGHT FORK excels any Fork yet invented for either headings or hay. The heavy Forks were thrown away in the field last season because of the superior strength and lightness of the Light-weight. Orders solicited for Foundry Castings, Pattern Work and all kinds of Machinery. Special attention to the **Headley Stray Burner and Engine Governor**.

Buy and sell second-hand Threshers and Engines. See them before purchasing new. Prices and terms to suit the customer. Address **BYRON JACKSON**, 6th and Bluxome Sts., San Francisco.

Save Money by Using THE CALIFORNIA SPRING TOOTH HARROW.

Read the Following Testimonials:

SACRAMENTO, Jan. 29, 1880. Messrs. Batchelor, Van Gelder & Co.:

Gents:—This is to certify that I have tried the Spring Tooth Harrow on summer-fallow volunteer and winter-plowed land, and am pleased to say that it does better work than any Harrow that I have used, especially on land that has been plowed for a length of time and has become compact. Respectfully yours,

H. M. LA RUE. Pres. State Ag'l Society.

SAN JOSE, Dec. 30, 1879. Batchelor, Van Gelder & Co.:

Gents:—This certifies that I have this day purchased a Spring Tooth Harrow, after having tested it to my entire satisfaction; and cheerfully say



that I consider it superior to any implement I have ever seen for thorough cultivation of the earth, and that they are just what every man with an orchard, vineyard or wheat field needs. Yours truly,

JOSEPH ARAM.

I fully concur with the above. MARK FARNEY.

Send for Circulars and Testimonials or come to our office, and we will occupy your time for a day with similar matter.

Batchelor, Van Gelder & Co., MANUFACTURERS.

902 K Street SACRAMENTO.

RECORD OF SUPERIORITY.

1878—AWARDED
J. H. STROBRIDGE, First Premiums:
Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes.....22.50
Pen 5—Ewe Lambs.....22.50
Pen 3—Ram Lambs.....38.50
Yearling Ram (1st and 2d).....22.50
Two-year-old Ram.....22.50
Ram and five of his Lambs.....30.00

Sweepstakes:
For best Ram of any age or breed, and five of his Lambs.....75.00



THOROUGH-BRED SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda Co., Cal. E. W. PEET, Agent.

1879—AWARDED
J. H. STROBRIDGE, First Premiums:
Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes.....22.50
Pen 5—Ewe Lambs.....22.50
Two-year-old Ram.....22.50
Yearling Ram.....22.50
Ram and five Lambs.....30.00
Pen of 3 Ram Lambs.....22.50

Sweepstakes:
For best Ram and five of his Lambs, of any age or breed.....75.00

ALBERT DICKINSON.

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

M. W. DUNHAM

Just Imported 36 Head

FOR HIS OAKLAWN STUD OF

Percheron-Norman Horses.

ANOTHER IMPORTATION

Arrived April. 1, 1880.



Largest and Most Complete Establishment of the Kind in the World.

More than 200 Stallions and Mares

Imported from Best Stud Stables of France.

Winners of First Prizes in Europe and America, awarded First Prizes and Gold Medals at the Universal Exposition at Paris, 1878, over all. First Prizes and Grand Medals at Centennial Exhibition, 1876.

The public appreciation of its merits is indicated by the great demand for stock from every part of the country. During the past twelve months, the provinces of New Brunswick, Canada, and the States of New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana, Colorado, Nevada, California and Oregon, and Utah, Washington and Idaho Territories have drawn supplies from its stables.

100-page Catalogue—finest thing of the kind ever issued; 25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,

Wayne, DuPage County, Illinois.

STN B.—All Imported and Pure Native Bred Animals Recorded in Percheron-Norman Stud Book.

PACIFIC WATER CURE

—AND—

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,

Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional half top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

OIL PORTRAITS.

—The Best—

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100, Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody. San Francisco, Cal.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vols., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layres Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5, unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO., Publishers, 202 Sansome St., S. F.

The New Beekeepers' Text Book.

By A. J. KINO. The latest work on the Apiculture, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

SEEDS.

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought iron crankshaft with
double bearings for the crank
to work in, all turned at
run in babitted boxes.
Positively self regulating
with no coil spring or springs
of any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knolls without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of supe-
riority, and can be relied upon as the best and most desira-
ble Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day.
Combining strength and durability. Easily moved. Will
be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.

TRADE MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.00 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

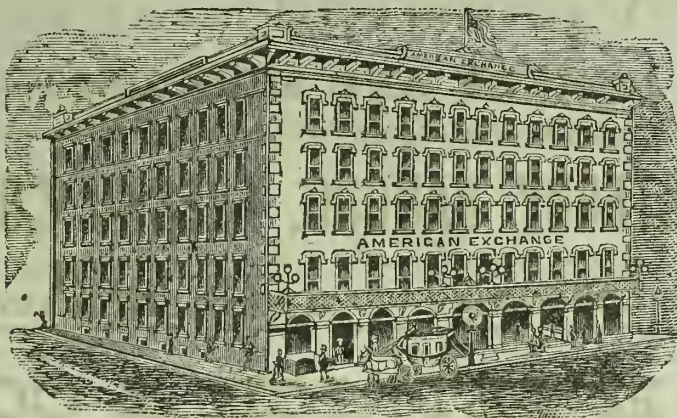
50 Perfumed, gilt edge & chromo Cards, elegant case, name
in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center
of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within
two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and
Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the
Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San
Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof
and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

DEWEY & CO. SCIENTIFIC PRESS PATENT AGENCY.

(ESTABLISHED 1860)

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old,
experienced, first-class Agency. We have able and trustworthy associates and agents in Wash-
ington and the capital cities of the principal nations of the world. In connection with our
editorial, scientific and Patent Law Library, and record of original cases in our office, we have
other advantages far beyond those which can be offered home inventors by other Agencies. Circulars
of advice sent free on receipt of postage. Address DEWEY & CO., 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

In consequence of spurious imitations of LEA AND PERRINS' SAUCE, which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.
Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

COPP'S AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township
and Section Corners; How to Homestead and Pre-empt
land; How to Enter land under Timber Culture, Desert,
Township and other Laws. Sent by mail postpaid for 50
cents.
DEWEY & CO.,
202 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best
GOPHER TRAP



Ever invented. The Gopher
raises the light trigger with
his head or dirt without the
least alarm. Ask your dealer
for it. Agents wanted. Sent
by mail for \$1. By express,
C. O. D., for \$2 per doz. Ad-
dress, G. W. JOLLY, Paraiso
Springs, Cal. Pat. apd for

Pocket Map of California and Nevada.

Compiled from the latest authentic sources, by Chas.
Drayton Gibbs, C. E. This map comprises information
obtained from the U. S. Coast and Land, Whitney's State
Geological, and Railroad Surveys; and from the results of
explorations made by R. S. Williamson, U. S. A., Henry
Degroot, C. D. Gibbs and others. The scale is 18 miles to
1 inch. It gives the Judicial and U. S. Land Districts.
It distinguishes the Townships and their subdivisions; the
County Seats; The Military Posts; the Railroads built and
proposed, and the limits of some of them; the occurrence
of gold, silver, copper, quicksilver, tin, coal and oil. It
has a section showing the heights of the principal moun-
tains. The boundaries are clear and unmistakable, and
the print good. 1878. Sold by DEWEY & CO. Price,
postpaid, \$2; to subscribers of this journal, until further
notice, \$1.

60 Chromo, perfumed, Snowflake & Lace cards, name on all
10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct

\$1,000 REWARD

FOR ANY WASHING MACHINE that will wash
cleaner, quicker, with less labor and wear and tear of
clothes, than the ROBBINS FAMILY WASHER AND
BLEACHER, patented October 3, 1871. No rubbing re-
quired. It is the best in the world, and cannot get out
of order. GOOD AGENTS WANTED, BOTH
MALE AND FEMALE. Send for descriptive cir-
culars and testimonials. Price, \$4.00, delivered at SAN
FRANCISCO, SACRAMENTO, MARYSVILLE or SAN
JOSE.

BISSELL MANUFACTURING CO.,
50 Barclay St., New York.

REMOVAL.

John F. Geary, M. D.

For the last 18 years at 632 Howard street, San Francisco, has

MOVED TO OAKLAND.

Consulting rooms, Erie House, 1113 Broadway.
Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.
Diseases of women and children a specialty for 25 years.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

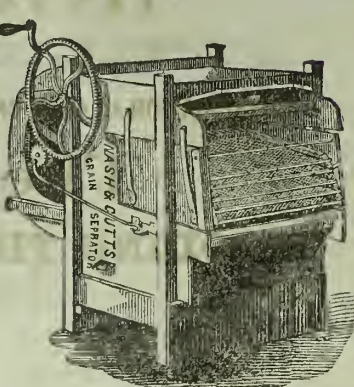
SADDLES,
HARNESS,
LEATHER,

WHIPS.

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in
ALL GOODS in this line.
Send for Catalogue.

STILL AHEAD!

Trade
Mark.



"The Improved
Nash & Cutts Grain Cleaner."

Three sizes—warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fairs
from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats
cracked wheat, etc., in a satisfactory manner, but is alike
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTER and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.

2d. Being located here, we know what is wanted much
better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.

Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.

Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.

We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.

Windmills!

HORSE POWERS!

TANKS AND PUMPS

Built and repaired at

No. 51 Beale Street, S. F.

Send for circulars

F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



THE DINGEE & CONARD CO'S BEAUTIFUL EVER-BLOOMING ROSES

Strong Pot Roses, suitable for winter bloom,
sent safely by mail, postpaid. 5 splendid varieties,
your choice, all labeled, for \$1; 12 for \$2; 19 for \$3; 26
for \$4; 35 for \$5. For 10 cents each additional, one
Magnificent Premium Rose to every dollar's worth
ordered. Send for our NEW GUIDE TO ROSE
CULTURE, and choose from over 300 finest sorts.
We make Roses a Great Specialty, and are the largest
Rose-growers in America. Refer to 100,000 customers in the
United States and Canada. THE DINGEE & CONARD
CO., ROSE-GROWERS, West Grove, Chester Co., Pa.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY



Calvert's Carbolic

SHEEP WASH,

\$2 per Gallon.

After dipping the Sheep, is use-
ful for preserving wet hides, de-
stroying the vine pest, and for
wheat dressings and disinfecting
purposes, etc. T. W. JACKSON,
S. F., Sole Agent for Pacific Coast.

DIVIDEND NOTICE.

The German Savings and Loan Society.

For the half year ending this date, the Board of Di-
rectors of THE GERMAN SAVINGS AND LOAN SO-
CIETY has declared a dividend on Term Deposits at the
rate of six (6) per cent. per annum; and on Ordinary De-
posits at the rate of five (5) per cent. per annum, free
from Federal Taxes, and payable on and after the 15th
day of July, 1880. By order.

GEO. LETTE, Secretary.

San Francisco, June 30, 1880.

INVENTORS, and others interested, will receive DEWEY
& CO.'S MINING AND SCIENTIFIC PRESS PATENT AGENCY
Circular free on application at this office. It contains 42
pages of hints and information about Patents, Patent
Laws, Patent Office Regulations, and how to obtain valid
patents.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager**, 12 Montgomery St. (up stairs), S. F.

FIREMANS FUND

Insurance Company.

JUNE 30th, 1880.

ASSETS:

CASH on hand and in Bank.....	\$40,029.27
U. S. BONDS, registered.....	195,875.00
OAKLAND CITY BONDS.....	29,500.00
OAKLAND GASLIGHT BONDS.....	17,500.00
FIRST NATIONAL GOLD BANK STOCK.....	10,980.00
LOANS on BOND and MORTGAGE.....	153,100.00
BILLS RECEIVABLE, secured by collaterals.....	20,050.00
REAL ESTATE.....	209,218.38
MARINE PREMIUM NOTES.....	27,733.20
PREMIUMS in course of collection.....	57,000.18
INTEREST due and accrued.....	3,525.41
ADVANCES on Mort'd property, etc.....	2,795.73

ADDITIONAL CASH CAPITAL now being called in..... 350,000.00

Will Make Total Assets, \$1,117,307.17

THE

FIREMANS FUND

Insurance Company

Bases its CLAIMS TO THE BEST PATRONAGE upon its sound financial condition, reinforced by its ACCESSION OF CAPITAL, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair and clearly expressed contracts, and prompt and equitable adjustment and settlement of legitimate losses.

For SEVENTEEN YEARS it has been favorably known as a conservative Underwriter, and during that time, has paid over

\$4,000,000 in Losses,

Passing triumphantly through the heaviest conflagrations known to modern history.

Agents

IN ALL THE PRINCIPAL LOCALITIES IN THE U. S. Insurance of Grain and Growing Crops in California a Specialty.

Home Office:

401 California St., San Francisco.	
WILLIAM SEXTON,	Supervising Agents.
E. W. CARPENTER,	
D. J. STAPLES,	GEO. D. DORNIN,
President.	
ALPHEUS BULL,	WM. J. DUTTON,
Vice President.	
	Ass't Secretary.

Pumping Engine For Sale.

NEW UPRIGHT WILCOX ENGINE.

14-inch Cylinder, 6-inch Stroke. About 8-Horse Power. Will raise 3,000 gallons per hour. Was used to dig the well at Chronicle office. Never used otherwise, and is in perfect order.

PRICE, \$300.

Mr. Wilcox sold similar engines at \$300 each. I have taken this engine as an attorney fee, and will sell it for this price and WARRANT it. Address

MANUEL EYRE,
Law Office, No. 636 Clay St., room 25, S. F.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES,** Wool, Bean, Ore and Salt and Seamless Cotton Bags.

Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

3/4" CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

Fairbanks' Scales.

PORTABLE PLATFORM SCALES,

SUITABLE FOR

Weighing Hay, Grain, Dairy Produce, Etc.

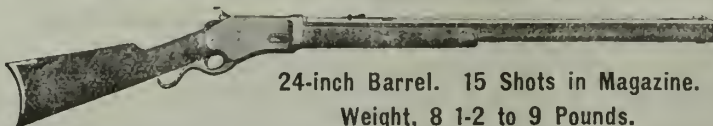
All Sizes. 240 to 3,000 lbs. Capacity.

FAIRBANKS & HUTCHINSON,

417 Market street, San Francisco.



THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight. 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

300 Choice Rams

FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,
Stockton, Cal.

Dewey & Co. { 202 Sansome St. } Patent Ag'ts

Thrashing Engine For Sale.

A 7x10 HOADLEY IN GOOD WORKING ORDER.

Price, \$500.

Delivered at Benicia or San Francisco.

Address J. F. BEAN,
Benicia, Cal.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

Baling Fencing Telegraph Telephone Galvanized WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.
SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



Sheep

—AND—

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

37 Designs sent on applying for them.

W. H. MCCORMICK,
827 Market St., between Fourth and Fifth.

Engraving. Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.



Volume XX.]

SAN FRANCISCO, SATURDAY, JULY 31, 1880.

Number 5

The Fruit Season.

Indications are ample that the present season will be one of high prices for choice fruit of all varieties suitable for canning or for Eastern shipment. The eccentricities of the season have succeeded in reducing the available amounts of favorite fruits, and the activity of the canners and exporters of fresh fruits shows that the money in their trade leads them to push up the prices for the material they need. It is altogether probable that much more money will be distributed among fruit growers this year than ever before. More than this, there is a clear indication in the operations of those who buy for export, both in fresh and preserved form, that the future of producing suitable fruit will be far brighter than anyone could have hoped a few years ago. This means an opportunity for the development of our fruit-producing resources, the wider spreading of a branch of agriculture which carries with it the cultivation of smaller areas by each, the dotting of waste spaces with trees and vines, the making of delightful rural homes in the midst of orchards and vineyards, in contrast to the lonely habitations on yellow expanses, as is too often the case in our grain-growing counties.

The grape outlook is fine in all its branches—save the bug, and that is as yet a shadow which may be dispelled. The prices talked about in the wine counties north of the bay range from \$30 to \$35 per ton, and the amounts to be delivered to the wineries will be immense. Grapes for shipping eastward are the subject of much competition among buyers. We have heard that as high as \$60 per ton was offered for Mr. Blower's Emperors—those stalwart grapes that went to England last fall and arrived in good condition although not packed with greater care than those sent to Chicago. We also hear of a sale of the Tokays from a fine foothill vineyard in Sacramento county, at \$40 per ton. Such figures as these are certainly encouraging. Grapes for the wine press promise to be good property all over the State, and the quick returns now available to those who press their own grapes are hard to realize when one thinks of the patient waiting to which those in this industry were subjected a few years ago. Last year the Natoma Water company's wine pressed at Folsom, in October, was sold in December at a price which returned \$21 per ton net for the grapes used. The return per acre, when three tons of grapes is counted a small yield, is certainly encouraging to producers. In other fruits there is also commendable activity. Plums for shipment in Sacramento county are being taken at the grower's figures, when amounts and quantities are satisfactory to the shippers. The unusual buoyancy of the apricot this season has already been noted. Pears, owing to the short crop of some favorite kinds, will doubtless also reach the high figures. Of apples it is yet rather early to judge. The crop has hit the local demand to supply, and the fruit does not share the life which seems to attach to material which the outside world bids for.

It is to be expected that there will be an unusual tendency toward orchard and vineyard planting this fall, and the interest in the subject is keen. We trust that this fact will lead all who have choice fruits ready at the time not to forget the Horticultural Society's show at the Mechanics' Institute fair, beginning August 10th and continuing until September 11th. The Secretary of the society has received a number of announcements of intention to exhibit, and the prospect is that much good material will come forward. We hope no one will overlook the opportunity to enter a friendly contest for the excellence of the fruit he grows, and to contribute to the fame of the State in the eyes of the thousands who will visit the fair. The horticultural interest is evidently going forward. The field seems large enough, for our fruits are going to all quarters of the globe. The result will be a widely distributed prosperity within our borders. The opportuni-

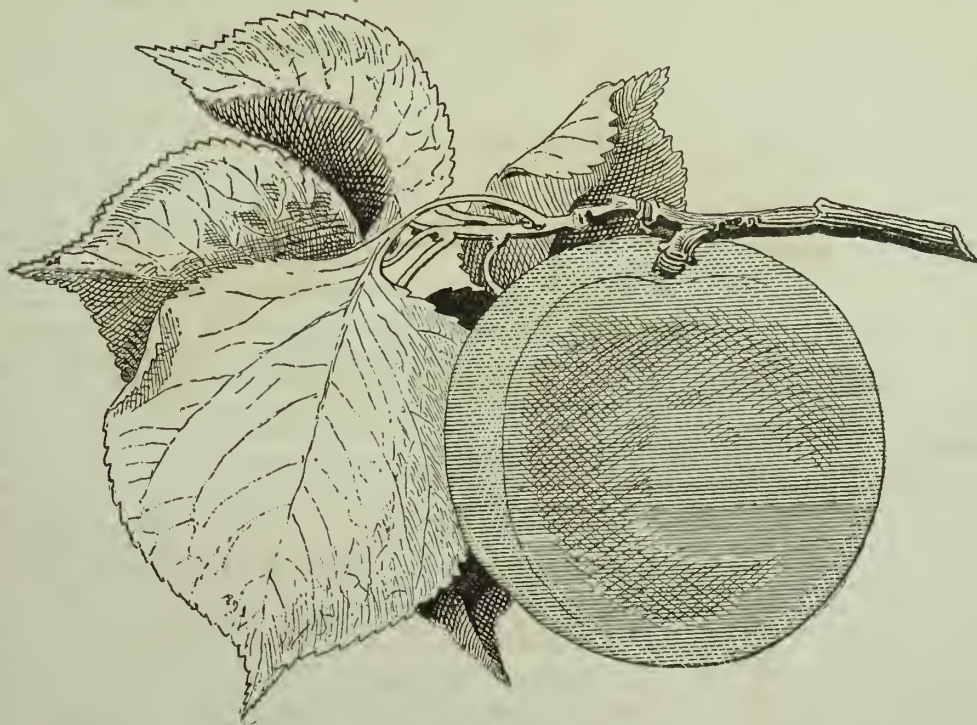
ty is one for action, enterprise and success to those who put forth the right efforts.

PROSPECT FOR AMERICAN GRAIN ABROAD.—The effort which is made to repress wheat prices by statements to show that foreign requirements will be notably less than last year, seems to have outreached itself. The *Public*, a New York journal, alludes to the subject in this way: "The severe storm which swept over England last week has greatly affected the outlook. It does not seem likely now that England will require 20,000,000 bushels less than it did last year. According to present indications, France will need as much within 30,000,000 bushels as she did last year. Such information as is received from other countries of the Continent does not warrant the belief that their demands will be as large as they were in 1879-80, but an allowance of 10,000,000 bushels for the difference, or 60,000,000 bushels for England and the Continent, seems to be as much as is warranted thus far. In light of latest advices, it is only fair to say that one or two days of bad weather

A New Apricot.

It is natural to expect that a country in which the apricot reaches such peerless perfection as it does in this State, would bring forward new varieties of especial excellence. Several such have already been recorded, as for example the Wood's early apricot, which is famous in the southern counties. We expect a host of new candidates for favor ere long, as the disposition to plant the apricot is general, because its splendid reputation in foreign markets has given our canners a will to pay exceedingly high rates for the fruit.

We give on this page an outline sketch of the Jackson Seedling apricot, originated by Andrew Jackson, of Kingsburg, Fresno county, from the seed, probably, of the Moorpark. This variety has been propagated largely by I. H. Thomas, nurseryman, of Visalia, who has great confidence in it. Certainly it has shown itself



THE JACKSON SEEDLING APRICOT.

may increase the demand very much, while it does not now seem probable that it can fall below that of last year by more than 60,000,000 bushels."

SUCCESS OF A CALIFORNIA PRODUCT.—The north wind cut short the crop of buhach on the plantation in Merced county, and the Stockton firm who produce and manufacture the powder, find that all they can turn out this year will soon be disposed of. The fame of the California product has gone far and wide. It has even invaded the home of the plant in Dalmatia, and the California growth is pronounced superior to the original. At Trieste, one of the principal exporters of Dalmatian insect powder, after testing California buhach upon insects side by side with their home production, declares that buhach is far superior in efficacy to the best Dalmatian, and that he will be the first one to import from California as soon as we could raise sufficient amount to ship, even at much higher figures than the native product sells for.

In New York and New England the highest priced butter, selling at 40 to 50 cents a lb., is made from Jerseys cows.

The barns of Pennsylvania are groaning with the ingathered wheat crop, which is one of the largest ever harvested in the State.

worthy on the ranch of the originator, for Prof. Sanders told us, as recently noted in the *PRESS*, that the original tree, now eight years old, had yielded \$20 worth of fruit each year for the last few years. This shows it to be a regular and heavy bearer in that locality at least, and it is worthy of trial in all good apricot districts. As the engraving shows, the fruit is of large size and handsome form. The specimens we received during the first week of July were exceedingly rich in color, and would have made a beautiful canned fruit.

We notice in this connection that there is considerable good-natured rivalry among apricot growers in the southern counties as to the size of fruit produced. The largest mentioned so far are from the orchard of O. W. Childs, of Los Angeles, of which the *Herald*, of July 24th, says: "We took six apricots at random from the basket, weighed them and they brought down the beam at one lb. and seven ounces. We then took five from the same lot, also without selection, and they weighed one lb. and four ounces, or an average of a quarter lb. each." If this keeps on much longer, it will not be long before one or at most two apricots will fill a fruit can.

ADMIRAL AMMEN has addressed a letter to the President of the American Geographical Society, in which he says that the Nicaragua canal will follow the Lagos route, and only cost \$45,000,000.

Egyptian Corn.

Kansas seems to be endeavoring to get up something of an immigration boom on the strength of the growth of what they call "rice corn," and sound its praises as though it were something new to agriculture. Rice corn is simply what we call Egyptian corn in this State, and of which we have grown large quantities during the last three years. The Secretary of the Kansas State Agricultural Society has published a rice corn pamphlet, and is sending it with samples of the grain to the emigrant factories of the Old World. Among other prominent parties called upon to be surprised at the Kansas invention, was the editor of the *Mark Lane Express*; but he does not surprise worth a cent. In the last issue received we read: "This rice corn, Egyptian corn, or pampas rice, is simply the ancient durra or dari under new names. It had enough names without rechristening. Zoar in India was durra or zurrut amongst the Arab tribes, tall corn in China, and Guinea corn or Indian millet in America. There are several varieties of this species of sorghum; but they are all older than British or American agriculture. They are extensively grown in all tropical parts of Asia, in Italy and other warm countries of Europe, and in Africa." Our contemporary is slightly in error as to the name Indian millet being applied to durra in this country. What we know as "Indian millet" is *Penicillaria spicata*—another new thing with as old a history perhaps as durra itself. Both these plants grow excellently in the warmer regions of this State, and the durra has gained a reputation as poultry and stock feed.

One thing the Kansas people have done which is of general interest, and that is the making of an analysis of Egyptian corn. Its composition, as determined by an analysis by Prof. Patrick, of Lawrence University, Kansas, is given below, by the side of that of Indian corn for comparison, and calculated to the same percentage of water as that usually found in the latter grain:

	Corn—	
	Indian	Egypt.
Water	11.5	11.5
Albuminoids	10.8	10.6
Fat	4.8	4.2
Carbohydrates, etc.	63.5	63.2
Fiber	1.9	2.9
Ash	1.5	1.6

The resemblance in composition is remarkably close, and we would suggest that, for the purpose of exciting a boom, it is probable that the extract of Indian corn distributed in pint bottles would arouse more of a Kansas fever than would pamphlets and packages of raw durra. However, we hope all Kansas will grow fat on durra pancakes. We wish them no harm; but one hates to see an old friend appropriated and paraded by some one else who wants to get into good society by association with him.

THE MYSTERY EXPLAINED.—A patron of the Oakland water company, who has a fine residence in that city, informs us that he has entire faith that the noted Dr. Tanner will succeed in fasting 40 days and 40 nights without the least danger of dying for the want of nourishment if supplied with the very strong water furnished our neighboring city. If any person doubts our friend, a smell of the reservoirs, or even the water from them, will be convincing. It is proper to add that the company's water also smells very bad of extortionate prices.

PERSONAL.—We had the pleasure on Wednesday afternoon of a visit from Prof. J. Henry Comstock, entomologist to the department of agriculture, whose coming hither we alluded to in last week's *PRESS*. He has arrived safely and will soon engage actively in studies of orchard insects in this State, especially those infesting the orange trees. We expect to announce his plans more definitely hereafter. We doubt all our readers will be interested to speed his labors.

THE VINEYARD.

The Phylloxera and Its Foes.

At the Sonoma meeting of the Viticultural Commission, of which report will be made in another column, a lecture on the phylloxera and its enemies was delivered by Dr. H. Behr, of this city, as follows:

When we have to defend ourselves against constant and repeated attacks of an enemy, our first step must be, in order to render our defense successful, to study the character and habits of the enemy and his hostile as well as friendly relations to others; for the friend of an enemy is an enemy, and his enemy is an ally.

Such is the case of the phylloxera; and before we consider our chances of warfare, and begin the attack, we ought to study the development of the evil and the various disguises under which it perpetrates its insidious devastation.

In all countries that have a real winter the phylloxera hibernates in the form of an egg. The more the winter approaches in its character a mere rainy season, the more the phylloxera develops a tendency to stay over the winter as a perfect insect, in a more or less dormant state. This last form of hibernation seems to be the rule in California; but the circumstance that the egg has not yet been found, is no proof that it should not exist.

The statements of Planchon, Lichtenstein, and Balbiani, all careful observers, agree perfectly in the distinction of the insect that comes out of the hibernating egg. This insect tries with its proboscis different spots on the leaves of the grapevine and after having selected a locality, fastens itself there, producing by the irritation of this process a swelling of the leaf that grows out into a gall, not unlike those caused by the sting of a gallwasp. Inclosed in this gall, the phylloxera, without having had any sexual intercourse, lays eggs. Planchon has counted them up to nearly 800 eggs; and after having laid the last egg, the phylloxera dies and dries up, surrounded by the eggs that soon give birth to a breed of phylloxera. These insects, after having escaped through a fissure on the top of the gall, go through the same process of multiplication by eggs in the course of three weeks, only their offspring is considerably less numerous than that of the first generation developed out of the hibernating egg. Mr. Fatio has observed the phylloxera, after having tried several leaves, to descend to the root of the grapevine and inclose itself there in a nodosity analogous to the gall of the leaf. At any rate it is certain, although it has not been exactly observed, that the phylloxera, sucking the sap of the roots without being inclosed in nodosities, are the descendants of the gall as well as the nodosity-building variety.

Toward the end of the year the phylloxera appears under a new garb. It looks quite a different being, and has adopted the form of a diminutive four-winged fly. This tiny insect has but little command over its flight. It is the toy of any current of air. Thousands of them perish in spider-webs and pools of water, and very few are carried by a lucky wind to a spot favorable for laying a foundation for new generations. This winged phylloxera does by laying eggs, of which she carries only a few (2-5), but of two kinds; small ones, out of which come males, and larger ones, out of which come females, both wingless. The female of this generation harbors only a single egg, and this, in the insect kingdom, a very exceptional circumstance. This is the hibernating egg, out of which comes the founder of the many generations which follow, and which are non-sexual themselves. As far as this goes the habits of the insect are well observed, and everything is clear. But as to time and circumstances, when the phylloxera leave the gall-building and move about on the roots without inclosing themselves and their offspring, nothing is known. Maybe the nodosities on the roots are the product of generations that link the gall-builders to the phylloxera of the root; maybe that galls, as well as nodosities, are only the product of adaptation. There is one thing certain, that there exist districts infected by the phylloxera, where galls have not yet been observed. Another mystery is connected with the appearance of the winged generation and its offspring of wingless males and females. It has been observed, and not only in the phylloxera, but also in insects of analogous organization, that an indefinite number of non-sexual generations can follow through years without once producing a generation of males and females. Another queer circumstance is the great irregularity in the appearance of said winged generation and its sexual offspring. The duration of this state is short enough. A few days are sufficient to make them disappear without leaving any trace but the fertilized egg. The phylloxera can propagate through an indefinite number of generations without once appearing in the winged state. This shows that the winged generation is not necessary for the existence of the species. What is then, the object, the function of that form? We may, perhaps, express the circumstance in the following way. When we recollect that it is chiefly in climates of a severer winter where the winged phylloxera has been observed, and there always late in the season, and when we further consider that the fertilized egg which possesses a much slower development than the non-sexual, which develops shortly after its being laid, so all these circum-

stances seem to point to the fact that this fertilized egg by the very slowness of its development, is better calculated to resist the inclemencies of the winter than the ordinary egg with its quick development or the phylloxera herself in her torpid, dormant state of hibernation. There is in this circumstance an analogy to certain water plants producing two different kinds of spores: moving spores, which have to sprout after a short time or perish, and resting spores, that can remain latent for a long space of time and develop as soon as circumstances become favorable. Now, these moving spores swarm and sprout till all the water in which they took their first start is filled with their gelatinous masses; but when at the end of a season or when by any other circumstance the water begins to dry up, the resting spores are formed, mix with the slime of the pool, when this slime is pulverized by dryness and heat, are carried with it to places where sufficient moisture favors their development, or remain latent at the bottom of the pool till rain or inundation fill it again. Now there is perhaps some analogy, between the circumstances that produce in the alga, the resting spore, and in the phylloxera the fecundated egg of slow development. Either of them waits for a time or a place more favorable for its development. Under ordinary circumstances, the resting spore of the alga develops with the first rain, the fecundated egg of the phylloxera with the sunshine of spring; exceptionally, when the supply of water becomes scarce, the resting spore trusts itself to the wings of the wind; if the sap of the grapevine of one locality begins to fail, the phylloxera is carried by its winged mothers to new localities. In this way, perhaps, we may account for the irregularities in the time of appearance in regard to the winged phylloxera of milder climates.

Now let us calculate only eight generations through the season, each member of a generation producing only 20 eggs, which is a very low average figure; as the individual bred from the hibernating egg alone produces, according to the statement of Planchon, up to 800, and we come to the astonishing figure of 256,000,000,000. Happily, there are circumstances that prevent that figure being reached.

Nature always tries, and tries successfully, to restore a balance of powers in her productions. The phylloxera itself, or at least its devastations, are a consequence of the balance in nature being disturbed by the culture of a single plant in certain localities to the exclusion of others. We will now see what plant nature adopts for destroying the phylloxera. We have seen how the exclusive culture of the grapevine has attracted and multiplied the parasite that feeds upon it. In the same measure now multiply the beings that prey upon the phylloxera, and they also will disappear, or at least diminish when the phylloxera has been reduced to a number that does not any more disturb the balance in nature. Not all the enemies of this parasite are known. I am to enumerate here only those whose predilection for phylloxera blood is well established and sufficiently effective to come under our consideration. The phylloxera, owing to her subterranean habits, is not very accessible to birds. The influence of birds on insect life is generally overrated. Amongst the insects that know how to find the phylloxera are some beetles of the tribes called Carabides and Staphylinides that destroy in all their stages of development a great number of phylloxera. Staphylinides may occasionally be seen on grapes. They do not feed on them, but are apt to impart to the grape a disagreeable smell. But we better allow them that little extravagance, as during their long existence in the larva state they live chiefly on animal food—on fellows that are smaller than themselves. There are several beetles related to the Spanish fly that feed in their larva state on and under ground, on eggs and small larvae of aphidians, as well as grasshoppers. Certain wasps, that keep their young ones in subterranean galleries, feed them also on phylloxera and its relations. You probably have observed on the stalks of rose buds infected by leaf-lice (aphis), a little green maggot, shaped like a leach, and moving about very much like such. This is the larva of a fly (syrphus), somewhat smaller than our house fly. If you observe what he is doing there, you will find that it is not for the sake of company that he frequents that crowd of leaf-lice. A similar maggot, only smaller, visits stem and root of the grapevine, where it devours considerable quantities of phylloxera. Then there is a tribe of four-winged flies, somewhat of the structure of the dragon fly, but considerably smaller, and the wings neither elevated (agron) nor flattened out like those of the real dragon flies (libellula), but folded round the body, like those of a moth. This insect, called hemerobius, destroys, in its winged state, aphidians, and perhaps also some gall-building phylloxera; in its wingless larva state it preys on aphidians of all kinds, following them from leaves to twigs, from twigs to stems, from stems to roots. It has been found in company with the phylloxera, of course not as their friend. The class of the spiders and mites (*Arachnide*) are all carnivorous, and many species prey on the plentiful and defenseless phylloxera. A French lady, Mad. de Bompar, mentions especially a little mite called trombidium as an active destroyer. I am not quite satisfied in regard to the predilection of this little being for the phylloxera; at least it lives not exclusively on aphidians. Mrs. Wetmore, who raises in a box our native grapevine (*Vitis Californica*) for the sake of experiment, found a great many of these minute mites on the roots, where we could

not trace a single phylloxera. But the web-making spiders do really good work, especially the smaller species of ground spiders, that fasten their nets between twigs, are perhaps even of greater use, as they destroy the winged generation, inaccessible to all the destroyers enumerated before. How many of the winged aphidians die without being able to propagate, we can form an idea by examining those spider webs that are left by their owner, so that the tiny customers that caught themselves in their meshes are no more removed. There may be many more enemies of the phylloxera besides those enumerated, for many things that happen every moment among the little things under ground escape our notice. It is certain there are more victims of that microscopic warfare than we generally imagine. Entomologists are well acquainted with the fact that insects that are excessively rare through a certain time, disappear sometimes suddenly as if swept away by an epidemic. At any rate a diminution of the phylloxera pest is to be expected before they have ruined our vines.

Among the insect pests mentioned by different authors there is perhaps none that bears so much analogy to our case as the invasion of the apple trees of northwestern Europe by a certain relation of our phylloxera, the myzoxylus. I once found among old papers an account of the devastations of this insect; the despair it caused in the cider-making districts, and very many remedies recommended. The insect still exists, but in very moderate proportions. Which of the many remedies recommended has reduced the myzoxylus to a more reasonable style of living I could not find. I think none of them. Medical men know very well the more remedies they possess against a disease the more incurable it is. I do not assume to criticize the different methods recommended for the destruction of the phylloxera, but their very number appears to me a proof that none of them has answered.

Let us follow the way nature has pointed out to us. First let us isolate the infected patches as much as possible. The subterranean phylloxera cannot spread when we do not prepare its way by plowing and weeding the vicinity.

Then let us favor as much as possible those insects, which we know feed on aphidians, especially the spiders, protect their webs. It is true, they are not ornamental, but they are the most effective means to prevent the winged phylloxera from colonizing other parts of the vineyard.

I have to mention yet the ant as a friend and patron of the leaf lice, which he keeps as cattle and colonizes them in his subterranean galleries. There is not yet a fact of this kind known in regard to phylloxera, but at any rate the ant is a suspicious neighbor and his hills have to be destroyed.

Till science has given us a destroying medium of quicker action, let us imitate and assist the slow but effective process begun by nature and, whatever plan we adopt, let us act in concert.

Topping and Pruning.

At the last meeting of the St. Helena Viticultural Club (as reported by W. A. Mackinder in the *Napa Register*), Judge Hastings submitted the following questions for discussion:

What is gained in planting rooted vines instead of cuttings?
Why not plant vines say, eight by three and one-half ft. apart on light soil?
What is the cause of partial failure of cuttings to grow this year?

Why top vines? Is this not a mutilation?

The Judge spoke at some length on the latter question; said it was one that interested him very much. He thought that vine topping was an abuse of nature and a mutilation of the vine, as such was injurious and should not be practised. If in life-forms mutilation is injurious, it must be the same in plants; thought that perhaps vine-topping had a tendency to encourage phylloxera and other diseases. The meeting now proceeded to consider the questions in their regular order.

First—The advantage of rooted vines over cuttings and the cause of failure of cuttings this year.

Lewelling says there is no preference between rootlets and cuttings. If soil and vine is in good condition, there is not much difference. Cuttings must have proper care to germinate roots.

Crabb plants cuttings in trenches singly and not in bunches. They keep fresh and full of sap, and are in good condition to set out.

Pellet kept cuttings for four months in a damp cellar with no soil over them. During a dry north wind he sprinkled them with water, and they kept fresh.

Ewer said that a Mr. Haegen preserved cuttings by putting them in a barn and covering them with dry sand, and they kept fresh and green.

Lewelling said in preserving and selecting cuttings he takes care to pick out good, sound ones about 10 inches long, digs a trench two-thirds of their depth and puts them in bunches of 250; fills up outside with dirt; fills the ditch with water once a week. In planting, hoe soil up to top bud to prevent burning by sun.

Scheffler asks, is there a gain in time by spending one year in rooting vines? Nearly all agree that generally after rooted vines and cuttings had been planted one year, the difference cannot be distinguished.

Pellet says there is no difference between a rooted vine and cutting in point of growth.

Crabb in planting rooted vines cuts roots off,

otherwise they are not worth so much as cuttings.

The general conclusion arrived at was that, conditions alike, there is very little difference. Rooted vines might start more readily and be of surer growth, but cuttings well selected and properly treated are about as good. On hill-sides, roots do a little better; on level land, cuttings are just as good.

The main point to be observed was to plant a good, sound cutting and have the soil in good condition.

Regarding the partial failure of cuttings this year, the unanimous opinion was that it was caused by the excessive rain and cold of the early spring, followed by the subsequent dry north winds. Lewelling said he would not plant vines in Dec. or Jan. About the month of Mar. was the best time.

Thompson planted cuttings in middle of Mar. and they did well. It is not best to plant too early.

The objection to planting vines about eight by three and one-half ft. apart is: First—That three and one-half ft. does not admit of room to cultivate; and secondly, the vines are too close to afford proper nourishment; they should be about seven by seven and never any closer. In hillside terracing they can be planted 10 by 4.

Topping.

Dr. Allyn agrees with Judge Hastings that a plant corresponds with animal life, and should not be mutilated by excessive pruning or topping.

Krug says wholesale slaughtering by topping and slashing vines off by the foot is wrong. It is injurious to cut too late or too much. Only cut off a small point to induce lateral and discourage terminal growth. In summer prune early, not late. If late, it hurts the color of the grape. Crabb did not top any this year; only a little last year.

Dr. Crano does not think the pruning plan influences phylloxera. Pruning existed thousands of years ago—phylloxera only recently.

Lewelling goes between the two extremes; says moderate pruning does not hurt. Makes it a rule that when a vine starts bunches to leave four leaves beyond the last bunch and there cut off the branch. This rule followed in topping, our vines would not be injured—general opinion—excessive pruning or topping is injurious, moderate is beneficial.

POULTRY YARD.

The Advancement of the Poultry Interest.

EDITORS PRESS:—Poultry-keeping is a healthy and engrossing pursuit; it is an occupation pleasurable as well as profitable; it not only affords amusement, but well repays the time and labor spent while engaged in it, and nowhere can poultry be raised so economically and advantageously as on the cheap lands of the Pacific States and Territories. Notwithstanding these facts, this branch of industry has been so sadly neglected, so little cared for, that thousands indulge in the illusion that poultry-raising is merely a hobby, and an expensive one at that, while other thousands content themselves with mongrels, taking no thought how they may improve their fowls and cause them to render a three-fold greater profit for the time and money expended thereon. It is a well-established fact that more money can be made raising poultry, if of good quality, and producing eggs on this coast, in proportion to the capital invested and the care required, than in any other branch of farming, yet it is no exaggeration to say that in California not one farmer in a dozen gives this industry the attention its importance deserves.

In the meantime, the daily mercantile reports of San Francisco continue to note the arrival of large consignments of eggs from Salt Lake, and even from the Eastern States. In neither of these places are the conditions and climate so good as in our own State. In the East heavy winters intervene, and large expenditures are necessary for feed and buildings to protect the fowls from the inclement weather. Eastern eggs sell for several cents less per dozen than California eggs. The cost of transportation and the commission also amount to quite an item, leaving the producer at present prices from 10 to 12 cents per dozen. Now if farmers East can afford to raise eggs at 10 cents per dozen, the farmers of California, where all the advantages rest, can certainly afford to raise them for 20 and 30 and even 40 cents per dozen. Eastern farmers have seen the importance of improving their flocks, and as a consequence the breeding of fine fowls there, both for fancy and profit, has attained a high degree of perfection, and it is certainly time the farmers of California should emulate their example by providing a better class of fowls, both for sale in our markets and for egg-producing. Let them bear in mind that it costs no more to keep good stock than poor.

What is especially needed is the dissemination of a knowledge of such practical improvements regarding poultry-raising as shall meet the wants of all—the farmer, the mechanic and the day laborer, as well as others—to whom success in this industry may not be of so much pecuniary moment. This can best be done

through the medium of the press and by means of poultry shows. The *RURAL PRESS* has ever been a worthy exponent of the cause, and the constantly increasing interest which has been awakened in this industry, both in California and adjoining States, is due in no small degree to the many valuable articles which have from time to time appeared in the columns of its poultry department. A monthly journal, having for its prime object the advancement of the poultry interests of the Pacific coast, has lately been established. Let our professional and amateur breeders see to it that it receives a cordial and hearty support, and then let them combine their efforts, form a poultry association and hold an exhibition which will be a credit to the coast. This can be done, and the sooner the matter takes a definite shape, the better for all concerned. The time is now ripe, words upon the subject have flowed freely, now let action be the watchword. WM. NILES.
Los Angeles, Cal., July 21, 1880.

Food and Care of Fowls.

EDITORS PRESS:—I will continue my brief notes on the management of poultry. The morning meal for fowls, which should be given as early as convenient, may be of bran and middlings mixed. Take one part middlings two parts bran. Wet with milk or broth left from boiling meat or with water. Mix as dry as convenient, as fowls do not like slops, nor is it healthful. In winter when the mornings are extra cold add a little cayenne pepper or mustard to give the food relish and extra warmth.

After repeated trial I cannot satisfy myself that there is any advantage, in the long run, in stimulants for constant use. Chicks that have been raised with the aid of "Egg Food" or "Tonic Food" will be very likely to suffer when deprived of their accustomed stimulants. I have known fowls to be moved from yards where they had had "Foods" of this kind, to others where it was not given, droop gradually, and if any disease was around they would be the first to sicken.

As a rule, if chickens cannot be grown when they have all the natural requirements of clean quarters, good food, plenty of range, fresh water, etc., one might as well give up the business.

Young chicks are often killed, as are children, by being overfed. It is well to let them get hungry, and then only feed what they will eat up clean. Reference is had now to soft food. An early meal is necessary for growing fowls, and may be left over night where they can find it; but be sure that it is so that the older ones cannot get at it, or the chicks will not get much.

Small seed for chickens is very essential. Millet, bird seed, coarse cracked oatmeal, cracked corn, etc., three times a day, is enough for soft food. Most chickens will eat wheat when a week old. Keep broken shells (oyster or clam), ground bone, broken charcoal, and plenty of fine gravel, where they can get it at will. Then, last, first, and all the time, must vermin be looked after and kept in check. See that there are good dusting places, in winter under cover, where they can busy themselves in cold or rainy days, and in summer in both sun and shade.

Do not let the ground get packed, but spade up a fresh place occasionally. Keep the nests and perches neat and clean. At least once in a month clean all nests. Scald, or otherwise purify, and go over the roosts with kerosene. Be particular that the drink shall be clean and fresh, and, if possible, in the shade. Add new blood every year from reliable stock, and it will repay you.

Chickens can be hatched any time of year in California, but there will be more success from September until April or May, than during the other months. When the nights are long, chickens grow much faster than in summer, for the reason, I think, that they get more sleep. Chickens hatched in September will outgrow those got out in July previous, and by January will be the larger.

That well-kept poultry will yield a generous profit cannot be denied, and, for the amount invested, I know of nothing that pays better. There may be quicker profit from ducks than chickens, and they are very easy to raise (if you know how). One trouble, and the main one, I think, is that they are hatched too early in the season. They do not like cold or wet when young. They should not have water, except to drink, until a month old, unless the weather is very warm. I do not try to get my ducks out until May, June and July. Until two months old I feed them on bran and middlings, mixed wet with milk. If for market, feed often, and get off in 60 or 90 days. The Pekins will be as large at 60 days as the common varieties when grown. My Pekins are still laying on this, the 22d of July. L. J. W.
San Jose, Cal.

EARTHQUAKE WARNINGS.—In a recent lecture on the possibility of foretelling earthquakes, Prof. Palmieri expressed the belief that by means of seismographic stations, telegraphically connected, for registering and reporting preliminary earth tremblings, it would be possible to foretell earthquakes just as tempests are now foretold, and to issue warnings to threatened districts about three days in advance. He did not expect to live to see such a system in operation, but he hoped and in a measure expected that posterity would be benefited by its universal and permanent establishment.

ARBORICULTURE.

Tan Bark and Charcoal.

A writer for the *Oakland Tribune* gives the following interesting account of the tan bark and charcoal industries in the Sonoma county forests: The region is on that band which just skirts the dense redwood forests of more northern districts or higher elevations, characterized by a nearly even mixture of the vegetation of the higher regions with those of the lower or valley districts, neither kinds of vegetation, however, attaining their best development. The redwoods are scattering, and never form dense groves; firs are present in equal number, but not of great size. The live oak of the valleys is present, but stunted in growth and few in number. The white oak and the black oak are also present, but are not very large or very numerous. The madrone and the chestnut oak or *tan bark oak*, as it is here called, are quite characteristic of this elevation, and both trees are very plentiful and attain quite considerable dimensions, and both form the materials for important local industries, viz., the collection of tan bark and the preparation of charcoal.

Tan Bark.

The oak which furnishes the bark for tanning leather, is a tree which is not known in the valleys near the bay. It is a *live oak* in the sense of not shedding its leaves in winter like the white or black oak, thus resembling our *Oakland live oaks*. Unlike the latter, however, this mountain oak almost rivals the redwood and fir in the straightness of its trunk and the symmetry of its foliage. Its long, straight trunk thus facilitates the removal of the bark, and this, no doubt, is one of the principal reasons why this tree is so much better suited for this purpose than the other species of oak. The landowners here, as a rule, sell their oaks as they stand at a certain rate to the woodsmen who fell the trees, cut the bark around the straight trunk into four foot lengths and then split the bark off. After drying on the ground for some time the bark is collected and hauled to the railroad. The blows of the ax, as they resound through the beautiful woods, bode no good to the quiet beauty and shady coolness of these groves, for the dense and truly splendid foliage of these oaks contributes in no small degree to their pleasantness. The wood is also cut up and sent off on the road for firewood.

Charcoal Burning.

But the tan bark industry is not alone in disfiguring the lovely face of Nature in this locality. The madrone, pride of the foothills, with its smooth, red bark and brilliant leaf, almost rivaling the magnolia in size and luster, also is notified that it must step down from the ranks of the merely ornamental and minister to the wants of man. Its thin skin-like bark is of no value; its wood brings a poor price as firewood, and hence it is called into requisition for the manufacture of charcoal. In this immediate section, this business is conducted mostly by Italians, who buy the standing timber from the land owners, paying about five cents per sack of charcoal obtained, the land owner simply keeping account of the number of sacks burned. The method of burning is interesting to those unfamiliar with the process. The trees are felled, cut and split into four-foot sticks, branches and all, down to about an inch in diameter; twigs of less than that size being discarded.

A spot is leveled off on the ground, perhaps 30 or 50 ft. in diameter, and the wood is set up on end, leaving a central cavity in the pile extending to the ground. The cavity is filled with alternate layers of leaves and twigs, which is to serve for kindling. When the wood is then piled in, forming a mound of nearly the diameter mentioned, the whole is covered with a layer of twigs and brush, and this covered with dirt, leaving only the central opening on the top. Here the fire is kindled and gradually burns from the top down. The fire is carefully watched, the mound entirely covered with dirt when the fire is in progress, and air admitted by punching holes in the dirt with a pole or shovel handle. As the operation goes on the mass shrinks and caves in or sinks at particular places. The dirt is removed at these places, and new wood thrust in and again covered. So the process continues for a couple of weeks or more before the wood is completely converted to charcoal. The fire is then smothered by complete covering, and when completely out, the pile is opened and the charcoal sacked. The opening and sacking take place by night so that if the fire be not quite dead, any sparks may be detected before sacking the coal. The importance of this is obvious.

By the time the tan barkers and the charcoal burners have been through the woods, the redwoods and firs and occasional white and black oaks, begin to look thin and the ground covered with brush and undergrowth of all kinds, and tree-squirrels on extended tours are obliged to take to the ground for a good part of the way. Fortunately, from the æsthetic point of view, if not from the practical, the redwoods are too few and the firs too small, in this particular locality, for the sawmills to come in and finish the devastation of these woods. But if the woods must go, it is at least a consolation to see the vineyards which here and there dot the valleys, and to think that orchards, dairies and gardens are the natural successors of the prime-

val forests which we love so well and cling to so fondly as the hand of man desolates with ax and fire their sacred solitudes.

THE PUBLIC LANDS.

Entry of Public Lands.

Commissioner Williamson, of the General Land Office, has issued the following letter of explanation and construction of the scope and force of the act of Congress relating to the public lands of the United States:

To Registers and Receivers of the United States District Land Office:—I have to direct your attention to the provisions of an act of Congress, approved June 15, 1880, entitled "An act relating to public lands of the United States," of which a copy is appended. Section 1 provides that when any lands of the United States shall have been entered, and the Government price paid therefor, no action shall be had or further maintained for or on account of certain trespasses therein specified. The first proviso to this section restricts its application to trespasses of a date prior to March 1, 1879. This section extends to such trespassers the privilege of paying for lands upon which the specified offenses were so committed, at the price per acre for which, under the law in force at the date of payment, the lands could be sold.

This privilege of purchase is not confined to the lands subject to private entry, but extends to any lands, not mineral and subject to disposition, under the general existing laws. This section cannot be construed to permit a party who falls within the class of offenders named to enter land if the valid claim of another person shall have attached prior to his application to purchase and is still subsiding. Whenever an application shall be made to purchase under this section, you will require the same to be presented under the oath of the applicant, giving a full and detailed statement of all the facts upon which he bases his claim to purchase. Such sworn statement should be corroborated by the affidavits of credible witnesses, and you will thereupon forward the papers in a special letter to this office, allowing no entry until so directed by me. Under Sec. 2, duly qualified persons who, prior to June 15, 1880, entered, under any of the homestead laws, lands properly subject to such entry, are permitted to obtain title by paying the Government price, less the fee and commissions paid at the date of original entry. When homestead entries made prior to June 15, 1880, have been attempted to be transferred by a bona fide instrument in writing, persons to whom such transfers were made are likewise authorized to obtain title by like payments, and with like deductions of fees and commissions.

In allowing entries of the first-named class you will require proof that the party was 20 years of age, had declared his intention to become a citizen of the United States, and was in other respects entitled to make the entry. In permitting entries by transferees you will require the instrument in writing, by which it was sought to transfer such homestead right, to be filed together with the best evidence attainable of the bona fide character of the transfer, including the affidavit of the party who seeks to purchase. You will exercise all possible care in this matter, as it is not improbable that the proper execution of the law will largely depend upon your vigilance and discretion. In cases wherein you entertain a doubt of the propriety of allowing the application to purchase, you should refer all papers to this office with a full statement of facts and your opinion. Under the proviso for this section you are specially instructed to allow no entry which interferes with any entry of land under the homestead laws made subsequent to the original entry, on which the application is made to enter under Sec. 2, and if the land was embraced in the prior entry at the date of such homestead, the section is in operation, inasmuch as in that case the land was not properly subject to entry.

The application to purchase must likewise be rejected if, at the date of the original homestead entry, a prior claim, which has not been abandoned or forfeited, existed. Under any law, I do not construe this section as intended to permit the parties named as conditional purchasers to make an entry of tracts to which adverse legal rights have attached prior to the date of the act. The third section reduces to \$1.25 per acre the price of any lands, which were subject to ordinary private entry, at \$2.50 per acre at the date of approval of the act, having been doubled in price by reason of the grant of alternate sections for railroad purposes, and which were put in market at that price prior to January 1, 1881. Lands which have not been put in market for sale at ordinary private entry at \$2.50 per acre, or which were so put in the market subsequent to the 1st of January, 1881, are not changed in price by this section. You will carefully observe the rule as to price thus introduced. By reference to your official records it will be in your power to ascertain the facts with regard to any lands from which to decide as to its applicability to them. In case of doubt you may correct your records to exhibit the facts by correspondence with this office. You will further observe that under section 4 none of the provisions of this act apply to mineral lands, and that no person is entitled to the benefit of any provisions of the act who falls within the inhibition named in this section.

Surveys Recommended.

At the regular quarterly meeting of the Chamber of Commerce, held on the 20th inst., the following important resolutions were adopted:

Resolved, That this Chamber hereby calls the attention of our Senators and members of Congress to the great usefulness of the United States topographical and geographical surveys of States and Territories west of the 100th meridian, as prosecuted by the Army Corps of Engineers, in charge of Capt. Geo. M. Wheeler, under the direction of Gen. A. A. Humphreys, and earnestly recommends that our delegation in Congress advocate, urge and vote for liberal appropriations for a continuance of said surveys in the interest of inter-State commerce and the protection of frontier settlements from Indian depredations, and as furnishing a safe guide to immigrants seeking homes in the West, as well as a reliable source of information to capital and enterprise disposed to develop new lines of travel and new fields of production.

Caleb T. Fay, after some remarks upon the importance of the Alaska trade and the necessity for full preparations for navigation along the coast, especially referring to the Alaska coast, offered the following, which was also adopted:

Resolved, That our Senators and members upon the Pacific coast be earnestly invited to work actively in securing an ample appropriation from Congress for the perfecting of a marine survey of the entire coast and the early issuance of complete maps and marine charts for the safe guide of movements in these waters.

VALENTINE LAND SCRIP.—Secretary Schurz has rendered an important decision respecting this notorious land scrip. A dispatch from Washington of the 19th inst. says that the Secretary has just sent in his decision confirming that of the Commissioner of the General Land Office, which denied the application of certain parties to locate Valentine scrip on land in San Francisco. In his decision Secretary Schurz holds that the questions proposed were settled adversely to the claimants in precisely similar cases in Chicago, and there is no ground for going over it again, inasmuch as neither the city of San Francisco, the State of California nor the United States demand a reconsideration of it.

Electrical Insects.

It is not generally known that there are insects which possess the peculiar electrical properties of the *Raia torpedo* and *Gymnotus electricus*. Kirby and Spence, in their entomology, describe the *Reduvius serratus*, commonly known in the West Indies as the *wheel bug*, as an insect which can communicate an electric shock to the person whose flesh it touches. The late Major-General Davis, of the Royal Artillery, well known as a most accurate observer of nature, and an indefatigable collector of her treasures, as well as a most admirable painter of them, once informed me, that, when abroad, having taken up this animal and placed it upon his hand, it gave him a considerable shock with its legs, as if from an electric jar, which he felt as high as his shoulder, and dropping the creature, he observed six marks upon his hand where the six feet had stood. Two similar instances of effects upon the human system resembling electric shocks, produced by insects, have been communicated to the Entomological Society by Mr. Yarrell; one mentioned in a letter from Lady de Grey, of Groby, in which the shock was caused by a beetle, one of the common *Elateridae*, and extended from the hand to the elbow on suddenly touching the insect; the other caused by a large, hairy lepidopterous caterpillar, picked up in South America by Capt. Blakeney, R. N., who felt on touching it a sensation extending up his arm, similar to an electric shock, of such force that he lost the use of his arm for a time, and his life was even considered in danger by his medical attendant.

A YEAR'S OPERATIONS AT THE MINT.—Operations at the San Francisco mint, during the year ending June 30th, were as follows:

Value of gold operated on.....	\$54,007,049
Value of silver operated on.....	18,308,439
Silver purchased for coinage.....	7,883,895
Ounces of silver (crude and dore) refined.....	5,582,597
Ounces of gold refined.....	489,835
Yielding in standard ounces, gold.....	524,229
Yielding in standard ounces, silver.....	4,887,291
Fine silver bars manufactured for depositors.....	1,969,947

There remain unexpended of the appropriations for mint expenses the following sums:

Wages of workmen.....	\$22,764.25
Contingent expenses.....	41,162.53
Total.....	\$63,926.78

Which amount, after paying all losses and wastages chargeable to those appropriations, has been returned to the U. S. Treasury.

THE PRACTICAL VALUE OF SCIENCE.—"I have endeavored to State the higher and more abstract arguments by which the study of physical science may be shown to be indispensable to the complete training of the human mind, but I do not wish it to be supposed that because I may be devoted to more or less abstract and unpractical pursuits I am insensible to the weight which ought to be attached to that which has been said to be the English conception of Paradise—namely, 'getting on.' Now the value of a knowledge of physical science as a means of getting on, is indubitable. There are hardly any of our trades, except the merely huckstering ones, in which some knowledge of science may not be directly profitable to the pursuer of that occupation. An industry attains higher stages of its development as its processes become more complicated and refined, and the sciences are dragged in, one by one, to take their share in the fray."—Huxley.

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

A Visit Expected.

There is a possibility that Bro. J. J. Woodman, W. M. of the National Grange, may visit this coast during the coming fall. It is understood that he intimated to Bro. Spilman that he would like to do so, and a proper invitation on the part of the officers of the State Grange has been forwarded. We hope the visit may be secured, for a visit of the W. M. will have a good effect upon the Order in this State, and in return he may gain some suggestions from the working of Grange institutions in this State, which may be of assistance in carrying out the aims of the Order elsewhere. We hope the visit of the W. M. may be timed to coincide with the meeting of our State Grange, for then his influence will be readily exerted, and he will have the advantage of a wide personal acquaintance with our representative Grangers. It will be also in the full season of our late fruits, the harvest will all be gathered in, our people will be at leisure, and a greeting will be extended to the distinguished visitor which will do him and ourselves due honor.

We notice that Bro. Woodman is receiving a hearty greeting on his visits to other States, and as it may be our privilege soon to greet him, there is a special interest in the esteem in which he is generally held by the Order. The *Grange Bulletin* welcomed him to Ohio in the following well-chosen terms: For the first time in several years, the Buckeye State is honored this week with the official presence of the highest officer in our Order, and we know that we speak the sentiments of upwards of 40,000 Patrons in Ohio, when we bid Bro. J. J. Woodman, our truly Worthy Master of the National Grange, a hearty, cordial and fraternal welcome within our borders. He comes among us not as a stranger, for his name and deeds are as household words, in the homes of all true Patrons.

We bid him welcome as the man respected and beloved, as we know he is, by his neighbors, those who have known him longest and best, than which no higher meed of praise can be given. We bid him welcome as the farmer, a practical and successful tiller of the soil, whence from contact with the wide acres of his farm, he has derived the broad and generous views for which he is noted.

We bid him welcome as the citizen, a truly representative man in every sense of the word. Having filled high positions of trust and honor in the gift of the people of his State, having been for several years the presiding officer of the House in their Legislature, and of whose life as a representative citizen, men of all parties speak only words of praise.

We bid him welcome as the Patron. In his own State of Michigan he has, by his considerate and conservative, yet dignified leadership, placed our Order high in the affections of its members, and the respect of those outside the gate; and who in his higher and more extended command at the head of our grand army of peace and good will, whose lines extend from ocean to ocean, and from the waters of the Gulf to the colder clime beyond the lakes, has already inspired new hope, and is kindling again the watchfires of our Order among the hills, the valleys, and the prairies, all over our land. Like the general on the field of battle, whose presence seen and felt in the thickest of the fray nerves to nobler deeds and cheers the weak and faltering; so we know his mission in the days of bud and bloom, flowers and bird song, accompanying nature's awakening after the sleep of winter, typical of the grand awakening of our Order after its season's inactivity—will cause the heart of the Patron to rejoice, the faint heart to grow strong, and those without our gates to know that our cause is just, our mission the general good. So we say welcome, welcome once again, to the man, the farmer, the citizen, and the Patron, our friend and brother, and may his visit to us result, as we know it will, in "the good of our Order, our country, and mankind."

A NOTABLE GRANGE PICNIC.—Bro. R. H. Thomas, Secretary of the Pennsylvania State Grange, announces a "Tri-State picnic," to be participated in by Pennsylvania, Maryland and West Virginia. The picnic is announced to take place at Williams' Grove, Pennsylvania, on the 24th, 25th, 26th and 27th of August, 1880. The gathering will be purely agricultural and mechanical, and will have no political significance whatever. The Governors of Maryland and Pennsylvania have promised to be present, and a host of other dignitaries have been invited, including the President of the United States. Arrangements have been made to accommodate a large exhibit of agricultural and horticultural products, as well as for machinery. Bro. Thomas will be remembered by many as the moving spirit in the "Grange Encampment" at the Centennial, and we doubt not he will put forth vigorous effort to make the above picnic a success. Any California Grangers who intend to be at the East during the last week in August, are advised to paste the above announcement in their hats.

W. M. Spilman's Appointments.

Secretary Amos Adams gives notice of a change in the appointments of the W. M., so that farmers generally may be through with pressing harvest work. The new list is as follows:

Petaluma, August 10, 1880.
Two Rock, August 11, 1880.
Santa Rosa, August 12, 1880.
Healdsburg, August 14, 1880.
Potter Valley, August 17, 1880.

GOOD GRAIN.—During a hasty call upon Bro. Nathaniel Jones, of Lafayette, Contra Costa county, we saw that his grain was excellent, and he assured us that the crops in the Walnut Creek country would be generally good. Bro. Jones has been growing in drills a variety of wheat received from Washington, which has made good growth and we are promised a report of results. Bro. Jones' Propo wheat is noticeably good.

THE HAYWARD REUNION.—We have expected to receive from some Hayward friend an account of the union meeting with Eden Grange on July 3d. It has not come to hand, but we have been assured by word of mouth that the occasion was greatly enjoyed.

PERSONAL.—The Patron announces that Bro. Adams, Sec'y of the State Grange, has gone to Los Angeles for a brief visit.

AGRICULTURAL NOTES.

CALIFORNIA.

COLUSA.

DR. GLENN'S CROP.—*Sacramento Bee*, July 21: Thus far this season (which commenced July 12th) the steamers *Flora* and *Governor Dana* have brought down from Dr. Glenn's ranch at Jacinto, Colusa county, to Knight's Landing, Yolo county, 40,977 sacks of wheat—weighing 2,732 tons. This shows how rapidly the threshing on his place is progressing. The total yield of grain from his immense tract of land—about 66,000 acres—in Colusa county will be over 20,000 tons, which at present ruling prices would bring him returns of nearly \$1,000,000.

LARGE YIELD.—*Woodland Democrat*, July 21: Abram Clark, of Berryessa valley, one of the largest farmers in Sacramento valley, passed through Woodland yesterday on his way to Colusa county, where he has large farming interests. He informed us that he had 10,000 acres of wheat this year, of excellent quality, and which, at a safe estimate, will yield 100,000 bags.

WHEAT EXPERIMENT.—*Sun*, July 24: In the Colusa County Bank there are nine bottles of wheat from L. F. Moulton's experimental acres. He sowed, last winter, on average land, and all at the same time, nine acres, each in a different variety of wheat, with the following result: Old Club, 30 bushels and 44 lbs.; Wills Early Club, 29 bushels and 50 lbs.; White Touzel, 27 bushels and 48 lbs.; Danish, 27 bushels and 30 lbs.; White Sonora, 25 bushels and 52 lbs.; Proper, 25 bushels and 45 lbs.; Red Sonora, 23 bushels and 52 lbs.; Blue Stem, 23 bushels 23 lbs. One year's sowing is hardly a fair test, as it was in so many different stages when the north wind came. It was all sowed late and each of the samples are a little pinched. We hope he will continue the experiment and sow some this time on summer-fallow land. This experimental crop is hardly as good as the average of his large crop of wheat.

FINE WHEAT.—The finest wheat we have seen this year is a sample of the Danish wheat grown by W. H. Perdue, about four miles below town. The sacks will average over 150 lbs. each. About 130 is the average sack, even of good wheat. It is a red wheat, but said to be free from rust and smut. All the wheat from high latitudes are, we believe, dark colored, but we think four or five years in this State would bleach them out considerably. All of this wheat ought to be sown this winter. The seed was brought to this county by J. D. Rodgers, and several parties sowed it.

CONTRA COSTA.

STEAM THRESHER EXPLOSION.—*Antioch Ledger*, July 24: Another case of carelessness, resulting in the explosion of a steam engine, occurred on the ranch of John Gagen, two miles south of Antioch, Thursday morning, about 7 o'clock. The thresher was owned and operated by J. H. Frazer. It was formerly a wood-burner, but had been converted into a straw-burner. It is said the gauge marked 115 when the explosion took place, and must have resulted from carelessness of the fireman. Only two men were injured by the accident, one called San Pablo was considerably burned on the side and had one leg bruised; the other was slightly burned on the neck. The escape of those engaged about the engine is remarkable, since the front of the engine was blown a distance of 125 yards by force of the steam, which tore up the ground for a distance of 40 yards, and the recoil of the engine drove the machine backwards 16 yards. The owner went immediately to San Francisco to purchase another machine. Dr. Wemple was called to attend the wounded men and reports that their injuries are not of a serious nature, but the doctor thinks the escape of the men, under the circumstances, was almost miraculous.

THE SIDE-HILL LEVELING HEADER WAGON. *Martinez Gazette*, July 24: At the invitation of Mr. Derrickson one of the patentees, we took a turn or two about on a side-hill, last week, in one of the level-adjusting side-hill header wagons which we described from a model shown to us by the inventors last spring. The wagon bed moves upon four firmly fixed friction rollers, two at each end, working upon arched bolsters, the driver governing the level of the bed by a crank rod operating a worm pinion acting simultaneously at the bolster bearings, giving the bed any desired set to bring the load level on any side-hill angle, and equalize the weight upon the wheels. The plan works so well that the shortest direct turn may be made upon a side-hill and the load kept all the while upon a level as relates its bearing upon the wheels and axles. This improved wagon was patented and manufactured by Messrs. Taynton & Derrickson, of Clayton, and it can hardly fail to make its way among the practical farmers of the county and State who have side-hill harvesting to do. **FRESNO.**

HARVESTING.—*Expositor*, July 21: Harvesting is going on as rapidly as possible, though the farmers are meeting with considerable delay in consequence of the scarcity of harvesting implements and laborers. The yield of grain generally is not so heavy as was anticipated, but the quality of grain is much better. If anything like fair prices could be obtained for grain, the Fresno farmers would be placed in easy circumstances this fall.

ITEMS.—*Republican*: A fine crop of raisin grapes is looked for in this vicinity. The threatened blight did but little damage, as far as we have heard. John Foster, of Fresno, who returned Tuesday night from his sheep camp, on the south fork of the San Joaquin, informs us that a terrific hail storm, accompanied by thunder and lightning, visited that section on the evening of the 16th. A large pine tree, standing near the camp, was struck with lightning and entirely consumed. He reports feed for stock abundant.

HUMBOLDT.

EDITORS PRESS.—The weather has been uncommon cold this season. Fruit mostly is blighted and will be very scarce, but grain of all kinds looks very promising. If not attacked by some unforeseen calamity we will have full crops of wheat, oats, barley and peas. Of potatoes, not many have been planted, and generally look as though there would only be a moderate crop, but some fields look well. Harvest has not commenced yet, except on very early barley and hay. Will some of the beekeepers tell us what varieties of plants we can plant on our farms for bee pasture, and not be an evil as a weed among our crops. Honey plants are very scarce here.—**JAMES HODGE**, Eel River Valley.

LOS ANGELES.

CUZCO CORN.—*Anaheim Gazette*: Mr. Harris, of Garden Grove, has about a quarter of an acre of Cuzco corn which is doing famously. If this corn grows well here, of which there is little doubt, it will be quite a boon, as it makes a flour as white and nutritious as wheat.

THE WEATHER.—*Express*, July 24: The weather has been the uppermost topic of conversation for the past few days, and not without cause. A more peculiar climatic freak is seldom witnessed in this section in midsummer. Day before yesterday we had threatenings of rain all day and several sprinkles at varying intervals, although not enough moisture fell to lay the dust. We learn that at Santa Monica canyon a brisk shower prevailed during the forenoon—sufficient even to wet through the tents of the campers and render them uncomfortable. Yesterday was again lowering, and last evening there was every indication in the darkened sky and the quiescent air of an impending storm. None came, but we are impressed with the belief that only one condition was lacking—the moisture was in the atmosphere and we needed only a cooling agent to condense it into drops and precipitate it upon the earth. Had there been snow on the adjacent mountain tops we should have had rain. Had a cool north-west wind swept in from the ocean, we should have had at least a lively shower. The fact that a considerable down-pour was given the people at Santa Monica, bears testimony to the effect of the ordinary cooling ocean breeze which sets in daily.

LAKE.

THE CROPS.—*Lower Lake Bulletin*, July 22: We gather the following information regarding the crops from Mr. John Burger, who is farming near Lakeport: The hay crop is generally cut throughout the county, and the yield is good, averaging about three tons to the acre. Farmers have begun cutting grain and there will be more than an average crop. It is estimated that there will be about 40 bushels of barley to the acre, 38 of wheat and oats, some going as high as 80 to 90 on one farm in Scott's valley.

MERCED.

HUFFMAN'S HARVESTER.—*Valley Argus*, July 24: On Tuesday of this week we took a ride over the ranch of C. H. Huffman, and witnessed the working of one of his new harvesters, paying particular attention to the ease with which four men with 20 large mules did the work of cutting, threshing and sacking from 30 to 40 acres of grain per day, yielding 25 bushels and upward to the acre. Mr. Huffman has two of these harvesters at work upon his farm, both built in his own shop on the farm. With these machines manned by eight men and propelled by 40 mules, and two two-mule teams to gather the sacks of

grain in piles in the field and two large teams to haul the grain to the depot, his farm of 3,000 acres of grain can be harvested in less than seven weeks. Thus with the labor of 12 men and 65 mules, he is enabled to harvest and deliver at the warehouse or on the cars, 2,250 tons of clean, merchantable wheat in seven weeks.

MONTEREY.

THE WHEAT CROP.—*Index*, July 22: The wheat area of Monterey county, this season, is about 127,000 acres, and the total yield will not fall much short of 1,500,000 centsals.

NAPA.

HOP GROWING.—*St. Helena Star*, July 23: Charles A. Story has planted to hops this year the field in Mr. Elting's place on Pope street, opposite Mr. Clock's and is trying the experiment of using very short poles with them, making out the deficiency by stretching twine, from pole to pole, in a network over the whole field. This gives the vines running room laterally instead of perpendicularly, and they will no doubt soon cover the whole field like an arbor—a roof of living green. Mr. Story thinks there is a saving in the operation, as otherwise much larger and more expensive poles would have to be used.

AN ABUNDANT YIELD OF GRAIN.—*Register*, July 24: Enough grain has been threshed in this county to give a good idea of the yield. The earlier hopes of the grain growers are in many cases more than realized. In the vicinity of this city, oats and barley have been cut, and those crops that have been threshed yielded in many cases more than was expected. Wheat is turning out very well indeed, though but few fields have been threshed. Considerable of the early sown wheat has been headed, but the late sown has not yet matured.

SAN BENITO.

CROPS.—*Hollister Enterprise*: Grain all the way down the valley from the Alameda county line, will turn out better than it has for the past 5 or 6 years. Our farmers are busily engaged harvesting and threshing. Every header in the valley is at work, and we are informed that the demand for them far exceeds the supply, and that some fields of grain will be damaged, on account of the inability to have them harvested at the proper time.

SANTA CRUZ.

EDITORS PRESS.—Grain and hay are now being harvested, and the crops are good—the grain being bright and plump, and many fields of wheat will yield 25 to 28 centsals per acre; and there is probably 30% more acreage in wheat this year than ever before in the county. We have a home market, for all we grow, at San Francisco prices. Barley and oats are good, but there is but little grown this year. The hay crop is good—yielding from 2½ to 4 tons per acre, according to style of farming. The grass crop has been good, and the dairymen's cows have lived well so far; and dairying is no small item in this county, for the entire coast, for 20 miles up from Santa Cruz, is occupied by dairymen, and their pastures extend back several miles, to the foothills of the Santa Cruz mountains. As to fruit: cherries are a full crop; apples in the aggregate are good; plums and prunes generally are good; apricots and peaches are light. Peaches are badly troubled with "curl leaf;" pears are light—some varieties being nearly a failure. The Winter Nelis fails for the first time in the memory of the "oldest inhabitant;" blackberries and raspberries are good; strawberries moderate. Grapes promise first rate, and the Santa Cruz mountains can't be beaten for both quality and quantity, and they come every year.—**M. P. OWEN**, Soquel, July 20th.

SACRAMENTO.

A WHOLE FRUIT DISTRICT NEARLY RUINED. *Record-Union*, July 21: The lower Sacramento river district has been known for a score of years as one of the best fruit sections in the State. The soil is a rich alluvial, and in it fruit trees of every kind grew rapidly and healthily and came into bearing at an early age. The fruit was large and more highly flavored than that grown on the same river bottoms farther north, where the air was hotter and drier during the heated season. Ten years ago there was one continuous orchard commencing a few miles below Sacramento and continuing 20 miles to Steamboat slough. In all this section the peach, apricot and nectarine did exceptionally well, and orchards of these fruits paid their owners a handsome profit. The lands on which these orchards grew were thus enhanced in value and bore high prices. Prosperity was the universal rule of those who possessed orchards in this section. The gradual filling up of the river with sand and mud, and the consequent nearing of the water line to the surface, has as gradually been injuring the trees in these orchards and reducing the quantity and destroying the quality of the fruit. The consequence is that but few trees have been put out of late years, and the old orchards of peaches and other stone-fruits are gradually, but surely, going to decay. On the American river bottom also, just above the city, there was but a few years ago a large number of valuable fruit orchards paying their owners hundreds of thousands of dollars a year, and bringing business and prosperity to the city. To-day the soil in which these orchards were planted, in some instances, is buried by sand deeper than was the height of the trees that grew out of it, and the whole section is in a condition of ruin. Thus, while we have scarcely realized it, the ruin and destruction of one of the most profitable of former industries is almost completed.

SAN DIEGO.

RAIN.—Union, July 22: The threatening weather which has prevailed for many days, giving us a brisk shower on Sunday morning, continued on Thursday morning at an early hour in a series of light showers which lasted nearly four hours, and frequently during the day yesterday showers were to be seen all around us, causing no little uneasiness, as anything like a heavy rain at this season of the year would do immense damage. So far as we can learn, however, no damage has resulted as yet, and the light rain has probably been confined wholly to a narrow strip along the coast.

SAN MATEO.

HARVESTING.—Times and Gazette, July 24: The weather during the last few days has been cold and foggy; some mornings quite wet. On Friday of last week, for a few seconds after 9 o'clock in the morning, rain fell. Grain is ripening fast, and in about three weeks harvesting will commence in earnest. Several have now cut their barley crops, and last Monday Charles Krumlin had a portion of his crop threshed by Colburn's machine. Jos. Dehenedetti had his barley threshed by the same party, the work being commenced on Thursday last. Some small spots of flax have been lighted, but, nevertheless, taking everything into consideration, the coming season will be as bright as any during the past four years.

SISKIYOU.

LATE FROST.—Yuba City Banner: One of those queer freaks which nature takes sometimes was seen in Quartz valley, Siskiyou county, last Sunday night, in the shape of a belt of white frost about 40 yards wide and reaching across the valley. The boundaries of this frozen belt were distinctly marked, and the vegetation within its limits was incontinently wilted.

SONOMA.

GRAIN SEPARATORS.—Solano Republican, July 23: Dan McCreary's threshing machine, with a grain cleaner attached, is in great demand by the farmers of this section. This outfit is under the management of the Siebe Bros., and is doing first-class work. So far as we know, there are only two grain cleaners in this county—Dan McCreary's and Wm. Butcher's. We understand that these cleaners are so popular and do such fine work that Cal. Reams went up to Sacramento to buy one for his threshing machine. We predict that in a few years no thrasher will be complete without one of these cleaning attachments. They are just now very expensive, costing about \$500, but that will not last long.

SONOMA.

THRESHING.—Healdsburg Enterprise, July 22: On Monday last Frank Tombs threshed 1,872 bushels of wheat, commencing about one hour after sun-up and quitting at sun-down. He threshed on Ira Proctor's and Schwartz's places, moving a mile and a half, and setting the machine five times. This is, perhaps, the best day's work ever done with a thrasher in this section. Frank says the wheat is the best he has seen here for 10 years.

HOPS.—Russian river hops are looking fine and will produce abundantly. The price is tip-top. All the available cheap white labor in this part of the country will be brought into requisition to gather the crops.

THE HARVEST.—Healdsburg Flag, July 22: Fogs and dews alternate with dry hot cool weather, which is fine for all kinds of ripening fruit and grain, and for gatherers thereof; in the one case preventing scorching or too rapid ripening, and in the other discomfort while laboring under the sun's rays. The general expression is that if this country, with the good crops and prices now offering, don't show signs of great prosperity soon, it will be surprising. Hops are almost all blossomed at the Alderson yard, which will produce enormously; picking to begin 1st of September; prices are now variously quoted from 30 to 40 cents in the East. The yield of wheat is turning out better than expected, and the grains plump and large. One Geyserville rancher, Isaac Long, had to send off, so we are told, for a large number of additional sacks, after the threshers had got to work, the yield being more than expected.

STANISLAUS.

THIRTY STEAM THRESHERS.—Modesto Herald: The harvest season is in full blast in Stanislaus county, and the yield of grain will be the largest ever known. There are about 30 steam threshers at work in the county, turning out, on an average, about 1,000 sacks each per day.

TEHAMA.

EDITORS PRESS:—The thermometer is at this writing away up—112° in the shade—in some localities of this lively burgh. Since my last, the farmers have had splendid weather for the harvesting of their grain. The wind has been light, and generally from the south. The nights (except last night) have been very comfortable, enabling the tired farm laborers to have three or four hours sleep. From every side comes the cheering news of an unexceptionable good yield of wheat. The scare which was gotten up some six weeks ago about the blasting and shrinking of grain by the norther, has turned out to be false. Our farmers are agreeably surprised at their fine yields of plump and heavy grain. In visiting one or two of our large farms, where cutting and threshing are going on with vigor, the writer has been astonished at the improvements, which are year after year introduced successfully by the skilled mechanics, for the rapid, safe and economical handling

of the immense crops which one finds on some of our 10,000-acre farms. Withal, we see points which can yet be improved upon, both in mechanism and executive force. The waste on one of our large farms would almost appal the thrifty farmer from Europe and the older States. Wheat is still coming into market, but not actively. Most of our small farmers have got through cutting and stacking, and are waiting for the separator. Our larger ranchers generally cut and thresh at the same time. On Friday last the writer took a trip to the productive farm of R. H. Blossom, and found his splendid outfit working in a fine piece of volunteer club wheat, which was being rapidly and skillfully put through a California "gold medal" separator of Garr & Scott's make, 40-inch cylinder, fitted with self-feeder of Jackson's make, double elevators, fitted with Bayley's patent spreader. This splendid separator was being driven by a powerful engine of the same make, a straw hurner, and everything was running as quietly and smoothly as anyone could wish. The grain was coming down into the sacks clean and rapidly, no dirt or foreign substances to be found in the grain. Out in the standing grain we found two 12 and three 10-ft. headers circling around in an enormous circle, with three wagons to each header. Fancy five headers and 15 header wagons, all moving along like clock-work, gathering the golden grain for the unsatiated maw of that splendid separator; it was a grand and awe-inspiring sight. Stacks of clean marketable wheat were dotting hundreds of acres of this rich bottom land, making glad the heart of the indefatigable owner, R. H. Blossom, who took pride in showing his visitors the splendid outfit and the fine work it was accomplishing. At the writer's visit the setting was in some of the lightest grain that he has on his farm, so the machinery was not turning out the grain so rapidly as it would if it had been in heavier grain. This outfit can turn out from 1,300 to 1,500 sacks a day when in good heavy grain. Mr. Blossom is ever ready to introduce modern machinery. He has for three seasons used the Kelley nets for unloading his header wagons, thus saving in labor as well as the use of the pitchfork, which would knock out grain. He has every modern invention on his well-regulated ranch, and personally superintends the working of the farm, which consists of over 10,000 acres of land, 4,000 of which is under cultivation. Two thousand five hundred was in grain this season, which will bring him in a handsome return. This fine farm is situated in the famous Antelope valley, and is a portion of the well-known "Dye grant." J. S. Cone farms some 14,000 acres of the Dye grant. His crop this year, like his neighbor, Blossom, is an excellent one. In his field a large force was noticed busy harvesting, after the manner of his neighbors. H. A. Rawson has his splendid crop all cut, and a threshing outfit is hard at work on the stacks. O. A. Lovett, H. Mooney, J. C. Tyler, E. J. Lewis, T. Chard, A. M. Gedney, G. Horton, L. Schultz and Jos. Fennell & Son, with a host of others, are all busy gathering as fine a crop of cereals as Tehama county ever raised. Not only has the rich bottom lands of the Antelope valley and the fertile banks of the winding Sacramento "brought forth fruit a hundred fold," but our uplands—the much despised and under-estimated "red lands," which have of late been brought under cultivation—have responded nobly, and "laughed to some purpose from the tickle of the plow share." Thousands of bushels of good grain have been gathered this year from lands that took men of nerve and pluck to break up and sow the seed, hut, thank God, "success has crowned their efforts," and they have their reward. From all sides the cheering, encouraging news of the new lands turning out good grain has made our hearts glad, and the future of our county among the foremost ranks of the agricultural counties is assured.—FELIX, Red Bluff, July 25th.

YOLO.

THE GLANDERS.—Democrat, July 22: A large number of the residents of Willow Slough district met at the school house Saturday evening to take steps toward getting rid of the glanders, which was reported to have become an epidemic among the horses and mules of one of their neighbors. C. M. Hiddleton was chosen Chairman and W. H. Ludden, Secretary. After a full discussion of the situation, the following resolutions were adopted: WHEREAS, The glanders, in a virulent form, prevails among the horses and mules belonging to Joseph Kinkade, and WHEREAS, We consider him guilty of gross carelessness, in driving diseased animals along our roads, turning them loose to his grain stacks and keeping them in different pastures on the highway, thereby endangering the stock belonging to the other residents of this vicinity; therefore, Resolved, that a committee of three be appointed to make complaint to the Board of Supervisors, and ask them to take immediate action, to abate this nuisance, that we may be protected from the loss of our stock. Accordingly, H. H. Scott, W. H. Ludden and Joseph Kinkade, Jr., were appointed as a committee, and yesterday presented the resolutions to the Board who passed an order that a veterinary surgeon be immediately employed to examine the horses of the county, and report the result of his investigations as soon as possible.

CEMENT FOR IRON AND STONE.—A mixture of litharge and glycerine hardens rapidly, and is said to make an excellent and durable cement for iron or stone work. It is not affected by exposure.

SCIENTIFIC LUMBERING.—The rapid disappearance of our forests renders every effort at economizing in the production of lumber a matter of very considerable general interest. The progress made in this direction has been summed up by an Eastern cotemporary as follows: Where 20, or even 10, years ago, half an inch of timber was turned into sawdust for each board cut from a log, the best modern practice gets along with a waste in this way of only one-quarter, and in many cases, with one-eighth of an inch. The mills that are not supplied with lath machinery, splatters, wood saws, etc., for the purpose of working up all this refuse and giving it a market value, are considered to be but meagerly equipped; and unless they have some special advantage in the way of cheap timber or cheap transportation, are soon distanced in the race by their less wasteful competitors. The economy of lumber production, however, does not all lie in securing the greatest amount of marketable stuff from the least timber. Logs are hurried along from the water to the pile of finished lumber, with a rapidity that the pioneer lumbermen of the northwest would have thought impossible when they first planted a sawmill alongside of western waters. The progress made even in the past 10 years is something remarkable. It was a comparatively rare thing in 1870 to find a mill man who brought logs into the mill, sawed them up with circular and gang, edged and trimmed the lumber, and carried outside the mill almost entirely without the aid of human brawn.

HINTS CONCERNING SAWS.—A saw just large enough to cut through a board will require less power than a saw larger, the number of teeth, speed, and thickness being equal in each. The more teeth, the more power, provided the thickness, speed and feed are equal. There is, however, a limit, or a point where a few teeth will not answer the place of a large number. The thinner the saw the more teeth will be required to carry an equal amount of feed to each revolution of the saw, but always at the expense of power. When the bench-saws are used, and the sawing is done by a gauge, the lumber is often inclined to chatter and raise up the hack of the saw when pushed hard. The reason is that the hack half of the saw, having an upward motion, has a tendency to lift and raise the piece being sawn, especially when it springs and pinches on the saw, or crowds between the saw and the gauge; while the cut at the front of the saw has the opposite tendency of holding that part of the piece down. The hook or pitch of the saw-tooth should be on a line from one-quarter to one-fifth the diameter of the saw; a one-quarter pitch is mostly used for hard, and a one-fifth for a softer timber. For very fine-toothed saws designed for heavy work, such as sawing shingles, etc., even from soft wood, one-quarter pitch is best.

SANITARY INSPECTION IN PARIS.—The statement recently made by Edward Griffiths, C. E., says the London Telegraph, upon the frightfully insanitary state of many new and handsome London houses, may well alarm the public. A cheap and easy method of obtaining a report on the pipes and drains of the house, and of rectifying them if defective, should be within the reach of every proposing tenant. The plan pursued in Paris, which secures impartiality in the inspectors, and which was noticed by one of the speakers at the recent conference, might, with advantage, be transferred to London. The inspector is taken from a different part of the city to that where he is to make a report. He is sent to a house and told to examine its sanitary condition, without any information being supplied to him as to who is setting him in motion, whether the landlord, the tenant or his official superior, and he knows not whether he may not be sent to test his own efficiency or to confirm a previous report by some colleague. By these means collusion between inspector and builder, or inspector and landlord, is at all events rendered improbable.

INDEPENDENCE LAKE.—This delightful sheet of water, on the eastern slope of the Sierras, is unexcelled either in beauty or attraction, says the Truckee Republican. The lake is surrounded by high mountain peaks, some of them still covered by heavy bodies of snow. The inlets to the lake are now filled with little torrents of water just off the snow. We cannot conceive of a locality possessing more delightful views than are presented at Independence. But the chief attraction there is the fishing facilities. Elegant boats and fishing tackle free, and the lake is conceded to be the best fishing ground in the State. The forests surrounding are also said to be well supplied with game. Deer are just making their appearance, and are said to be quite plentiful.

IMPURE WATER IN LOCOMOTIVES.—Some of the difficulties encountered in the use of impure water in locomotives in some of the Western States may be formed from the following letter from a Western mechanic: "At the end of the road we have so much alkali water to contend with that we are obliged to change the flues every six months. Besides this, we have to wash our engines thoroughly for every 400 miles run, with a force pump and 70 lbs. of pressure, and even with all this constant cleaning the flues will not last longer than six months without giving much trouble from leaking on account of the mud and scale."

News in Brief.

THE orange crop will be very light in Sacramento this season.

PITTSBURG contains 40% of the entire glass industry of the country.

THE Chinese have named their war vessels after the letters of the Greek alphabet.

A GOOD many Scotch and English, with money enough, are settling in Manitoba.

NEARLY all the tramps have disappeared from along the line of the overland railroad.

MEISSONIER declined the proposition made him to paint panoramas for an American showman.

AT the Swiss Universities this year the female students have carried off most of the prizes.

GREECE has a little navy, comprising two iron-clads, manned by 384 sailors and commanded by 269 officers.

A HARTFORD man, while talking through a telephone during a thunder-shower, was knocked down by electricity.

A FIRE broke out at 12 o'clock, July 23d, which destroyed the entire business portion of Gibsonville, Sierra county.

THE meteor which astonished Macon a few nights ago, was found embedded in the forks of a tree several miles from town.

A CONTEMPORARY estimates the number of persons who are said to have lived for 40 days and 40 nights without food at 10,000.

NEW ZEALAND has now over 1,100 miles of railways, all built within about 12 years, and all narrow-gauge or three feet six inches.

THE Yellowstone Journal, Montana, says a St. Paul trader has brought there this season 2½ tons of beaver skins and other pelts in proportion.

THE Navy Department received dispatches from Admiral Wyman, which exonerate the Spanish steamer Canto for firing upon American vessels.

SINCE the water has receded in the Yuba river opposite Marysville, immense sand bars afford an indication of the debris deposited the past season.

A CENSUS enumerator says that the average Plymouth county, Mass., farm, worked by a man and family, will not produce more than \$300 a year.

TWO oil wells are being bored at Santa Cruz, and six more are being got ready for drill. The cost of boring, etc., for each well is from \$3,000 to \$4,000.

THE Supervisors of Yolo county have appointed a veterinary surgeon to examine the horses in the county and report all cases of glanders found.

A BUCK was recently shot some 10 miles from Red Bluff, on whose head are three antlers, having a number of prongs, making a perfect network of horns.

THE Philadelphia school of design for women has purchased the Forrest mansion, and this is said to supply the trustees of the Forrest home with needed funds.

THE trade between England and Greece consists of exchanging cotton goods for dried currants. The sum of these exports have scarcely changed in 10 years.

COLONEL VALLE of the Mexican army has taken the field against Victorio. He has permission from Washington to cross the Rio Grande if necessary.

AN Indiana farmer says that labor has not been so scarce and high-priced in 65 years, and instances the employment of two women in his harvest fields at \$2 a day as proof.

A MANUFACTURER of Scotch caps and felt hats in Scotland has bought a factory in Vineland, N. J., to which he will remove all his machinery and hands this fall, bag and baggage.

THE steamer Mamie, having on board a party of excursionists, mostly altar boys at Trinity church, Detroit, was run down by the steamer Garland on the Detroit river, July 22d.

A NEBRASKA Sunday-school boy, on a picnic, leaned out of a car window and fired off a revolver. The ball killed a little girl who had just put her head out of another window.

CAPT. EADS has declined the proposition of Dom Pedro to accept the charge of the Brazilian Engineering Department, recommending, however, an American engineer, who has been appointed.

So great was the vulgar curiosity to see the negro murderer Price hung in Cincinnati, that white women, in order to gain admission, declared themselves negresses and related to the criminal.

A KANSAS paper tells of a wild woman living along the Moccasin river. Her tracks have been found in the sand along the shore. Sometimes she wears shoes, and other times she goes in her bare feet.

IN the English fashion papers all the women depicted look cross and sour, while in our papers all the ladies are too lovely for anything, and look as though butter would not melt in their mouths.

PAINTING on kid is a favorite pastime with Parisian ladies, and bracelets, chatelaine bags and belts of silk and white kid, painted with flowers and classic heads and mounted with gold and silver, are very popular.

THE METRIC SYSTEM.—The metric system became obligatory on the 15th inst. in the kingdom of Spain and all its colonies. The Turkish government has also ordered the introduction of this system into all its provinces, including Tripoli and Arabia. The cubit gives way to the meter in Jerusalem, and the shekel to the kilogram.



Robert Burns.

I see amid the fields of Ayr
A plowman, who, in foul or fair,
Sings at his task,
So clear we know not if it is
The laverock's song we hear or his,
Nor care to ask.

For him the plowing of those fields
A more ethereal harvest yields
Than sheaves of grain;
Songs flush with purple bloom the rye;
The plowman's call, the curlew's cry,
Sing in his brain.

Touched by his hand, the wayside weed
Becomes a flower; the lowliest reed
Beside the stream
Is clothed with beauty; gorse and grass
And heather, where his footsteps pass,
The brightest seem.

He sings of love, whose flame illumines
The darkness of lone cottage rooms;
He feels the force,
The treacherous undertow and stress,
Of wayward passions, and no less
The keen remorse.

At moments, wrestling with his fate,
His voice is harsh, but not with hate;
The brushwood hung
Above the tavern door lets fall
Its bitter leaf, its drops of gall,
Upon his tongue.

But still the burden of his song
Is love of right, disdain of wrong;
Its master chords
Are manhood, freedom, brotherhood;
Its discords but an interlude
Between the words.

And then to die so young, and leave
Unfinished what he might achieve?
Yet better sure
Is this than wandering up and down,
An old man in a country town,
Infirm and poor.

For now he haunts his native land
As an immortal youth; his hand
Guides every plow;
He sits beside each ingle-nook;
His voice is in each rushing brook,
Each rustling bough.

His presence haunts this room to-night,
A form of mingled mist and light,
From that far coast.
Welcome beneath this roof of mine!
Welcome! this vacant chair is thine,
Dear guest and ghost.

—Henry W. Longfellow in Harper's Magazine.

The Child of the Future.

[Written for the RURAL PRESS by JEANNE C. CART.]

The August number of the *Californian* contained a very discriminating and readable article by the editor of the *Horticulturist* upon the "Future Gardens of California." With surroundings of ideal beauty, the writer says, truly, "the roots of the home itself run deeper, and bind more firmly year by year. And in all simplicity, it is fair and pure homes that California, or, indeed any land worth the loving, needs now, and will forever need."

Closing the magazine with a fervent amen to this thought, we could but ask how shall these homes be created, and made the social rule instead of, as now, the rare exception? Is there any other way, or any half so effective as to aim straight at the possession of the children in our public schools. Without well-directed industrial energy, refined taste, and an almost passionate love of natural beauty, the creation of such homes for the people is an impossibility. Should not the development of the home-making faculties become a recognized portion of the teacher's work?

I once had a long conversation with Miss Kate Sullivan, one of San Francisco's most prominent and faithful teachers, now resting from her labors with an innumerable company of noble women who have left the world better for their share in its burden; and she told me of the things which made order and beauty the lessons of the school, afterwards the law of life. Order without beauty made a hard, unlovable character, as knowledge without love makes the pedant. Down in the primary grades there was a "white apron brigade." "It may seem unwise," she said, "to require the children of poor families to come in neat white aprons, but I had rather furnish them myself than lose the influence of neatness and care for personal appearance which helps the little girls to become self-respecting." All around the spacious school-yard were carefully tended flower beds, and she assured me that depredations were very rare, while daily, almost, requests for permission to take home a cutting or a superfluous plant was made by the pupils. The boys saved their pennies to bring choice potted plants for the school garden. I stood with her in an upper window while 600 children went through their gymnastic exercises, framed in by this blooming border of flowers; and I uttered the frequent wish that each of these human flowers might open in abundant space and sunshine. The misery of cities is that there is not room for souls.

In the majority of city homes there is no visible link binding the child to the great motherly nature which envelops the country child in an atmosphere of warm life. The lack of permanency is a bar to improvement of the home surroundings. The scrap of ground in the rear barely suffices for storage of wood and coal, the clothes line and offices; the house may be large enough to hold a best room for visitors, with a "what-not" full of baubles, a center table and a frigid sofa, but no bit of garden for the girl or tool-house for the boys, no sunny window for ferns, or shelves for growing flowers. In such a home there is no mother prepared to develop the germs of beauty which exist in the soul of every child.

Saturdays, and Sundays too, in California, are children's holidays, and, if you watch a returning excursion from around the bay, you will see proof of this inherent love of the beautiful in the loads of withered wild flowers, the armfuls of wild oats and grasses which the poor children are carrying to their dried-up homes.

The city child of the future will not be thus meagerly fed and nourished. The teacher of the Union Primary, away up on Telegraph hill, may take her class up to the summit and say to them: "Look away to the east, among the beautiful Oakland hills, and see the pretty white houses nestled among the trees. Almost every family has room for cows and chickens, a horse for riding or driving, a garden and orchard, and every one of you can make such a home, in some part of California, with knowledge, industry and health. Every healthy boy and girl should try to have a home of their own, should aim to have the best of everything that grows, and to owe no one anything but kindness and good will. How many would like to live on a farm over yonder in Marin, to be his own master and hired man, to pay no rent, to eat the finest fruit of his own raising?" There would be a brave showing of hands. Then the teacher will say: "We must be getting ready in the school-room yonder. We must go at once to the arithmetic to learn to keep our accounts, we must read and write well, that we may avail ourselves of all that is known, and be able to tell all that we know; we must learn as much as we can about animals and plants, about minerals and soils, and, above all, how to take care of our bodies, and to improve our minds, all this to help us to make the most beautiful homes and the happiest, most independent people that ever were."

The girl of the future may bring to school some appetizing dish made with her own hands, or the pattern of a garment, and explain how it is to be used, and find encouragement from the teacher for the practical use of the home-making faculties. And all the home lessons, admonitions or encouragements of parents, the approbation of cousins and aunts included, would not count for as much as the organized public opinion of the school in favor of industrial skill.

The country child, even those who have no university but the district school, will take the lead in the future from the better physical conditions surrounding their early years. Now the country school-house is too often a neglected place, to which children gather reluctantly. Now the brighter the country boy, the more certainly he hides in his heart the purpose to live in town where there is something going on; the ambitious girl dreams of a soft-handed mate with a very large seal ring, and a carriage more easily entered than the lumber wagon. However sensible, she is not to be blamed for dreading the drudgery which has robbed the mother of her early cheerfulness and bloom, and makes the father so heavy and dull in the fireside hours.

But be who runs may read the tokens of a good time coming when the life is indeed held to be more than meat, and the body than raiment. Better school-houses and fairer surroundings, farm villages where erst were wide desolate ranches, show the turn in the tide which carried country youth so far in excess of all demand for their services into the whirlpool of city life, and left them helpless and hopeless, while the abandoned acres of the old homesteads fell into the hands of foreign-born proprietors.

In old times it was common for residents of towns and rural districts to exchange board and benefits in this way. The country boys and girls would go to an academy or seminary in the towns during the fall and winter months, and returning would take the children of their town friends to help through haying, harvesting and cheese making. Many a high-school pupil would be glad to make such an exchange with the family of our well-planted granger. Our country friends hardly realize what missionaries of home culture they might become if they would open their hearts and their bedrooms to the city pupils.

As a people, Californians are not yet home builders. They drift, they do not take root. I know no sight more pitiful than one always to be seen in our hotels and boarding-houses, of a young married couple starting in life without the home-making instinct. The young husband is "on the make," the young wife on the spend; and if another life be added it is doubtful if the child angel he recognized as the gift of God, and it may be happier for it and for them if its wings are early plumed for flight to a home where the little ones find welcome and love. I plead for better, lovelier homes for the children of to-day, that they need not die to be blessed, and that they be fitted for a nobler, purer part in the great business of race improvement.

The teacher is indeed happy who fits into rural surroundings, and takes a wider knowledge

of social requirements, of books and literature, into the homes of her pupils. A somewhat special course of study, or rather special adaptations of the Normal Course, might be given to teachers of rural schools. Readers of the RURAL PRESS and other illuminators do not need to be told that the best men and women of the community only should fill places upon the school boards.

Another reason for great expectations in behalf of the child of the future is that there is more knowledge, and more conscientious application of knowledge respecting the pre-natal conditions necessary to perfect the human race.

Above all earthly possessions, dignities, honors and rewards the world is going to place the child, and the kingdom of heaven has already come to those who can truly break the bread of life, physical, moral and spiritual to the Lord's little ones.

JEANNE C. CART.
Pasadena, Los Angeles Co., July 15th, 1880.

A Plea for Biddy.

[Written for the RURAL PRESS by Mrs. E. J. S.]

So much is being said and written against that large, and, I think, grossly misunderstood and unappreciated class of domestics that we contemptuously designate "Biddies," that it seems but fair some pen should be invoked for their vindication. They are charged with a host of minor sins, enough to condemn them all to ignominious extermination; and so they would if all the accusations could be sustained, but they cannot only in exceptional cases such as occur in any class; indeed I believe it a fair estimate that the shortcomings of Bridget in seven cases out of ten is the fault of the mistress.

We make them feel by our every word and look that we consider them as belonging to an entirely different and distinct race from ourselves; that they are our inferiors because poor, helpless, ignorant and uneducated. I know it is just that the distinction between mistress and maid be clearly marked, and while the mistress guards with jealous care her dignity as head of the household, she owes a most sacred duty to every individual composing that household, especially to the poor lonely stranger and despised inmate of the kitchen, and that duty is often discharged by fault-finding injudiciously, or by cold neglect or a sudden dismissal for some slight offense. Or, "Biddy" over-tasked and suffering from the effects of neglected colds, falls ill and so the poor, lonely creature is hurried off to some hospital or squalid "boarding place," where a few weeks' illness consumes the hard-earned and carefully hoarded savings of years. It is a wonder that "Biddy" so treated should feel resentful. On the contrary, if the authority with which "Biddy" is treated be tempered with kindness—if she is taught to feel that in her mistress she has also a friend, one who will, perhaps "write a bit of a letter to the mother in the 'old country,'" who will advise with her as to the most judicious manner of expending her wages, who will open the drawing-room door when the young mistress is singing some sweet old Irish ballad, that the poor exile's heart may be saddened and gladdened by the "sounds from home." If the children are taught that in treating their inferiors with respect they are honoring themselves—if, in short, "Biddy" is made to feel that though her place in the home be lowly, yet it is distinctly defined, and that while she discharges her duty faithfully, she will be treated with affection and consideration, then my word for it she will be found grateful, faithful and fond and efficient as far as her knowledge and capacity will permit.

Many housekeepers will shrug their shoulders, smile and say: "This scribbling woman knows nothing of the matter—she is no housekeeper." The scribbling woman begs their pardon. She is a housekeeper, and has been 20 years. Is a housekeeper by occupation; has had charge of servants of all nationalities, perhaps hundreds of them, and these things are true, as many incidents from the storehouse of her memory might be cited to prove. When the writer of these lines was little more than a baby, she had for a nurse a blithe young Irish girl, to whom she was tenderly attached even in those early days. One morning the baby's mamma was roused by some unusual sound and discovered the Irish nurse girl escaping from the house clandestinely. On being questioned, after many tears, the poor, pitiful wail told her story—the old, old story of guilt and coming shame; and sooner than face the cruelty of the world, this weak, guilty creature was about to rush—unsent for—into the presence of her outraged God. The girl's mistress being a wife and mother, did not thrust the fallen woman from her, but sheltered, watched over and protected her; and when the writer of these lines had grown to womanhood—and she was fatherless and motherless, she was not friendless—she still had her faithful "nurse," who was to the end "staunch and true," paying the child in faithful, loving service ten-fold the debt of gratitude she owed her mother; and so I could prove many instances—not merely of gratitude, but of disinterested kindness, self-sacrificing devotion; but I fear I will weary my readers, or, what is much more terrifying and dangerous, my publisher. If my poor appeal shall awaken in a single heart a feeling of pity and protective kindness toward a class that needs and can appreciate both, I shall be more than repaid, and if my mistresses will but steer our housekeeping barks more carefully, avoiding equally the Seylla of "Sally Brass" and the Charybdis of

"Dora" in our domestic economy, we will find not thoroughness nor efficiency perhaps—but who of us is without fault?—but we will find truth and honesty and good will in "Biddy."
Calistoga, Napa Co., Cal.

Shopping.

Shopping is the art of wearying one's self in the attempt to find out what one does not want. The pleasant fiction obtains in certain fashionable circles that shopping is the labor attendant upon providing the children and madam with clothing and the house with furnishings. But no gentleman who has escorted a lady or two through a four-hour shopping tour and at the end carried as the net result six towels, a few handkerchiefs, a ribbon or two and 43 dress patterns, will care or dare to maintain that shopping is business. It is a woman's pastime. It is to her what a shooting match or a fishing excursion is to the average man. He does not hit the bull's-eye or catch the big fish to any great extent, but has the tramp, he gets tired and secures a good appetite for his dinner. In both cases it is not the result, but the pursuit that pleases. How much fun there is in ranging through a score of shops and prying things that she has no intention of buying, in hunting for bargains that are never accepted when found and in allowing the imagination to clothe her in "purple and fine linen," at the cost of gingham and calico, no man ever has or will comprehend. A man is a nuisance to a shopping lady, and shopping is a nuisance to a man. Where the fun comes in he fails to understand. When he has occasion to buy anything he rushes into a store, asks for what he wants, inquires the price—to show that he is wide-awake—says "do it up," pays the money and is gone. She asks for the goods, feels of them in a knowing way, asks the price twice, the second time as though she felt sure she had misunderstood the first time, and immediately becomes convinced she can do better elsewhere, or begins to doubt whether it is what she wants. She rushes wildly into the next store, prices the same goods and finds them higher, goes to store after store, looking at other things that she thinks she may some time want, gets led off on false scents, and comes back to the first store, to find that all the goods she looked at in the morning are sold, and finally goes home with a few patterns and a paper of pins, without the goods that she came out in the morning fully intending to buy.—Chicago Alliance.

Praise Your Wife.

Praise your wife man, for pity's sake praise your wife when she deserves it. It won't injure her any, though it may frighten her some from its strangeness. If you wish to make and keep her happy, give her a loving word occasionally. If she takes pains to make you something pretty, don't take it with only:

"Yes, it is very pretty. Won't you hand me my paper?"

It will cost you only a moment's time to kiss her and tell her she is the best wife in town. You will find it to be a paying investment—one which will yield you a large return in increased care and willing labor for your comfort. Loving praise will lighten labor wonderfully, and it should be freely bestowed. A case in point:

I called on a friend one day and found her up to her eyes in work. "O dear," she said, "this is one of my days; everything goes wrong, and I haven't got a thing done!"

"Let me help you," I said.

"No, no," she replied, gently pushing me into the sitting room, "I'm going to leave everything and rest a while; but I must just wipe up this slop first," pointing to an ugly spot which disfigured the pretty oil cloth.

Just as she stopped to do it her husband came in; he didn't see me, but went straight to his wife. One quick lift, and he placed her on her feet, and taking the cloth from her hand, wiped up the spot himself.

"There, busy-bee," he said, "you've done enough to-day. You tired yourself all out getting my favorite dinner. Now I think I'd leave the rest till to-morrow."

I spoke to him then, and he sat with me a few minutes before going down town. Shortly after my friend came in looking very much amused.

"I guess I was in the dumps," she said, laughing, "for I've finished; and everything has gone swimmingly since E. came in."—Anna Edwards, in Rural New Yorker.

WHAT IS LIBERTY.—There can be no absolute freedom. Every man is limited by those about him. You are free to be a good citizen. You are not free to murder, to steal, or to defraud. If you do these things you will be put in confinement. You are free to be a kindly, courteous and cultivated member of society. You are not free to be morose, indecent and low-bred. If you are of this latter sort, people avoid you. You are free to speak wise and pure thoughts. You are not free to advocate folly and wickedness. You are free to be a law-abiding and peaceful member of the community; you are not free to be a Mormon or a cannibal. You are free to utter those ideas which help man; you are not free to utter those ideas which destroy morality and corrupt the character of people. You are, in short, free to do right, but not to do wrong; free to speak the truth, but not to lie.

WITHERED leaves having the yellow, brown or red autumnal colors can be made green again by steeping them in water with a little zinc powder.

Chaff.

"WHAT makes the sea salt?" said the teacher. And young America shouted, "The codfish that are in it."

A WESTERN dealer received a fresh invoice of mouse traps the other day, and advertised: "Grand arrival of spring goods."

A KANSAS weekly publishes "fourteen rules to be observed during a tornado." Only one is necessary: Be somewhere else.

A ST. LOUIS rich man left a will that was so pathetically worded that it moved all his relatives to tears. It left all his property to an orphan asylum.

"WHEN I was your age," said old Mr. Tret, "I rose with the lark." "I heat you clear out of sight then," said Tom, wearily and triumphantly. "I've been up all night with him."

MEN laugh at women sometimes because they use whalebone about their hodies, but they forget one of their own sex, Jonah, who was completely enclosed in one.

ELDERLY gentleman to a freshman on the train: "You don't have any ticket?" "No, I travel on my good looks." "Then," after looking him over, "probably you ain't going very far."

IT is claimed that a man never loses anything by politeness, but this has proved to be a mistake. An old Philadelphian lifted his hat to a young lady and the wind carried away his wig.

"I AM an independent voter, and I can't support you until I've seen your platform," she said as he finished proposing. A couple of hours later it dawned upon the young man's mind that she wanted to know the amount of his salary.

ONE day during an eclipse of the sun a boy sold smoked glasses at six cents apiece. "You ought to make money," said a purchaser. "Yes," said the young merchant. "Ours would be a good business if the dull season were not so long."

A GENTLEMAN called professionally on a prominent physician and complained of a total loss of appetite. "I'll just give you a little tonic to take before dinner," said the doctor. "Oh, I'm all right just before dinner. It's after dinner that I suffer so much."

A SHREWD little fellow lived with an uncle who barely afforded him the necessities of life. One day the two were out walking together, and saw a very thin greyhound, and the man asked his nephew what made the dog so poor. "I expect he lives with his uncle," said the boy.

A LITTLE four-year-old was at one of our photograph studios having her picture taken. The artist said, "You must keep your mouth shut, my dear, and your eyes open," as the little miss showed a decided inclination to open her mouth and close her eyes. But on being instructed she braced up, and after a few minutes wonderingly asked, "Now what shall I do with my nose?"

Bread-Making in Spain.

The bread in the south of Spain is delicious; it is as white as snow, close as cake, and yet very light; the flour is most admirable, for the wheat is good and pure, and the bread well kneaded. The way they make this bread is as follows: From large, long panniers filled with wheat, they take out a handful at a time, sorting it most carefully and expeditiously, and throwing every defective grain into another basket. This done, the wheat is ground between two circular stones, as it was ground in Egypt 2,000 years ago, the requisite rotary motion being given by a blindfolded mule, which passes around and around with untiring patience, a bell being attached to his neck, which, as long as he is in movement, tinkles on; and when it stops he is urged to his duty by the shout of "arra mula" from some one within hearing. When ground, the wheat is sifted through three sieves, the last of these being so fine that only the pure flour can pass through it; this is of a pale apricot color. The bread is made in the evening. It is mixed with sufficient water, with a little salt in it, to make into dough; a very small quantity of leaven or yeast in one batch of household bread as in Spain, would last a week for the six or eight donkey loads of bread they send every day from their oven. The dough made, it is put into sacks and carried on the donkeys' backs to the oven in the center of the village, to bake it immediately after kneading. On arriving there the dough is divided into portions weighing three lbs. each. Two long, narrow wooden tables on trestles are then placed down the room, and a curious sight may be seen. About 20 men, bakers, come in and range themselves on one side of the table. A lump of dough is handed to the nearest, which he begins kneading and knocking about with all his might for about three or four minutes, and then passes it on to his neighbor, who does the same, and so on successively until all have kneaded it, when it becomes as soft as new putty and ready for the oven. Of course, as soon as the first baker has handed the first lump to his neighbor, another lump is given to him, and so on until the whole quantity of dough is kneaded by them all. The bakers' wives and daughters shape the loaves for the oven, and some of them are very small. They are baked immediately. —*Colorado Farmer.*

DRAWING paper of any thickness may be made perfectly transparent, so that it may be used for tracing, by dampening with benzine. As the benzine evaporates the paper again becomes opaque. The tracing may be done with India ink or water colors.

Young Folks' Column.

Disobedience.—A Fable for the Little Ones.

(Written for RURAL PRESS by E. F. W.)

Away up a green, wooded ravine of one of the Coast Range mountains, on a small and secluded farm, lived a widow and her son.

Wandering idly about one day, the lad, whose name was Conrad, a bright child of some 12 summers, found a nest containing 15 pretty quail eggs. The nest was so cunningly hidden under the side of an old log in the tall grass, that Conrad would not have found it had not the mother, flying up at his approach, betrayed its hiding place. Taking the eggs up carefully, he carried them to his home, busily thinking the while what it would be best to do with so many pretty eggs. Suddenly the idea occurred to him, Why not put them under the old speckled hen, who wanted to set in the hen-house? This he did as soon as he had reached home and asked permission of his mother.

In a due course of time all the eggs but two were hatched out, and a more cunning brood of little fellows you never saw. A week passed, and the little quail were as pert as chickens twice their age. They ran so fast, and seemed so wild, that Conrad and his mother concluded it was not best to let them run at large, and that they would have to keep them shut up in the chicken-house until they became more domesticated. Another week went by, and still the little fellows were none the tamer.

One moonless night, when all the quail were hatched under the old speckled hen's wings, they suddenly heard a voice outside the hen-house, which said in croaking tones: "Come here, my pretty quail. I am thy friend, and do not wish to harm you. I have something of great importance that I wish to impart to thee. Pray, come you all to this large crevice in the wall, and listen while I speak." All the chickens in the hen-house gave vent to a cry of fear at sound of the stranger's voice, the voice of a recognized foe—a long, slim, scrawny and ravenous coyote, for he it was who had spoken.

The old speckled hen bade her young stay where they were. She knew the shrewd subtleness of Mr. Coyote, and was aware that she was obliged to be persistent and strenuously watchful to prevent his taking the life of herself and every quail. But the old hen's caution was in vain. They could not see any harm in listening to what the stranger had to say while there was a strong wall between them. So one by one they approached the crevice and listened.

"Are you all there?" quoth the stranger in a whisper.

"Yes! yes! yes!" was the answer chirped back by the disobedient quail.

"Tis well," said the stranger.

"Now, then, you all want your liberty, I know. Am I not right?" A chorus of "yes" was again the answer.

"Well, I will tell you how to get it, you have only to pretend you are tame. When the lad comes out to feed you in the morning, run around him and cry for food. Let him take you up in his hands if he wants to, and when the door is open do not try to get out. If in a few days the lad should let you out, just stay with the old hen and do not try to get away while he is around. But should he go into the house, then run in the tall grass and get away from the place as fast as you can. Come to the large white oak tree that stands in the ravine by the silvery cascade, and there you will find your parents awaiting you."

All this seemed quite possible to the little quail, so they thanked the stranger for his kindness, resolved to profit by their unknown friend's advice, despite the disapproval of their foster mother.

My little readers can best imagine how surprised but pleased was Conrad at the tameness of his little quail, when he went to feed them the following morning. They ate from his hand and played about him like little pets, never fearing him in the least. Conrad was so delighted that he ran for his mother to bring her to witness the sudden change in the little birds. The following day effected no great change in the familiar disposition of the little creatures. They seemed to place such explicit confidence in their keeper that Conrad thought it a sin to keep them shut up in the close hen-house. So he went and asked his mother if he could not let them out for a little while. The widow thought they would not leave the hen. Accordingly old Speckle and her young were turned out about an hour before sunset, thinking they would return to roost with the rest of the fowls.

But alas! the willful little quail, in spite of the old hen's warning, made good their escape almost as soon as Conrad's back was turned.

Made good their escape? No! no! not so far as that, for upon reaching the appointed white oak tree, they were met—not by their father and mother, but by their supposed friend, the coyote, who set upon and greedily devoured them.

Darkness came, but not so the little quail. In vain did Conrad call and hunt for them; and the old hen went sorrowfully to roost, childless. Thus 13 disobedient little quail, unmindful of their mother's warning, but heedful of the cunning and deceitful exhortations of a stranger, came to an early death.

GOOD HEALTH.

Does Eucalyptus Prevent Fever.

In the last number of *Nature* some very positive statements are made as to the value of the eucalyptus or blue gum tree of Tasmania in destroying fevers in marshy districts. The testimony in support of this power, it says, is most convincing. In marshy districts near eucalyptus forests fever seems to be unknown, and in parts of Corsica and Algeria, where the tree has been planted for the sake of its reputed virtues, endemic fevers have been stamped out. M. Gimbert, in a report to the French Academy, instanced the case of a farm situated in a pestilential district about 20 miles from Algiers, where by planting a number of trees the character of the atmosphere was entirely changed. Similar testimony comes from Holland, the south of France, Italy, California and many other parts of the world as to the febrifugal attributes of this tree.

In no case is the evidence more convincing than in that of Algeria, as related by Dr. Santra, and quite recently, by Consul Playfair. Large tracts of land have been transformed by the agency of the "fever-destroying tree," as it has come to be called, and wherever it is cultivated fevers are found to decrease in frequency and intensity. Fewer districts in Europe have a more evil reputation than the Campagna as a veritable hot-bed of pestilential fever, and the people who know the country around Rome may remember the monastery at Tre Fontane, on the spot, as the tradition tells, that St. Paul met his death. Life in this monastery meant death to the monks, but since the eucalyptus has been planted in the cloisters fever has disappeared and the place has become habitable.

INFECTED FROM MOSQUITOES.—The discovery that mosquitos carry filaria in their probosces, and infect the human subject with that much dreaded worm parasite, has attracted considerable attention among the English Microscopists. The matter has been brought before the Quekett Microscopical Club, by Dr. Cohold, the President, who is one of the highest authorities on this subject. Particulars of various cases were given in which it was proved that those suffering from filaria has received the contagion from mosquitos, and mosquitos themselves infected with filaria were shown. Filaria are very minute worm-like parasites, which on entering the human body, breed until they increase to countless numbers. By recent advices we learn they have the power of entering and leaving the blood at pleasure; they usually invade the circulation about seven o'clock in the evening, and increase until about midnight, after which time they retire to other parts of the system.

CROSSNESS AND IRRITABILITY.—Much of the crossness, irritability and general unamiableness which characterize certain children and make their presence so annoying springs from neglect of their happiness in some direction. Either from indiscreet indulgence, undue severity, or careless negligence, their physical system is out of order, or their tempers are soured, and, feeling uncomfortable, they naturally vent their discomfort upon others. In describing a young child the words "good" and "happy" are almost synonymous, and no effort to make him the former can be successful as long as the latter is neglected.

IMPORTANCE OF SOUND REST.—Nothing gives more mental and bodily vigor than sound rest when properly obtained. Sleep is our great replenisher, and if we neglect to take it regularly in childhood, the result will be all the worse for us when we grow up. If we go to bed early, we ripen; if we sit up late, we decay; and sooner or later we contract a disease called insomnia, or sleeplessness, allowing it to become permanently fixed upon us, and then we begin to decay, even in youth. Late hours are shadows from the grave.

AFTER THE PHYSICIANS.—The New York Legislature has passed a law requiring the registration of all practising physicians. This law also compels a practitioner of medicines coming from another State to prove his standing before the faculty of a New York medical college. Physicians in good standing do not complain of this law. In fact, they did a good deal to get it passed, as a protection to the profession against empiricism. Human life is too valuable to be trifled with, and no means can be too rigid which are devised for its protection. In this view, the New York law will meet with general approval.

DRINKING BLOOD.—It is said that between 200 and 300 men and women of St. Louis drink daily from a half to a pint of blood piping hot from the veins of slaughtered cattle. More blood drinking by consumptives and aged persons is done in September and October than during the remainder of the year. The blood of young steers is the best, and should be caught as it comes from the animal, and should be drunk while the foam is still on and the steam rising. Consumptives are advised, in addition to drinking the blood, to sit in a slaughter-house for a couple of hours each day at killing time to inhale the "steam" of the running blood.

DOMESTIC ECONOMY.

LIQUID GLUE.—You cannot use mucilage as glue, because it is not glue and does not possess the sticking qualities of good glue. It is made of starch, dextrine or gum arabic, with some acetic acid, or some equally preservative substance in it to make it stick on tin cans or on metal. You must mix a few drops of nitric acid with the mucilage just before you are about to use it, otherwise it will come off. This acid acts on the metal and destroys the polish, which prevents the sticking. It is the same with varnished objects. In order to make labels stick where they have a tendency to come off, mix a little alcohol with the mucilage. This partially dissolves some of the varnish, takes the gloss away under the label and causes adhesion. Or you can rub the varnish with a little alcohol at the place where the label is to be put on; or you may stick the label on with varnish instead of mucilage. Some kinds of varnishes are good for this purpose, others not. In order to make a better sticking mucilage, you must not use starch or gum at all, but the best quality of glue. Soak it over night in plenty of water; in the morning pour the excess of water off and put on a gentle fire, so as to melt the glue in the water it has absorbed during the night; but thin it with strong vinegar, or with acetic acid, when you want it thick, and you will have mucilage with which you can glue wood together, but you must not expect that it will be as strong as if you had used hot glue, as cabinet-makers always do.

VINEGAR.—Clara Francis gives the *Prairie Farmer* this recipe for a perpetual vinegar supply: A 10-gallon keg would answer the purposes of a small family; it should be provided with a faucet and a bung hole, and have in it five gallons of good strong cider vinegar. To this may be added hard cider from time to time, as space and strength will permit, unless the supply of fruit be such as to make cider unnecessary. Put all parings and cores of sound fruit, scraps of tomatoes, scum and risings of preserving/kettles, and the pulp remaining in the jelly press, into a stone jar; cover with warm water, tie a thin cloth over the top, and set it in the sun in the summer; in cold weather, near the stove. At the end of two weeks strain the liquid through a bag, and pour it into the keg through a funnel; first drawing out some good vinegar for immediate use. Where much fruit is used, the refuse portions will be amply sufficient for keeping a plentiful supply of vinegar on hand, and there will be no necessity for consuming deleterious and poisonous acids in the form of commercial vinegar.

CHERRY PASTE.—To make this delightful confection select some of the best and ripest cherries; extract both the stalks and stones, put them into a copper preserving pan, always remembering the rule laid down in the article on strawberries—never, under any circumstances, to use any tin in connection with red fruits. Now mash the pulp, place the pan over the fire and boil until the fruit is soft; keep stirring the pulp constantly while it is over the fire; pass and press through a hair sieve. For every pound of fruit add three-quarters of a pound of best finely pulverized sugar; place again over the fire; do not permit a very fierce boil now; allow to simmer only, and keep constantly in motion by stirring, until the pulp is reduced to the consistency of a thick marmalade; now remove from the fire and spread the fruit on sheets of paper; place in the hot closet to dry. After the fruit has become thoroughly dried, it may be formed into knots or rings, and cut up into various shapes, plain or fanciful, and then crystalized.

CHERRY JELLY.—Jelly is a very unusual form in which to serve the cherry, but it will be found to be very delicious. You cannot make a perfect jelly alone. By adding 25% of currants to the cherry, the thing can be done, and in such a manner as only heightens the genuine cherry flavor. Stone and stem a quantity of the best of cherries. To every four lbs. of cherries add one lb. of the best of red currants. Put these fruits into a copper preserving pan; place over the fire and reduce all to a mash; keep stirring all the while with a wooden spatula. Now strain, press through a hair sieve and filter through a jelly bag. To each pound of fruit add three-quarters of a pound of sugar. On account of the currants you may in this instance increase the sugar pound for pound if your taste so suggests. Now place again over the fire and boil to a jelly; remove the scum and fill your glasses or jars. When cold cover the tops with brandied paper; tie up and set away for use.

A GOOD CHILDREN'S CAKE.—Rub quarter pound of butter or clarified drippings into two lbs. of dried flour. Add one lb. of currants, and half lb. of castor sugar, quarter ounce of allspice, and half ounce of caraway seeds. Mix well together, but mix lightly. Make a pint of milk warm, but not hot. Stir in three tablespoonfuls of good fresh yeast, and having added this liquor make the whole into a light dough. Knead it well, and having first lined your tins with buttered paper in strips put in the dough and let it stand in a warm place to rise for more than an hour. The above quantity will suffice to make two good cakes, which must be placed in a well-heated oven, and baked for from an hour and a half to two hours.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$ 5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.

DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STROG

SAN FRANCISCO:

Saturday, July 31, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Fruit Season; A New Apricot; Egyptian Corn, 65. The Week; The Debris Question, 72. Meeting of the Viticultural Commission, 72-73. Harvest Figures; Milk Under the Microscope, 73. ILLUSTRATIONS.—The Jackson Seedling Apricot, 65. Pure and Diseased Milk as Seen with the Microscope, 73. THE VINEYARD.—The Phylloxera and Its Foes; Topping and Pruning, 68. POULTRY YARD.—The Advancement of the Poultry Interest; Food and Care of Fowls, 68-67. ARBORICULTURE.—Tan Bark and Charcoal, 67. THE PUBLIC LANDS.—Entry of Public Lands; Surveys Recommended, 67. PATRONS OF HUSBANDRY.—A Visit Expected; A Notable Grange Picnic; W. M. Spilman's Appointments, 68. AGRICULTURAL NOTES from the various counties of California, 68-69. NEWS IN BRIEF, on page 69 and other pages. HOME CIRCLE.—Robert Burns (poetry); The Child of the Future; A Plea for Biddy; Shopping; Praise Your Wife; Chaff; Bread-Making in Spain, 70-71. YOUNG FOLKS' COLUMN.—Disobedience.—A Fable for the Little Ones, 71. GOOD HEALTH.—Does Eucalyptus Prevent Fever? Infection from Mosquitoes; Crossness and Irritability; Importance of Sound Rest; After the Physicians; Drinking Blood, 71. DOMESTIC ECONOMY.—Liquid Glue; Vinegar; Cherry Paste; Cherry Jelly; A Good Children's Cake, 71. MISCELLANEOUS.—Electrical insects, 67. Utilization of Additional Species, 74.

Business Announcements.

Anti-Scale Compound—Berry & Place Machinery Co., S. F. Semi-Annual Statement, Graugers' Bank of California. Brown Leghorn Eggs—C. E. Naylor, S. F. Strawberries—Ellwanger & Barry, Rochester, N. Y. Kindergarten School—Mrs. Semler, S. F. Commission Merchants—Bryant & Cook, S. F.

The Week.

Now that the cows have done the heaviest part of the season's milk making, and the hens are generally preparing for their summer vacation, the prices of butter, cheese and eggs are all rising. It is generally accorded to farmers to have little to sell when prices are high, and to get nothing for what they have in abundance. Political economists would doubtless argue that the price is high because there is little to sell, but political economy is a cold sort of an individual and cannot appreciate the vexation it is to sacrifice splendid products at one time in the year, and sacrifice splendid prices at another time. This is one of the greatest evils the farmer has to contend with. Ho: for a reformer who can right the wrong!

The fair season draws on apace, and as the year, after all, is going to be a prosperous one to many classes of agricultural producers, there should be a general effort to make this fall's fair the best ever held in the State. The new arrangement of districts brings strength to some of the organizations, and if the new boards of directors lay hold well upon the arrangements, and the exhibitors bring forward their best works and products, there will be a circle of successful shows around the State. It is well to begin early to select and prepare exhibits, so that unexpected duties at the last moment need not interfere with previous plans. The Mechanics' fair, in this city, is first upon the list according to date, and it offers special inducements this year to agricultural exhibitors, as may be seen by the premiums enumerated on page 76 of this issue. Let all who have good material prepare for the Mechanics' fair.

PASS OF THE CASCADES.—The party of engineers of the Northern Pacific railroad which went to examine the Natchess pass of the Cascade mountains, has reported that the summit was crossed about 40 miles southeast from Wilkeson at an altitude of about 4,800 ft. The ascent from the west side is easy until the backbones is reached near the summit, at which point a tunnel about one mile long will be required. The descent into Yakima valley is said to be much superior to the approach from the west. The report of the engineer in charge of the party, Mr. J. T. Sheets, is represented to be favorable beyond expectation. The condition of the pass, it is said, removes all apprehension of difficulty from snow; and the location is fortunate in other respects, as it secures a direct line on the eastern slope of the Cascades from Ainsworth to the Sound.

The Debris Question.

If there be no way found to reconcile the differences between hydraulic mining and river-side farming, it will be because engineering has no way. Certainly the subject has been studied with unusual vigor of late, and during the last week the ground was overlooked by Capt. J. B. Eads, the distinguished engineer who wrought such a signal triumph at the mouth of the Mississippi. Capt. Eads spent several days in careful study of the conditions prevailing at the seat of the difficulty, and is now looking over the lower waters of the rivers and the bay. As the question of debris on farming lands is so important to our agricultural interest, we have thought that some facts concerning the career of the man who is now charged with finding a solution of it would be timely.

Mr. James B. Eads has achieved a reputation as wide as the world as the most successful manager of great and difficult engineering projects. As an engineer, Mr. Eads has long since become conspicuous for the seeming audacity of his projects, no less than for his remarkable constructive talent which has enabled him to carry them to successful and brilliant conclusion. There is no doubt that the skillful engineering management of this remarkable bridge at St. Louis was due chiefly to Mr. Eads. For in a paper recently read before the British Institute of Civil Engineers, on the "Recent Progress in Engineering," the first place is assigned to that great work as the engineering feat accomplished during the last 50 years.

Mr. Eads first became familiar with the Ohio and the Mississippi rivers when in his early years he was engaged in running steamboats on their waters. It is said that he was first a steamboat clerk, a pilot and then a master. Subsequently he became an owner of boats, a manager of works for a large boating and contracting company, and while thus engaged in superintending the raising of sunken vessels, the construction of wharves and other river works, he was afforded special opportunities for studying the laws governing the sciences of hydraulics as applicable to the improvement of rivers, and daily presented to view by the flow of the Father of Waters. During the war of the rebellion he became prominent as a contractor and builder of ironclad vessels, and showed his ability in successfully conducting various other engineering enterprises.

In his second great engineering work—that of improving the channel at the mouth of the Mississippi—Mr. Eads achieved high credit, mainly for having persistently advocated the jetty system as the most efficient method of opening a deep navigable mouth to the river. He did this in the face of the most strenuous opposition on the part of other engineers, who declared that the effect of jetties in obtaining and preserving a deep-water channel in this instance would not be favorable, and that the proper method was to construct a canal, with locks, as an artificial entrance to the great river. Mr. Eads not only indicated the true means of improving the outlet of the Mississippi, but with remarkable energy and intelligence he secured capital to carry out his plan and procured the passage of a bill through Congress, pledging the Government to pay certain sums upon the accomplishment of certain desired results respecting a deep-water channel. Time has proved the jetty system, as applied to the mouth of the Mississippi, to be a splendid success; for, to use Mr. Eads' own words, "the last survey made the channel deeper than ever before, and all doubt of the success of the jetties has been removed." The use of jetties, as a means of contracting the flow of river currents and forcing the scouring out of channels through shallows or bars, is an old plan well known to engineers; but it is the nice judgment which perceives the conditions under which that method may be applied that ensures success. The large practical experience of Mr. Eads with the peculiarities of the Mississippi fitted him to deal with the difficult project he undertook and achieved so successfully.

The presence of this successful engineer in California is full of interest. It is well known that the law of the State, passed in 1878, creating the office of State Engineer, provided for the appointment of two consulting engineers, who were to advise with the State Engineer upon plans for the improvements of rivers and kindred matters. Gen. Alexander and Col. Mendell were appointed consulting engineers; but shortly afterwards Gen. Alexander died, and the vacant place was, by the advice of those most deeply interested, tendered to Mr. Eads.

It may be remarked that rumor says that Capt. Eads, after the examination made thus far, approves the proposition of State Engineer Hall, that confining the water of the river to its channel will cause it to scour out the debris deposits. In regard to the matter of impounding the debris from the mines, the captain remarked that brush dams could be built at a small expense, and they would answer all purposes. These are to be constructed at the mouths of the canyons above Marysville, and would be similar to those built on the Missouri river for the same purpose. It is yet too soon to get a definite statement of Capt. Eads' opinion on the matters involved in this inquiry, but it seems from current report that he believes the evil can be checked and the conflicting interests rendered harmonious, which certainly would be a great gain to the State.

Meeting of the Viticultural Commission.

The July meeting of the State Viticultural Commission was held, according to announcement, on Friday and Saturday of last week, July 23d and 24th. There was a representative gathering of the grape growers of Sonoma valley, a liberal delegation from the St. Helena Viticultural Club, and there were well-known graps and fruit growers present from other parts of the State. The visitors were entertained by the vineyardists of Sonoma valley and made recipients of a generous hospitality.

The morning of the first day was occupied in visitations to various vineyards infested with phylloxera, and much uprooting of vines to search their roots for the insects. It need but be said that there was no lack of the vermin and that all who were not familiar with its appearance before will hardly fail to recognize it henceforth. There was such a variety of manifestations of the disease and so many conditions apparently affecting its spread that it would be needless to endeavor to enumerate them or to draw deductions therefrom. It is probable that the commission will order a close investigation made of this subject, and that a carefully studied report will be made—at present the mind of the valley is in a state of unrest. Everything which seems to promise relief will be conscientiously tried, and the friends of the wine interest can but hope that the industry will ultimately triumph over the evils which beset its progress.

The best thing about the insect in this State, as we have often remarked before, is its slow advance. A circle of infested vines in a vineyard widens year by year, and some vineyards are shown where the insect has been at work for five or more years, and yet has not reached all the vines. This is, of course, in marked contrast to the progress of the insect in France, although we fear it will be found that more localities are attacked than are now reputed to be so. The phylloxera certainly has a turtle gait in this State, and this fact may aid immensely in coping with it. The winged form of the insect in this State has never been identified by an entomologist, although some vine-growers believe they have seen it. The life history of the pest in this State should be thoroughly studied by a competent entomologist, and we are informed that the commission has it in mind to cause this work to be done.

A public meeting was held in Poppe Hall, Sonoma, at 2 P. M., July 23d, which was largely attended, Mr. I. D. Turk, commissioner for the Sonoma district, presided, and made a few opening remarks in definition of the idea with which the meeting was held. A letter was read from A. Harazthy, President of the commission, regretting an unavoidable absence, and urging the importance of this movement now in progress, in these words:

I trust we will at last be able to ascertain definitely whether vine raising is to live and flourish among us, or whether this pest, the phylloxera, is to destroy it from among us. At your meeting I hope you will impress upon the minds of the people of Sonoma the necessity of being up in arms to combat the common foe. It will not do for one man to do the work; there must be a concert of action, and a vigorous one, throughout the entire district. The man whose vineyard has thus far remained intact should not remain idle in fancied security, but use every means in his power to stamp the pest out of his neighbor's vineyard, as well as to employ every preventive at his command to prevent it from spreading. Some have lulled themselves that it was too time to be alarmed; but I say to you that the time has come to be frightened. Not one, but all and every one of you. If this havoc is not stopped in your district very soon we will soon hear of its ravages elsewhere, and from place to place, until the whole of our beautiful State shall be devastated. I trust, therefore, that some serious action will be taken at your meeting, not spasmodically, but to last in its work till the ravages have been stopped and the pest stamped out.

Mr. Harazthy also alluded to the importance of securing a representative exhibit of the best California wines and brandies at the approaching Mechanics' fair. The display will be under the auspices of the Viticultural Commission and all are invited to contribute their choicest products.

The subject of the meeting was then introduced by Dr. Herman Behr, of this city, in an address which is printed on page 66 of this issue. Dr. Behr's paper was listened to with deep interest. M. De Lacreteille, sent hither by the French government to investigate our viticultural progress, was introduced to this meeting and acknowledged his sense of obligation to the vine-growers for the kindness and courtesy with which he had been received by all. He declined to address the meeting at length because of his imperfect acquaintances with the English language.

Mr. C. A. Wetmore, of this commission, being called upon for an address, remarked that the appearance of the insect and its work was the same here as he observed it in France, except in a much smaller degree. Here it has invaded but parts of a small valley, while in France in the same length of time it had devastated 2,000,000 acres. There must be something to account for this difference. It may be, as some think, the absence of the winged form and the consequent relegation of the insect to underground traveling. There was one thing he had seen here and in France, and that is sometimes you will see vines growing in gardens or trained upon buildings in door-yards, where the ground was never cultivated, and where the vine was pruned high, he althy and vigorous, while in vineyards near by the vines were destroyed by phylloxera. In France he also noticed that sometimes

rows of vines near a hard roadway were still alive, while those in the cultivated field were dead. Here he had seen patches all destroyed, while across a hard road the disease had but made a beginning. There was certainly force enough in these facts to suggest an experiment at least.

Some maintained that phylloxera only followed impoverishment of the soil. He did not think the point established. The application of fertilizers stimulated the vines for two or three years, but the insect triumphed in the end. There is a case reported from Vacaville, where a man only had a small vineyard and fertilized it heavily. At first the vines flourished, but were soon torn up because they succumbed to the insect.

In France they had tried putting sand around their vines because they noticed that the pest spread slowly in sandy soils. Here on shallow clay soils, which soon dried out and cracked, the vines were destroyed. In another part of the valley on sandy soils the vines were comparatively healthy.

As an experiment, to determine the effect of the practice, he would strengthen threatened vines with a dressing of manures containing potash and a preparation of animal substances, such as blood, flesh, woolen refuse, etc., which are found to promote vine growth. He would then allow the ground to become hard, and turn in sheep to tread it down. Then he would merely cut out the weeds and pulverize a thin layer on top to prevent evaporation. He would do this to see if there could be anything accomplished by such a method of culture.

In France insecticides had been well nigh abandoned. Nothing can be done with them without concert of action among all growers; for even if one man pays heavily to kill his insects one year, his vineyard would be repopulated from the infested vines of his shiftless neighbor, and the prudent man would be forced to poison again and again, and the expense would be greater than he could bear. Mr. Wetmore believed that infested spots must be quarantined and disinfected thoroughly. This would entail an outlay to compensate growers for vines it would be necessary to destroy. This expense should lay upon the vineyard interest in general. He thought a tax of 50 cents per acre on this land now planted in vines would furnish a fund ample for the purpose. The United States should, by rights, bear a part of the burden, for the revenue derived from this source is immense, and if the vines are destroyed, the revenues will be cut off. Mr. Wetmore spoke also of grafting on wild grape stocks. This is being tried by many, and great numbers of seedlings are being grown for this purpose. There are many points on this proposed practice which must yet be demonstrated. In France grafting on American stocks is generally successful, and such vines are living, even though alternate rows of European vines are completely destroyed. This is a severe test. The American vines are planted in a hot-bed of phylloxera, and some of them resist the insect quite satisfactorily. Mr. Wetmore read an extract from a letter he had received from the Director of the Viticultural station at the National School of Agriculture at Montpellier, as follows:

The tendency toward the plantation of American vines becomes more and more established with us, by reason of the failure of insecticides in places which have been for a long time attacked by phylloxera. The types which we prefer are, for the sake of their fruits, the Jacques (or Ohio, Cigar-box, etc.), Herbemont (or Warren) and the Black July (or Devereaux Lenoir). For grafting stock we prefer the wild *Vitis riparia*, which is sent to us from Missouri, Iowa and Kansas, and the *Vitis rupestris*, from Texas. Permit me to thank you for your kindness in sending me seeds of the *Vitis Californica*. I am infinitely obliged to you for having remembered my request, for we (Prof. Planchon and myself) have had a great desire to possess this variety, which has not before this been imported into Europe.

Dr. Bleasdale, Secretary of the commission, announced that he had received from Mr. Krug of the commission the roots of a wild California vine (*Vitis Californica*), which was growing near imported vines which had been destroyed by phylloxera. After microscopic examinations of this vine, he pronounced it free from the insect. There were certain enlargements of the minute rootlets which some thought were the nodosities made by the phylloxera, but he explained that they were the spongiosities through which nourishment is taken up from the soil.

Mr. Krug, being called upon, announced that the vine which he had given Dr. Bleasdale for examination, he had taken from the ground seven ft. from the stump of a European vine which had been killed by the phylloxera. The native vine was flourishing finely. He regarded the statement of Prof. Hilgard, that the native vine was phylloxera-proof, as well established. Now can we graft on this stock? No one has experience to speak from, but all should try it and report results to the commission. He remarked that if this danger from the phylloxera could be removed, the outlook for the vine interest would be glorious. He alluded to the fact that on deep, rich soils the vines appear able to withstand the insect longer than on shallow poor soils and bear fruit, while the vines on the latter situation were all destroyed. He saw on the "Home Farm" of Morris Bros. that this was plainly the case. Morris Bros. have also made experiments which showed that the application of fertilizing material gave the vines a new lease of life. On a knoll in their vineyards, in a red stony soil, well cultivated, the Mission vines had nearly died. They were treated to a dressing of wood ashes and manure, and recovered their growth, throwing out long canes with rich glossy leaves, but on digging, the insects were found on the roots, and it

must be a question of time as to how soon they would overcome the new vigor which the vine had gained from fertilizers.

Hon. W. McPherson Hill remarked that he was surprised and alarmed to see what a hold the phylloxera had obtained upon the vines of Sonoma valley. Until the present opportunities for investigation he had not supposed its ravages had been so great. He recalled the fact that in 1873 the Sonoma Vinicultural Club, which was then in existence, had discovered the evil and appointed a committee to investigate it. The committee went through the valley and found 8 vineyards infected. He urged the immediate uprooting and burning of the diseased vines in these vineyards, but other counsels prevailed. He first found the disease in a spot in his vineyard in June, 1877. He immediately built a large bonfire and took out 50 vines around the spot and burned them. This seemed to stop the trouble for the time. He watched the vines closely but did not see any more indications until a month ago. Then he saw an infected spot and immediately tore up and burned 50 vines, taking not only those which showed the disease but those surrounding which were apparently healthy. Thus in a vineyard of 50 acres he had lost but 100 vines in three years, and he believed that this incisive action had saved a wide spreading of the trouble on his place. He believed there was no use in trying to save sick vines. He had no hope in insecticides, but had hope in resisting vines. He urged his fellow vignerons to go to work like men, root out and burn sick and contaminated vines and plant the proof vines. Do not pull up the dying stumps and cart them around the valley for firewood as has been done heretofore. In this way the disease has undoubtedly been spread. He declared that there should be an effective act for stamping out the plague. There was such an act for the suppression of glanders in horses. If the vine men should be as jealous of their interests as the horse men there would be a good law against the bug.

Hon. S. C. Hastings, of Napa county, believed there was a sufficient law and urged the commission to proceed at once and stamp out the pest and use coercive power to do it. Mr. Wetmore replied that the commission had no such power under the present act. He characterized the act passed last winter as a stupid one, inasmuch as it provided that the destruction of the vines might be done and the expense recovered from the owner of the vineyard. This is stupid, as it throws all the burden upon the man who is already afflicted, whereas it should be borne by the whole interest, and there should be some moderate compensation allowed when it was necessary to destroy vines which were still productive.

Dr. Leavenworth, of Sonoma, made some pertinent remarks to the effect that much of the evil had sprung from planting vines on lands unsuited to their healthy growth, and that in this way the progress of the insect was courted.

Mr. Dresel, Jr., stated that burning infested vines would not stop the evil, for when the vine shows marked signs of failing the insects have already emigrated to healthy vines. He said he had found a few specimens of the winged form two years ago. His hope was in the regeneration of the vineyard by the growth of resisting seedlings. Mr. Dresel, Sr., said that he needed but five years to wholly replant his vineyard with Missouri vines, and then he did not fear the insect.

Messrs. Dresel and Gundlach are planting the Taylor and Elvira varieties of the *cordifolia* family from Missouri, and are grafting into them the Zinfandel, Riesling, Chasselas and other favorite varieties of *Vitis vinifera*. At Mr. Dresel's vineyard the visitors had an opportunity of seeing large plantings of these two Eastern vines which have been grafted, besides large quantities of cuttings planted in nursery rows to be rooted. A few Mission vines had been grafted with the Elvira, and although the scions had been inserted but sixteen months, there was a very fair showing of fruit and a good growth of wood. Mr. Dresel has tried on quite an extensive scale, grafting the cutting, but finds so large a proportion of the grafts fail to grow that he does not advise that method, preferring to insert the grafts after the cutting have stood one year and made roots, either in the nursery rows or the vineyard.

On Saturday morning there was held an impromptu meeting to listen to remarks by Prof. Hilgard, who had, by mistake, not arrived until after the meeting reported above. Prof. Hilgard advised the wine growers of the State to turn their attention to the production of wine of a superior quality, rather than to the manufacture of great quantities. He also recommended the manufacture of different varieties of light, non-intoxicating wines, thus keeping up good prices for the standard article. The over-production of inferior grades necessarily breaks down the prices, and renders the business of wine growing unprofitable.

At a meeting of the commission held on Saturday morning, a committee composed of Prof. Hilgard and Chas. A. Wetmore was appointed to inquire into the best plan for ridding the vines of the phylloxera, and to secure the services of a competent person to examine the vine-growing districts systematically to discover the progress of the insect and to mark its entomological characteristics in this State. The commission has appropriated \$150 toward defraying the expenses, and have commissioned Prof. Hilgard to request the Regents

of the University to set aside a like amount. This promises to be the first systematic attempt to rid the vines of this destroying insect. The people of the Sonoma valley have gained a new plume for hospitality in the generous manner in which they entertained the many visitors who attended the meeting. We had the good fortune to be quartered on the "Home Farm," the property of Morris Bros., about four miles up the valley from Sonoma city. From all we heard from the grape-growing and journalistic tramps who descended on the valley during the meetings they were extremely gratified with their reception. We have a cask full of facts gained by eye and ear which will doubtless leak into our columns for some time to come.

SEWAGE FARMS IN GREAT BRITAIN.—The report of the judges appointed by the Royal Agricultural Society to adjudicate the prizes in the Sewage Farm Competition in 1879 has been published. This report shows that there are about 100 sewage farms in operation in Great Britain. Where market gardening is in vogue the gross returns per acre are largest, and also the amount of wages paid per acre. The gross returns per acre for Leamington appear small.

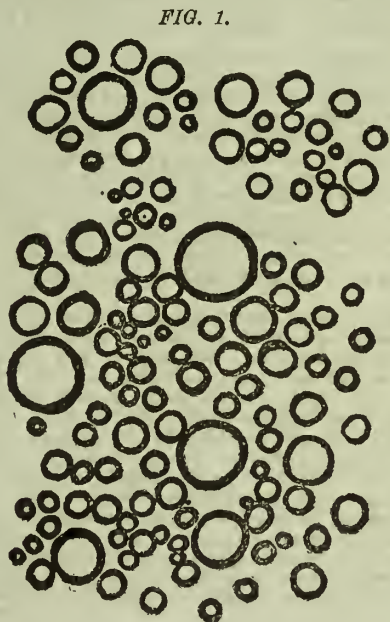


FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.

PURE AND DISEASED MILK AS SEEN WITH THE MICROSCOPE.

This is due to a large acreage of grassland. When, however, the gross returns per head of the population contributing to the sewers are considered, Leamington comes out in a more favorable light; but, here again, the large acreage absolutely increases this amount beyond its true value. A large area of ordinary agricultural land attached to a sewage farm does not always add to its profit. In the conclusion of the report the sanitary aspect of sewage farming is considered. Among the persons either living or working on the farms, the rate of mortality, on an average, does not exceed three per thousand per annum. This, it is added, is a very low rate, but, in all probability, it may not be lower than would be found in an equal number of selected lives, taken from an agricultural district. The result shows that sewage farming is not detrimental to life or health.

A COMPANY, lately organized in Baltimore, is engaged in exporting baled manure. Use is made of half a dozen such presses as are employed in compacting cotton. The manure is made up into parcels resembling bales of hay, and when the parcels are covered with burlap bagging they look as well as do packages of dry goods. The manure is shipped to North Carolina, Virginia and other States, and to Cuba.

THERE is said to be an apple tree in Washington county, Pa., which bears nine varieties of apples, which ripen at various times during the year.

Harvest Figures.

We have clipped from our interior exchanges a few notes of grain yields per acre, as follows: Watsonville *Pajaronian*: On the Chittenden rancho, farmed by Henry Peckham, a tract of 100 acres yielded 30 cents of barley to the acre.

Colusa *Sun*: John F. Able, of Freshwater, is one of the most successful farmers in Colusa county, as he has had a good crop every year. This season his wheat averages 16 sacks to the acre of nice, plump wheat, and he thinks the wind injured him at least one-fourth. He will get this year a little over a ton to the acre, and he has never got less than a ton.

Stanislaus *News*: We have been informed that much of the summer-fallowed land around Salida is turning off 35 bushels to the acre. A farmer informed us that it would have gone to over 40 bushels had it not been for the blighting winds.

Marysville *Appeal*: It is reported that Wm. P. Harkey & Co. will realize 50 bushels to the acre off the Gilkyhauer ranch, above Yuba City. Chico *Record*: Z. W. Burnham has cut and thrashed a piece of volunteer wheat containing about 300 acres, which yielded about 5 400

Milk Under the Microscope.

We reproduce from Mr. Sneath's pamphlet, to which we alluded last week, several engravings showing the distinction between healthy and diseased milk as seen by aid of the microscope. The drawings are by Prof. R. U. Piper, of Chicago, who has made prolonged studies of the subject. Fig. 1 is healthy milk. Milk appears under the microscope as if made up of innumerable round globules of varying sizes, floating in a clear or slightly yellowish fluid. In bad or diseased milk, in some cases, this fluid is quite blue in color. The regular rounded form and freedom of movement of the globules in the fluid in which they are suspended seem to be such constant factors in healthy milk as to justify the statement of many authorities that any departure from this condition indicates disease. There is to be observed in that which is not sticky orropy on the microscopic slide a constant motion, called the Brownian motion, the globules dancing as if instinct with life. This motion is always present in healthy milk so long as it remains fluid on the slide. In diseased milk this motion of the globules ceases at once, or fail even to be present, when first placed on the slide under the microscope. The corpuscles aggregate and stick together in groups or seem to be glued to the slide. The globules as seen in the engraving, Fig. 1, are magnified 340 diameters.

The other engravings show the appearance of diseased milk. Fig. 2 is a sample of milk taken from a milk wagon in Chicago. There may be seen some regular globules which are doubtless the true spheres found in pure milk, but there is also a mass of foreign matter which doubtless consists of fungus or animal germs and portions of diseased tissue from the udder of the cow. The appearance in Fig. 2 was gained soon after the milk was drawn. After it was allowed to stand over night it presented the appearance in Fig. 3. Here are seen bacteria, fungi and vibriones, which Prof. Tyndall describes as "long, eel-like organisms, tossing the globules aside, and wriggling more or less rapidly across the field of the microscope." These organisms, that is the bacteria, he tells us, are the agents of all putrefaction.

Fig. 4 is another sample of diseased milk. It was taken from the food of a sick child in Chicago, the milk being supplied by cows fed on distillery swill. The microscope showed it to be filled with uncleanness and diseased matters, and when the food of the child was changed to pure milk it recovered from its illness speedily.

The evil character of the milk which is furnished to city people from swill-fed cows, results, it is believed, in two ways. It may be produced by the introduction of ferments, which enter the blood of the animal from the unhealthy food, and it is also the result of the diseased condition of the udder which accompanies such improper diet. The danger of partaking of poison in their milk always overhangs people who use milk from dairies fed upon distillery or brewery refuse. There is also a diseased condition produced in milk by cows drinking stagnant and foul water, which should always be guarded against both in city and country. It has been proved by the experiments of Prof. Law, of Cornell University, that cows drinking water from impure pools—water containing fungus germs—will have these low vegetable growths conveyed into the circulation, and from the blood transmitted to the milk; that, although the milk did not at first show any signs of the fungi, yet, on standing, it turned out to be bad, and on microscopical investigation, the same fungus vegetation found in the water appeared also in the milk. The cows, too, on examination were found to be affected in health, though to a casual observer they might not appear ailing. The microscopical examination of milk from swill-fed cows has shown not only fungi, but particles of pus, and there can be no doubt that serious troubles have come from partaking of such milk.

The chemical composition of milk made from slop-fed cows is also of interest in this connection. As compared with the composition of pure milk it shows marked variations. We give below an analysis of milk from distillery-fed cows of New York, as follows:

Water.....	93.0
Butter.....	1.8
Caseine.....	3.4
Milk sugar.....	0.7
Salts.....	100

Now, milk of average quality has the following composition in 100 parts:

Water.....	87.40
Butter.....	3.43
Caseine.....	3.12
Milk sugar.....	5.12
Mineral matter.....	0.93
	100.00

It will be seen, in comparing the two tables, that the swill-milk contains not only 6% more water, but is sadly deficient in butter and milk sugar.

ON FILE.—"Farm House Chat;" "Lake County Notes," S.; "Notes," E. B.; "Birds and Rabbits," M.; "Odessa Wheat," W. R. O.

A. M. NORCROSS, of Norwich, has set two hens, each with 12 eggs, dedicated one to Hancock and one to Garfield, and the most successful hen will determine how he will vote.

sacks, which give a yield of 18 sacks or 40 bushels per acre.

WAGES OF FARM LABORERS.—The annual report of Col. Worthington, Statistician of the Agricultural Department, just made public, gives some interesting facts concerning farm labor and wages. In the Pacific and mining States and Territories the range of wages for farm laborers, without board, is between \$30.75 in Montana and \$22.50 in Washington Territory. Of the States east of the Missouri, Minnesota pays her farm laborers better than any Northern State, the monthly wages, with board, being \$16.75, while Vermont pays only \$12.60. In the Southern States prices paid range from \$12.26 in Louisiana to \$7.32 in South Carolina, the average being \$9.60. The cost of keeping a laborer for the average of the whole country in 1880 is \$7.17 per month against \$7.25 in 1879. The demand for laborers is good in all sections of the country.

COMB FOUNDATION.—J. D. Enas, of Sunny-side Apiary, Napa, Cal., sends us a specimen of comb foundation for brood comb. It is made from dark wax, as color in foundation for brood comb is less important than body and ability to resist sagging in the frames. These desirable qualities seem to be well embodied in Mr. Enas' specimen.

NEBRASKA and Missouri emigrants are moving into Montana.

Utilization of Additional Species.

[BY W. N. LOCKINGTON.]

New Sources of Food.

Advance in civilization is marked by an advance in the choice of food. In the words of Spencer, "There is an analogy between progress in bodily nutrition and progress in mental nutrition. The higher types of mind, like the higher types of body, have greater powers of selecting materials fit for assimilation."

As there is room for much further advance in mental nutrition, so is there for much advance in bodily nutrition. The choice of food has hitherto been determined empirically. Prejudice is the usual guide. A few experiments with foods, and finding some hitherto unused or little known article to be exceedingly nutritious, or to supply a want, they recommend its adoption, but either their recommendation is unheeded, or the new article wins its way into favor with exceeding slowness.

The multitudinous forms of animal and vegetable life could furnish us with many an article of food equal or superior to those in use. We have not yet been through the full range of nature in our search for food. Yet our wide-spreading commerce has made us familiar with many foods that were formerly unknown, so that, prejudiced though we are, our range of food is wide compared with that of our ancestors, or that of a savage, but almost all the plants we grow for food purposes, as well as almost all the animals we eat, are, if not those used by our own ancestors, those which have been used for ages by other peoples with whom we have come in contact. It is the same with animals and vegetables used in the arts. We have adopted them from others—few indeed have had their merits discovered and utilized.

The seed of certain grasses and certain leguminous plants have for thousands of years been the chief sources of nutriment procured by man from the vegetable world, and they fulfill his purpose well; but the two immense orders of *Leguminosae* and *Gramineae*, the latter entirely, the former chiefly composed of plants that are adapted for food, could furnish many additional species that would not only vary our dietary, but give us a supply or food under conditions that preclude the growth of species now in use. The number of fruits cultivated might be greatly increased. Almost every section of country furnishes some nut or berry which even in its wild state is pleasant to the taste.

What might not cultivation do for some of these. It has given us all the varieties of plum and cherry, apple and pear, from sonar and unpromising originals, and the long category of vines from one European species. Many edible roots, stems and leaves have yet to be discovered or improved into value.

A few species of the order *Cruciferae* are eaten, while the rest are neglected. Yet the whole order is good for food. A botanist could multiply examples throughout the range of vegetable life, but it will suffice here to give one more; the mushroom or fungus tribe, so little known, so much dreaded, yet containing so many edible species. Again and again it has been shown that the same amount of observation which enables a man to distinguish nightshade from the potato, or carrots from hemlock, would enable him to discriminate between the poisonous and edible mushrooms, yet only an enthusiastic band ever dares to venture beyond the conventional species. The species favored by the Anglo-Saxon is in ill-favor with the Italian, who has a wider range of edible fungi, as have also the Frenchman and the Russian.

As mushrooms can be grown in places where ordinary plants will not flourish, an increased taste for and knowledge of them would be of great benefit to our poor. If from the vegetable world we turn to the animal, we find prejudice and ignorance still more rampant. The Mosaic law is still obeyed in this matter by nations who break it in most others.

The ordinance which restricted the Israelites to the use, for food purposes, of such quadrupeds only as chew the cud and divide the hoof, was in the then state of knowledge a wise and safe one.

All such animals are herbivorous, and are better fitted for food than carnivorous mammals. They are of large size, furnish an abundance of healthy muscle, and have in many instances been domesticated for ages. But numerous other large animals are herbivorous also, and extensive series of small animals are graminivorous or frugivorous, devourers of seeds or fruits. Why should not these be eaten? The omnivorous pig, whose diet, at least in a state of domestication, is not particularly choice, and whose flesh is less nutritious and less wholesome than that of most other mammals, is largely eaten by man, yet the prejudice against horse flesh is almost universal among Aryans.

We occasionally eat a hare or rabbit, but the rest of the rodentia, mostly seed or root-eaters, are neglected. The ground squirrels, a plague on the Pacific slope of the United States, would cease to be so were man to make a systematic onslaught upon them to gratify his taste. Their flavor is pronounced excellent by all who have tried them. The taste for this or that particular article of food is to a great extent acquired.

Many who ultimately become fond of oysters dislike them at first. The same remark holds

true of many other foods in common use. The muscles of all birds and mammals are suitable for food when in a perfectly healthy condition. More care is necessary in the case of carnivorous mammals, since their flesh decays more rapidly; yet it is doubtful whether one person in ten could distinguish cat from rabbit were they cooked alike and the more tell-tale portions removed.

The strong or fishy flavor of marine mammals and birds would doubtless be objected to by those whose gustatory nerves had learned to relish high game and Limburger cheese, yet as safe sources of nutriment they would at least be superior to the former.

Civilized nations of Aryan descent devour many mammals and birds, some batrachia and many fishes; but the intervening class of reptiles is almost wholly ignored. Why? Simply because of the pious horror of the snake. Lizards, as they have long tails, are viewed only a little less unfavorably, while tortoises—thanks to their widely different form—are accepted with some reservation; yet the flesh of snakes and lizards is as firm, as nutritious and as healthy as that of fishes, if not more so; and those who have eaten them among peoples who do not share our prejudices, have had their own shaken. The Frenchman, who is a good cook, eats frogs; the Englishman cannot conquer his prejudice.

Leaving the vertebrata; the choice made by civilized nations among the invertebrata is highly eccentric.

A Spaniard or Frenchman relishes a cuttle fish, which an American or Englishman shudders at; and the harmless snail and slug, *per se* as good food as oysters, are esteemed by some nations and detested by others.

There is little doubt that the great majority of mollusks of sufficient size are healthy food, and that man has yet to discover among them many a *bonne bouche*.

Descending lower still, sea-urchins, sea-anemones and sea-cucumbers are eaten by some highly civilized nations, and who can tell how acceptable they might prove to an Anglo-Saxon could he but conquer the horror he feels at their appearance.

P. H. Gosse, so well known for his interesting works on natural history, tells us how he cooked the common sea-anemone of the English coasts (*Actinia mesembryanthemum*), and how fond his little one became of it, asking for "more tinnies."

Probably the classes of animals which are of least value as food to man are those included in the sub-kingdom, Arthropoda, namely, insects, arachnids, myriapods and crustacea, the multitudinous types grouped together as *Vermes*, or worms, and the uni-celled organisms, or Protozoa. Some of the larger crustacea, known as crabs, lobsters, crayfish and shrimps, are eaten as delicacies, and it is probable that many other species are equally edible, but the vast majority of the class is only of value to man inasmuch as it furnishes food for larger marine animals.

Insects are eaten by many wild tribes. Some of the Indians of the Pacific coast find in the abundance of grasshoppers that plague the white man, an abundant store of food. Similar Orthoptera are largely consumed by the natives of South Africa, and those of some of the Sunda Isles esteem dragon-flies a great delicacy, catching them, according to Wallace, on bird-limed twigs. Though there can be comparatively little nutriment in the soft bodies of insects, yet there is no reason for the horror with which they are regarded, as articles of food, by the Aryan races. A fancy for the flavor of the Rocky Mountain locust would go far toward decreasing the devastation of that dreaded pest.

Some of the marine worms are accounted delicacies by certain tribes, but the greater part of the varied forms belonging to the sub-kingdom must be regarded, so far as they are useful to man at all, as only indirectly so through their consumption by animals he feeds upon. The same may be said of the Protozoa, which, swarming in countless numbers in sea and river, lake and marsh, furnish food for the creatures above them.

Putting aside all question of protection or preservation of plants and animals now used as food, the examples adduced are sufficient to show that the range of foods might, with advantage, be greatly extended.

Much remains to be learned respecting the diseases and bodily states of cold-blooded animals and of the invertebrata before we can use them for food with the same confidence with which we eat beef, mutton or poultry. The diseases of the higher animals are, to a great extent, similar to our own, and we have learned how to discriminate; but we do not recognize the diseases of fishes, crabs and shell-fish. The stories of poisonous fish probably arise from this source. Every year we hear of cases of poisoning, well authenticated, from eating mussels, lobsters or other crustacea, or mollusks, which are usually healthy food. All these creatures are subject to diseases which we have not yet studied, and it may be that at certain seasons, such as immediately after reproduction, some of them are unfit for food. This is one well-grounded cause of prejudice, but one which will be removed as our knowledge of the lower forms of life extends.

New Sources of Useful Materials.

The animal and vegetable world furnish us with other things besides food. Materials of other descriptions furnish, by their manufacture, a means of procuring food to some, while the articles manufactured are of use to all. Commerce, which has made us familiar with foods previously unknown, has helped us still

more in this direction, yet when we consider the great variety of vegetable and animal life, we cannot but believe that much more remains to be discovered, or, at least, utilized.

Other nations, many of them but semi-civilized, others barbarous, have, in these things, been our teachers. As maize and potatoes were known to the Indians before we learned to use them, so was *Phormium tenax* to the Maoris, and cotton to the Hindoos and Chinese.

When it is remembered what vast industries depend upon the supply of fibrous plants, and that a fiber with different qualities, as it could be applied to new uses, would start a new branch of trade; when we see how extensive are the manufactures carried on from gum-resins like caoutchouc, or gutta-percha, we must acknowledge that the discovery of a fiber or a resin with new uses would furnish a livelihood to many additional workers. Take paper for example. Until lately this article was made from linen rags, but as the supply of that material fell short of the demand; cotton waste, straw, the Yucca plant, and other vegetable materials came into use, and it is evident that it can be made from almost any fibrous substance reduced to a pulp. Few are the plants that cannot be utilized by man. If valueless for food or for building purposes, a fiber, a gum, an essential oil, a medicinal product, may be found in most.

The constantly-increasing stock of geographical and botanical knowledge brings new materials into the notice of scientists, and the constantly-increasing needs of mankind brings them slowly into public notice. The secretion lately found in Arizona, upon the branches of *Larrea Mexicana*, and of another plant, may yet enable us to dispense with the imported lac from Asia. Chemically the two seem identical; practically the despised Indian, here again our teacher, has long ago proved its use in the mending and making of vessels for cooking purposes.

Here is a case of a new material furnished by the animal kingdom, for it appears almost certain that the secretion, like that of wax or honey, is elaborated by the insect from the juices of the plants it feeds upon. Insects, so little used for food, so terribly destructive to our food plants and annoying to our domestic animals, may yet yield to us many useful materials; may yet prove in this respect among the most useful of organisms. Silk, honey, wax, gum-lac, cochineal, all are insect products, elaborated by insects from plants; and the last two are the produce of *coccidae*, those destroyers of our orchards and orangeries. Does not this point a way to the utilization, in some cases, of our insect pests?

The higher animals may not furnish us with many additional materials. Horn, hair, fur, wool, hides, feathers, bone, ivory, have their known uses. Improvement here is to be looked for rather in new uses for known materials than in the discovery of new ones. But the lower animals may yet yield us many useful substances. The great treasure house of the sea holds more than we have yet learned the use of. Shells, corals, the horny axes of soft-corals, and many other portions of marine animals, may be utilized for something more than show; and other secretions may be found as useful as those of the sepia. But though the number of useful species—useful either directly or indirectly—is so large that it includes probably the greater portion of existing organisms, yet some are far more useful than others, and some are directly injurious to more useful organisms. Such species need not be cultivated, except where they do not come into direct competition with more useful ones; but their consumption or use by man would diminish their numbers and give room for the more useful forms, which are now often permitted by man, even in his own cultivated fields, to be crowded out by the less useful.

ANCIENT AND MODERN MORTARS.—In hardness and binding qualities the ancient mortars surpass the modern; but the supposition that this superiority is to be ascribed to certain secrets of manufacture, or of manipulation, which in our day have been lost (although this assertion is sometimes made), is purely gratuitous. The true explanation, without doubt, is that all mortars improve as they age, and attain their maximum hardness and strength only after a very long time. This is accounted for by the fact that a chemical union takes place between the lime and the silica of the sand composing the mass, and this is an extremely slow process, requiring years to complete. Comparative examinations of ancient and modern mortars, show that the older the mortar the more silicate of lime it contains, and consequently the better its quality.

TO MAKE COURT PLASTER.—Soak isinglass in a little warm water for 74 hours; then evaporate nearly all the water by gentle heat; dissolve the residue in a little dilute alcohol, and strain the whole through a piece of open linen. The strained mass should be a stiff jelly when cold. Now stretch a piece of silk or sarsenet on a wooden frame, and fix it tight with tacks or pack thread. Melt the jelly and apply it to the silk thinly and evenly with a badger-hair brush. A second coating must be applied when the first has dried. When both are dry, apply over the whole surface two or three coatings of balsam of Peru. Plaster thus made is very pliable, and never breaks.

THE Egyptian obelisk arrived at New York, July 20th.

PREMIUM OF \$1,000 FOR SCIENTISTS.—The National Board of Trade passed a resolution, at a meeting held on the 12th of December last, offering the sum of \$1,000, as follows, viz.: \$500 for the best essay and draft of bill on the adulterations of food and drinks in the United States, \$300 for the second best, and \$200 for the third. The objects to be kept in view in preparing the essay shall be to show: First, what are the deleterious adulterations of articles of food and drink in this country; second, the effect of these adulterations on health and trade; third, the best means of detecting and preventing their recurrence with the least interference with commerce, and with the least expense to the community; fourth, the reasons for the legislation proposed, is the draft of the laws proposed must be in such form that they can be at once submitted to State legislatures and to Congress for adoption. The different essays must be written in legal form on foolscap paper, the writing to be on one side of the sheet only. The time for completion is limited to the first day of October, 1880. The Committee of Award consists of Dr. John S. Billings, U. S., Washington, D. C.; Prof. Chas. E. Chandler, New York; Ex-Chancellor B. Williamson, Elizabeth, N. J.; A. D. Hardy, Esq., Boston; and John N. Gano, Esq., Cincinnati.

FOSSIL SHARK'S TEETH.—In excavating for a ditch along the face of a bluff bordering on Kern river, says the Kern County Californian, Mr. John Barker recently found a magnificent fossil specimen of a shark's tooth some two inches in length. The enamel was so perfectly preserved that the finely serrated edges of the tooth were as sharp as the teeth of a saw. No bones of this animal were found. Fossil remains of this character are quite common in that section. Shark's teeth by the dozen have been picked up on the tops of the adjacent hills 500 ft. or more above the river. This is a fine field for the geologist. The river has cut down hundreds of feet through the sedimentary marine formation which is thus exposed to view in horizontal strata. Imbedded in the face of the bluff on either side of the river for a distance of four miles below the mouth of the canyon, are huge granite boulders, brought down and left by the glacier that chiselled out the gorge in its present form.

RESPIRATIVE POWER OF MARSH AND WATER PLANTS.—It is a well-known fact that these plants are able to thrive in media which contain little or no oxygen. They are all very poor in nitrogen, and E. Freyberg has shown, by a number of experiments, that this latter property accounts for the former. His investigations prove that the respirative power of plants varies with the amount of nitrogen they consume, and this, taken in conjunction with the fact that water plants contain large air chambers which do not often need refilling, accounts for their being able to exist in media which contain very little oxygen.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotato Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyvale, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

CHOICE Irrigated Vineyard Lands.

PLEASANT HOMES,

Good Society and Good Schools!
THE WASHINGTON IRRIGATED COLONY,
In Fresno Co., Cal., presents

GREAT INDUCEMENTS

To those seeking HOMES and PROFITABLE INVESTMENTS. This Colony, situated within five miles of the Railroad and County Seat, contains over

7,000 Acres

Of Rich Irrigable Lands, subdivided into lots with Streets and Avenues with ABUNDANT WATER RIGHTS and IRRIGATING CANALS CONSTRUCTED, and with

Perfect Title to both Land and Water.

Fresno County is already recognized as the best in the State for Vineyards; and the abundant facilities for Irrigation affords

Complete Protection from Phylloxera, Which is already so destructive to the dry vineyards of the State. These lands are being sold at

Low Prices and on Liberal Terms.

Nearly 3,000 Acres are already purchased, and are being improved by excellent families, whose numerous Alfalfa fields, fine cows, and FLOURISHING CHEESE FACTORY attest the industry and sagacity with which they provide a support, while they cultivate their Fruits and ample Vineyards. For full information apply for Circulars at the office of the

WASHINGTON IRRIGATED COLONY.

22 Montgomery St., S. F. or at the Colony.
WENDELL EASTON, Treas. J. W. NORTH, Genl. Agt.

GRANCERS' BANK Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. O. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CHESSEY.....Stanislaus Co
SENEOA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES OF DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

OXYGEN.

What is it? Everybody knows it is as

essential to life as food itself. Yet when people are ill

for the very want of revitalization through respiration,

they dose themselves with drugs and bitters to the effect

of demoralization! All Invalids should read Drs.

STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*,

which is sent free to all who may ask for it. The subject

is worthy of investigation. References to physicians in

San Francisco, who use and prescribe Compound Oxygen

in practice. As prepared for home use (conveniently sent

to any address) it may be obtained of H. E. MATHEWS,

606 Montgomery street, S. F., upon the same terms as

furnished by Drs. Starkey & Palen, Philadelphia, Penn.

Complete Instructions with each package.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

LAND IN FRESNO.

6,000 ACRES ADJOINING THE TOWN AND THE

Central Colony. Choice, easily irrigated, canal

already on the land. For sale in quantities to suit. Ap-

ply to the undersigned, or to THOMAS E. HUGHES, in

Fresno. Also, 35,000 acres in Kern county.

E. JANSSEN, 210 California St., S. F.

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue, Address

BOERICKE & TAFEL,

Homœopathic Pharmacy, San Francisco.

50 Portmanteau, Snowflake, Chromo, Motto Cards, name in gold and jet 109. G. A. SPRING, E. Wallingford, Ct.

Educational.

THE DEGEN

Classical & English School,

1265 Franklin St., Oakland Cal.

The Sixth Year Begins July 14th.

This School prepares boys for the State University or Eastern Colleges. None of our students has ever failed to pass the entrance examinations. There are no boarders, but board will be found in select private families, for those who may desire it. Many of our best students have been from the country.

For Catalogues address the Principal,

GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.

ST. MATTHEW'S HALL,

SAN MATEO, CAL.

A Classical and Military SCHOOL FOR BOYS.

The next term commences

Thursday, July, 22d, 1880.

For information address the Principal,

REV. ALFRED LEE BREWER, M. A.

SACKETT

BOARDING SCHOOL FOR BOYS.

Fits Boys thoroughly for the

University of California, for College or for Business.

The best instruction is provided by Teachers of Experience and ability.

Location most healthful and home equipment unequalled by any Boys' School in the State.

For Catalogue, address the

Principal, D. P. SACKETT, A. M.

No. 529 Hobart St., Oakland, Cal.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 950 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,

Washington Corners, Alameda Co.

Mrs. Colgate Baker's BOARDING AND DAY SCHOOL

For Young Ladies,

AND KINDERGARTEN FOR CHILDREN,
850 Van Ness Avenue, San Francisco.

KINDERGARTEN SCHOOL.

717 Turk St., S. F.

Children Boarded at Reasonable Terms.

MRS. H. SEMLER,

Principal.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS
BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at every world's fair for 13 years. Prices, \$51, \$57, \$66, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$6.38 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested. Young Queens ready April 1st. Also, Wintered-over Queens. Purity and safety guaranteed. Comb foundation, smokers, knives, bee-books, etc. Sample Premium Hive. Address with stamp.

JOS. D. ENAS,

Sunny Side, Napa Co., Cal.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

A. AITKEN.

AITKEN & FISH,

F. N. FISHER

Premium Pioneer Marble Works,

617 K St., Bet. Sixth & Seventh, - - - SACRAMENTO, CAL.

Stock Notices.

E. W. WOOLSEY & SON,
Importers and Breeders of THOROUGHBRED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

RAMS FOR SALE.

300 THOROUGHBRED

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first importation of Spanish Merino Sheep to California, in 1854.

Prices to suit the times. Residence, one mile north of McConnel's Station, Western Pacific Division C. P. R. R.

P. O. address, MRS. E. McCONNELL-WILSON,

Elk Grove, Sacramento Co., Cal.

300 Choice Rams FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,

Stockton, Cal.

BK BLISS & SONS' HAND BOOK.
A COMPLETE GUIDE FOR THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,
Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

Threshing Engine For Sale.

A 7x10 HOADLEY IN GOOD WORKING ORDER.

Price, \$500.

Delivered at Benicia or San Francisco.

Address J. F. BEAN,

Benicia, Cal.

Lands for Sale and to Let.

FRUIT FARM

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for \$25,000. Is offered for \$20,000 and will pay a Good Interest on the investment.

There are 113 acres of choice land—40 acres in Strawberries, 7 acres in Blackberries, 700 young Pear Trees, and an Old Orchard. Has several flowing wells, a large house of 10 rooms, marble mantels, etc. The house is completely finished, Brussels carpets on most of the floors; parlor, sitting-room and bed-room furniture all nearly new.

With Stock consisting of Horses, Cattle, Hogs, Farming Implements, etc., sufficient for the place, all for the price above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Pajaro Valley Nursery

FOR SALE

Situated in the Town of Watsonville.

WAS ESTABLISHED IN 1867.

Contains 27 acres of land. There is about 60,000 trees under cultivation, embracing all the leading varieties of Fruits, with Shade and Ornamental Trees, 7 acres of the best varieties of Strawberries, Raspberries and Blackberries, together with all the necessary Tools, Buildings, etc., for conducting a first-class business. An abundance of water for Irrigation.

The proprietor being compelled to sell for the reason that he is about to leave the State, offers to any one wishing to engage in a profitable and well-established business a very great bargain. For further particulars apply to

JAMES WATERS, Prop.,

Watsonville, Santa Cruz Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N. R. 6 W. M. D. M. will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 20th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

STRAWBERRIES

Newest and Best Varieties,

INCLUDING

"SHARPLESS"

Grown in Pots and ready for shipment after Aug. 1st. New descriptive priced catalogue FREE. Address

ELLWANGER & BARRY,

Rochester, N. Y.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1860. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast Inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome st., San Francisco.

COPP'S

AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township and Section Corners; How to Homestead and Pre-empt land; How to Enter land under Timber Culture, Desert, Townsite and other Laws. Sent by mail postpaid for 50 cents.

DEWEY & CO.,

202 Sansome St., S. F.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING JULY 13TH, 1880.

- 229,872.—ANIMAL SHEARS—J. G. Corey, Santa Paula, Cal.
 229,965.—BALLOON-BOX—W. Crowe and T. R. Hester, Napa, Cal.
 229,968.—STRAM BOILER—J. A. Cunningham, Sacramento, Cal.
 229,971.—FROG FOR TIMBER CHUTES—H. L. Day, Truckee, Cal.
 229,884.—SASH FASTENER—N. Haynes, San Jose, Cal.
 229,903.—ORE FREDER—J. O. Moritz, S. F.
 229,908.—SAWING MACHINE—E. Nunan, S. F.
 229,914.—GAME—W. G. Read, S. F.
 230,009.—ELECTRICAL SWITCH-BOARD—John I. Sabin, S. F.
 229,890.—STEERING LEVER—J. Gates, Portland, Ogn.
 230,034.—GATE—A. B. Minton, Philomath, Ogn.
 230,004.—BASKET—R. E. Morey, S. F.
 230,079.—STEERING APPARATUS—A. J. Stevens, Sacramento, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

POPULAR SCIENCE MONTHLY.—The number for August of this sterling monthly of popular science presents a full list of instructive and entertaining paper from disciplined thinkers and writers. The opening paper on "The Kearney Agitation in California," by Henry George, is a vigorous exposition of some of the present phases in the working of the political and social institutions of the country. The subject is treated with great care and power, and is entitled to an attentive reading. The delightful essay by M. Radau on "The Interior of the Earth," is completed. Prof. Huxley has a paper on "The Method of Zadig," relating to retrospective prophecy, which exhibits the writers characteristic traits. "Geology and History," by Prof. Grant Allen, ranks among the impressive and valuable papers. Two articles on natural history, under the titles of "Types of the Nubian Race," and "The Cinchona Forests of South America," will be found readable. Mr. G. B. Halsted's paper on "Algebras Spaces Sogies," is a remarkable report on the higher sciences; and Miss E. A. Youman's description of Prof. Rains' method of teaching chemistry in public schools, is interesting. There is a pleasant sketch by Prof. Joy of the veteran chemist, Frederick Wohler, whose 80th birthday is to be celebrated next month. Besides these principal papers there are several excellent popular science articles. And the editor's special work in editorials, notices of books and miscellany is fresh and complete. This valuable monthly of popular science is edited by one of the most remarkable men in America; and we cannot do a better service to young men especially than advise them to read it regularly. Its study will elevate their thoughts and help them to reflection, and will gradually lead them to systematic and higher methods. The *Popular Science Monthly* is published by D. Appleton & Co., New York city, at \$5 a year, or 50 cents a copy.

A SEVERE ACCIDENT.—Recently Jas. Doyle, of Vallejo, fell some 30 ft. over a rocky precipice at Eden falls, at Anderson Springs, Lake county, breaking his leg. For a time he lay senseless in the water, and the only wonder is that he did not lose his life. After regaining consciousness he was barely able to raise himself upon the brink of the pool below the falls, where his wife discovered him. He was taken to the hotel at the Springs where he was cared for in the kindest manner, and is now recovering. Mr. Doyle had been camping at the Springs for several weeks and was improving in health before the accident. He wishes us to say that his language is inadequate to fully express the praise and gratitude to the Anderson family for their unselfish kindness to a poor man in his hours of pain and misfortune.

STRIKING REDUCED TO AN ART.—It seems, says the *Railroad Gazette*, that striking for higher pay has been reduced to an art. The other day a lot of track men on the Illinois Central road, in Iowa, engaged in replacing iron rails with steel, are said to have gained their end by first taking up about 1,000 ft. of track and then striking. Passenger trains were delayed seven or eight hours by this performance, and if the strikers had been arrested for obstructing the mails they would have been served right. Men have a legal right to quit work if they think they are not paid enough, but they have no right to do it in a way intended to damage the public.

In England about one in 21 of the population has an account at a savings bank; in Wales, one in 40; in Scotland, one in 12; and in Ireland, one in 100. The amount owing to depositors on November 20th, 1879, was equal to an average of £1 11s. 4d. per head of the population in England; 18s. per head in Wales; £1 17s. 5d. in Scotland, and 7s. 10d. in Ireland.

THE MECHANICS' FAIR.

New and Interesting Features.—Prospects of Unusual Success.

OPENS AUGUST 10th, 1880.

The Fifteenth Industrial Exhibition of the Mechanics' Institute of San Francisco will open with all the usual formalities, on Tuesday, August 10, 1880. The Managers of the Institute have put forth extra exertions to make this year's exhibition of superior usefulness and interest—and a fitting exponent of the character of our fields, our workshops and of our social and æsthetic life. Circulars have been issued clearly and fully announcing the purposes and expectations of the management, and calling upon all the varied industrial interests of the State, and of the entire Pacific coast, to come forward and make the exhibition of this year one which shall excel all that have preceded it.

It is confidently expected that the liberal offer of premiums of gold, silver and bronze, and diplomas, and cash will present an additional inducement for exhibitors to come forward and put forth their best efforts to secure such a combination of attractions as cannot fail to call out an unusually large number of visitors from both city and country.

One of the leading features of the fair will be

The Horticultural Display.

To effect this, an arrangement has been made with the California State Horticultural Society, to take special charge of this interesting department and make it an exhibition which shall be worthy of our State, and a proper representative of its grand horticultural interests. This portion of the exhibit will be wholly under the charge of the Horticultural Society, and the appointment of Judges will be made with reference to their special fitness for the examination of the exhibits entrusted to them. The premiums will be awarded by the Institute solely upon the recommendation of such committees as the society shall appoint. All persons engaged in horticulture, whether as professional or amateur, are invited to do what they can towards making the exhibit comprehensive and representative.

Horticultural Premium List.

PLANTS, TREES AND FLOWERS.

- To the exhibitor making the best and most attractive continuous display of plants and flowers during the exhibition..... Silver medal and \$75
 Second do..... Bronze medal and 50
 To the exhibitor making the best display of foliage, plants and ferns..... Silver medal and 50
 Second do..... Bronze medal and 25
 Best group of hardy palms and araucarias..... Bronze medal and 25
 Best group of orange or lemon trees, rarity, height and growth considered (not less than 10 specimens)..... Silver medal and 25
 Best display of fuchsias in bloom in pots (not less than 25 plants)..... Bronze medal and 15
 Best continuous display of cut flowers during the exhibition..... Silver medal and 35
 Second do..... Bronze medal and 20
 Best continuous display of gladioli (not less than 40 glasses)..... Bronze medal and 25
 Second do..... Diploma and 10
 Best display and variety of dahlias..... Bronze medal and 25
 Second do..... Diploma and 10
 Best display of ornamental grasses..... Bronze medal and 15
 Best display of rustic work and filling..... Silver medal and 30
 Best single specimen of rustic work and filling..... Diploma and 10

OPEN TO AMATEURS ONLY.

- Best 12 house plants, \$10; Best display of cut roses, \$10; Best specimen of climber on globe or trellis, \$5; Best collection cut flowers, \$10; Best carnations, \$5; Best 12 variegated-leaf geraniums, \$10.

FRUIT—OPEN TO GROWERS ONLY.

N. B.—No premium will be awarded unless the fruit is properly named.

- Best collection apples, \$20; Best 12 varieties apples, \$10; Best collection pears, \$20; Best 12 varieties pears, \$10; Best collection peaches, \$20; Best 6 varieties peaches, \$10; Best 6 varieties canning peaches, \$10; Best collection plums, \$10; Second do, \$5; Best collection prunes, \$10; Best collection nectarines, \$5; Best collection quinces, \$5; Best collection figs, \$10; Best collection oranges, \$15; Best collection lemons, \$10; Best collection limes, \$5; Best display of grapes, \$25; Best collection table grapes, \$15; Best 6 varieties table grapes, \$10; Best collection wine grapes, \$20; Best 6 varieties wine grapes, \$10; Best collection raisin grapes, \$15; Best collection seedless raisin grapes, \$15; Best display Japan persimmons, \$10; Best display pomegranates, \$5; Best display blackberries, \$5; Best display raspberries, \$5; Best display strawberries, \$5.

DRYED FRUIT.

- Apricots, best 10 lbs, \$5; Apples, best 10 lbs, \$5; Prunes, best 10 lbs, \$5; Peaches, best 10 lbs, \$5; Plums, best 10 lbs, \$5.

IMPORTANT TO VISITORS.

To visitors this exhibition will offer a combination of attractions, such as has never before been presented to the public of California, and far more than sufficient to repay them for their outlay. The display of the natural productions alone of this coast will be more in value to them than the cost of a season ticket. The Pavilion, during this exhibition, will not only be pleasing to the eye and a pleasant place of resort and social reunion, but it may also be made a most important educational medium, and such a one as no one who desires to store his mind with useful information can afford to neglect.

We are under obligations to Messrs. Dewey & Co., S. F., for a copy of the "Pacific Rural Handbook," by Charles H. Shinn. The book embraces 120 original pages, and contains a series of brief and practical essays and notes on the culture of trees and shrubs, adapted to the Pacific Coast; also hints on farm and household economy. It contains valuable suggestions on laying out grounds, improving soil, irrigation, wind-breaks and hedges, fruit trees and small fruits, shade trees, shrubs, the vegetable garden, flower garden and lawn, seeds and seed planting, cuttings, etc. The book is substantially bound in cloth, and sent postpaid for \$1. Address Dewey & Co., No. 202 Sansome St., San Francisco.—*Kern County Gazette.*

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$5.

- \$5; Pears, best 10 lbs, \$5; Figs, best 10 lbs, \$5; Raisins, Cal., best box of 20 lbs. or more, \$25; Seedless raisins, Cal., best box of 20 lbs. or more, \$15.

NUTS—CALIFORNIA GROWN.

- Almonds, best 10 lbs, \$5; Walnuts, best 10 lbs, \$5; Chestnuts, best 10 lbs, \$5.

The officers of the California State Horticultural Society are as follows: Board of Directors—E. W. Hilgard (President), W. B. West, J. Strantzel, John Rock, C. H. Shinn, E. J. Wickson (Secretary).

All intending exhibitors are requested to announce at once what exhibits they expect to make, to the Secretary, E. J. Wickson, 414 Clay street, San Francisco.

The State Viticultural Society.

Established by the last Legislature, is also to have a special department to itself, immediately adjoining the horticultural exhibit. The rules governing this exhibit are to be left to the exhibitors themselves. There will also be a trial-room set apart and furnished, where, on special days, the wines exhibited may be tried by experts. A complete and comprehensive report will be made of each exhibit, and printed in full in the regular proceedings of the Institute. This, alone, will more than pay the exhibitor for all his trouble. It is to be hoped that all producers of the expressed products of the vineyards of California will take pride in sending the best they have, that a large and fine display may be made. Especially is this desirable at the present time, in view of the large number of European and Eastern visitors who expect to examine our products. The officers and members of this Board are as follows:

Arpad Haraszthy (President); Charles A. Wetmore (Vice-President); Chas. Krug (Treasurer); J. DeBarth Shorb, Isaac DeTurk, R. B. Blowers, Geo. West, Stockton, L. J. Rose, G. G. Blanchard. Dr. John I. Bleasdale, Secretary.

Manufactures and Inventions.

In addition to the productions of the soil and vineyard, there will be a grand gathering of the results of the manufacturing skill of our artisans. Inventors will also be there with their novelties in every line of mechanism. It is most certain that the

Display of Mining Machinery

Will be the most complete and extensive which has been seen in this city for the last 10 years—the whole presenting a complete embodiment of the brain work and inventive and mechanical skill of the Pacific coast. The officers and managers of the exhibition are: P. B. Cornwall, President; A. W. Starbird, Vice-President; J. A. Bauer, Treasurer; J. H. Culver, Secretary, and J. H. Gilman, Superintendent. The Board of Managers is composed of the following gentlemen: A. L. Fish, C. Waterhouse, James Drury, Nathaniel Hunter, F. A. Frank, David Kerr, Samuel Dinsmore, J. R. Wilcox, Geo. H. Hopps, Edwin Fretwell and George Spaulding.

The pavilion will be brilliantly lighted with electricity and gas, forming a lively magnificent scene in the evening.

Applications for Space

Should be made at once to J. H. Culver, Sec'y, 27 Post street, San Francisco. The pavilion is now open for the reception of goods. The exhibition opens August 10th and all articles for competition must be in place not later than Friday, August 13th. Space allotted and not occupied by August 7th may be given to others. No charge to exhibitors for space, steam or water.

Goods for exhibition should be addressed, Mechanics' Fair, San Francisco.

Exhibitors should take great care to have their goods properly in place in the Pavilion at an early day. No articles will be received for competition later than August 13th.

Rates of Admission.

- Double Season Tickets.....\$5 00
 Single Season Tickets.....3 00
 Children's Season Tickets.....1 50
 Apprentice's Season Tickets.....1 50
 Single Admission, Adults.....50
 Single Admission, Children.....25

Award of Medals.

In addition to 62 cash premiums, varying in amount from \$5 to \$75, the Institute offers 40 gold medals, 313 silver medals, 215 bronze medals and 92 diplomas. The full premium list will be given next week; or it may be had at any time on application to J. H. Culver, Sec'y, 27 Post street.

Appreciated.

OFFICE OF SUPT. PHYSICIAN, CITY AND CO. HOSPITAL, }
 SAN FRANCISCO, JULY 14, 1880. }

MESSRS. DEWEY & CO.—Dear Sirs:—In behalf of the inmates of the above institution, I return their kindest thanks for the very generous donation of your papers (RURAL PRESS and SCIENTIFIC PRESS). There is no one thing more highly esteemed by the patients than something to read, enabling them to pass by many a weary hour. Hoping you will be amply remunerated by increased subscriptions for your valuable papers,

I remain yours respectfully,

J. S. TITUS, M. D., Supt.

The Californian.

Fresh, Sparkling and Brilliant.

THE CHEAPEST AND BEST MAGAZINE EVER PUBLISHED.

THE CALIFORNIAN stands in the front rank of magazines. For all matters of interest on the Pacific coast it has absolutely no equal. Every month's issue contains a brilliant collection of essays, stories, descriptions of travel, humor, literature, science, art, political and social science and is a complete library in itself.

The August number contains the following fascinating contents:

- Casa Grande.....Henry G. Hanks
 Modern A rehercy.....Albert W. Havens
 Saint Bartholomew. Chapters III, IV (story).....
 Anna Alexander
 Under the Sands (poem).....Seddie E. Anderson
 Some of our Earlier Poetesses.....John Vance Cheney
 Protection of Animals Useful to Man.....W. N. Lockington
 Fritz Reuter's Life and Works.....T. H. Bearden
 An Adventurous Nun (story).....Philip Shirley
 Rags, Sacks and Bottles (story).....W. C. Morrow
 Failure (poem).....Carliotta Perry
 Probable Changes in American Government.....
 John A. Wright

- Future Gardens of California.....Charles H. Shinn
 Jack's Boys (story).....Helen Wilmans
 The Maid of St. Helena (poem).....Chas. H. Phelps
 Ahrasions of the Northwest Coast.....George Davidson
 A Trip into Sonora.....James Wyatt Oates

- NOTE BOOK.—Conversation, The Bradlaugh Case.
 Political Articles. Nebulous Art.
 SCIENCE AND INDUSTRY.—Useful Shams. Electricity in Cyclones. Science in Flour Manufacture. American Plate Glass. The Microscope in Geology. A New Skating Surface. Luminous Paint not New.
 ART AND ARTISTS.—The Local Artists. The Beginning of an Art Era. Women Painters. Greatness in Art. The Metropolitan Museum. The September Exhibition. An Art Excursion.

- OUTCROPPING.—A Legend of Fort Ross. Yosemite. Starting a Graveyard in Self-Rising.—Carlyle Drums. "When with a lingering rosy light." Thoughts on Home. To a Hungarian Maiden. A New Serial.

SOMETHING IN EACH NUMBER TO INTEREST EVERY MEMBER OF THE FAMILY.

ONLY THREE DOLLARS A YEAR. SINGLE NUMBERS TWENTY-FIVE CENTS.

For sale at all book-stores and news-stands.

Send your subscription to

THE CALIFORNIAN.

202 Sansome St., S. F.

A GOOD PLACE TO STOP.—With the majority of people who visit San Francisco, it is the desire to find a home-like, comfortable stopping place, where the prices are moderate, and at the same time the accommodations are good. To such, the American Exchange Hotel, corner of Sansome and Halleck streets, offers superior inducements. While in these days of colossal caravansaries, it cannot claim to be the first-class hotel of San Francisco, as it was in early days, it still does claim to be the best family hotel in the city, containing 200 rooms, well ventilated and neatly furnished. The table is well supplied with the best the market affords, and here, as elsewhere, mine host Bryan seems to have an eye single to the satisfaction of his guests, and to cheapness, neatness and comfort. The location of the hotel is good, being in the great business center, directly opposite Wells, Fargo & Co.'s express, convenient to the leading places of amusement—nearest hotel to all Oregon, southern and other steamers—and having street car connections with Woodward's Gardens and all quarters of the city, every two minutes. A barber shop, laundry and bath-rooms are connected with the house. The American Exchange coach is found at all boats and trains ready to convey passengers to the house free of charge. T.

Various Causes—

Advancing years, care, sickness, disappointment, and hereditary predisposition—all operate to turn the hair gray, and either of them incline it to shed prematurely. AYER'S HAIR VIGOR will restore faded or gray, light or red hair to a rich brown or deep black, as may be desired. It softens and cleanses the scalp, giving it a healthy action. It removes and cures dandruff and humors. By its use falling hair is checked, and a new growth will be produced in all cases where the follicles are not destroyed or the glands decayed. Its effects are beautifully shown on brashy, weak, or sickly hair, on which a few applications will produce the gloss and freshness of youth. Harmless and sure in its operation, it is incomparable as a dressing, and is especially valued for the soft luster and richness of tone it imparts. It contains neither oil nor dye, and will not soil or color white cambric; yet it lasts long on the hair, and keeps it fresh and vigorous.

FOR SALE BY ALL DEALERS.

FRESH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoograpbicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVEN, Prop.

J. G. COLMERIZ is requested to report to this office from Humboldt Co.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, July 28, 1880.

There is considerable life in the minor products, and a higher range of prices. The wheat trade is still slow, and little has been yet done, not enough to fix values.

The Liverpool cable rate to-day is 9s 10d@10s 4d for average California Wheat.

The Foreign Review.

LONDON, July 26.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: The harvest in England will probably commence within a week, and will be general in 3 weeks. The wheat plant still stands well, despite recent storms, but there is some increase in blight. A good deal of barley was laid by the storms, but where it escaped, this barley is the most promising of the crops. Oats in Ireland and Scotland are exceedingly good. The markets during the past week have been almost stationary. All the present influences of offerings and stock are in favor of an advance in prices, but the trade is completely dominated by the harvest prospects of this and other countries. These are far from being uniformly promising, but taken all together they are sufficiently unfavorable to stop the improvement which the ordinary circumstances of supply and demand should otherwise have induced. Continental inquiry has continued, but there are signs of abatement. British purchases from the U. S. have likewise been large. The quantity of wheat on passage is nearly 2,000,000 quarters. Deliveries of English wheat and barley are rather under the average for this time of the year, and prices are unusually low. English oats commanded good prices, which caused deliveries considerably above the July average. Imports into the United Kingdom, for the week ending July 17th, were 816,698 cwt of wheat, and 118,947 cwt of flour. These quantities are only moderate, and with English wheat reserves almost run out, there must have been some strain on the already greatly diminished stocks.

New York Dried Fruit Markets.

NEW YORK, July 24.—Foreign fruits are in moderate demand. Raisins selling in small lots at about previous prices, and Prunes being quiet.

Eastern Grain and Provision Markets.

NEW YORK, July 24.—Breadstuffs are quiet and easier at a decline of 1/2 to 1. The foreign markets continue to go off as fast as this, leaving still 3/4 against us for shipment to Europe. Crop prospects and harvest reports continue favorable at home and abroad, and exert continued depressing influence, although the market is more settled than for some days. Provisions are neglected, but higher.

CHICAGO, July 24.—The grain market has been in a somewhat nervous, but, nevertheless, steady condition, the fluctuation in prices being very small—the best prices prevailing early in the week and the poorest at the middle. Corn was exceptionally weak to-day, and Oats for future delivery exceptionally strong. The provision deal is cornered so strongly that the prices of hogs are running up at a furious rate, and are higher now than they have been for several years. Under these circumstances, it would be reasonable to look for tremendous receipts. On the contrary, however, receipts have fallen off so rapidly that every consignment is snapped up immediately it reaches the yards, and the question is being asked, "Has not the heavy drain upon the country, on account of high-priced hogs, had the effect of bringing an undue proportion of the hog crop into market, and are not the porcinies in short supply?" Sales for the week for the August option were as follows: Wheat 88,400; Corn, 35,300; Oats, 22,200; Pork, \$13.87@15; Lard, \$6.77@6.87. The closing cash prices were: Wheat, 91; Corn, 35; Oats, 25; Rye, 69; Barley, 80; Pork, \$14@14.25; Lard, \$6.92. The closing August prices were: Wheat, 88; Corn, 35; Oats, 22; Pork, \$14.85; Lard, 6.92.

Eastern Wool Markets.

NEW YORK, July 24.—Wool continues dull but prices are steady. Sales of 80,000 lbs Fall California, private. BOSTON, July 24.—Wool is firm and in steady demand for all kinds, but, with the exception of combing and delaine, the demand is far from active. Manufacturers are still purchasing cautiously and moderately, but the number of buyers has increased and there are fair prospects of more active markets. Holders are less disposed to make concessions, and stocks held quite firmly at current rates. The principal movement has been in Michigan fleeces, as this description has come forward more freely than other kinds, and is offered at a price more in accordance with views of manufacturers. There was a good demand for fine delaine and the best combing fleeces. Choice Northern California Wool is in demand, but other kinds are in little request. Pulled Wool is more enquired for, flannel manufacturers being free purchasers. The transactions in Foreign Wool are unimportant. The sales include Ohio X, XX and No. 1, at 45¢; Michigan X, and above, 47; Wisconsin X, 41¢; Combing and Delaine, 42¢@62; Unwashed Combing, 34¢@35; Georgia, 36; Texas, 21¢; Territory, 21¢; Kentucky, 33¢; California, 33¢@38; do. Fall, 19¢@23; Super and X Pulled, 42¢@52; Secured, 50¢@59; Tub Washed, 49; Canada Combing, 42¢@45; River Plate Skins, 65¢@75; Austrian Choice, 50. The total sales for the week were 2,285,400 lbs, of which 1,005,400 were domestic.

PHILADELPHIA, July 27.—Wool is firmer. Prices are no higher, but the demand is better.

BAGS—Bags are concentrated again, and the ring announces that it will make still farther advances in price, whether any sales are made or not. The present prices of the ring are 10¢@11¢ for Standard Wheat Bags.

BARLEY—Trade is quite active, and prices for the best lots are a shade higher. We note sales: 300 tons good new standard Chevalier at \$1.40; 200 sks poor Coast do, 85¢; 1,100 and 480 do old Coast Feed, 75¢; 1,200 sks do do, 73¢; and 150 sks do, 72¢.

BEANS—There is no change in rates.

CORN—Yellow Corn is a shade higher, and now quotable at \$1.12@1.15 ¢ ct.

DAIRY PRODUCE—Butter is advancing slowly. Receipts are small and sales easily made. Cheese is also held higher. Sales have been made as high as 13¢, and holders are asking 14¢. There is more interest in the trade than there has been for months.

EGGS—Eggs have also advanced to 25¢ for the best fresh California. Supplies are small, and there is scarcely any imported Eggs now in to lumber up the market.

FEED—Hay shows life, and has been bought, to arrive by the cargo, for \$13.50 ¢ ton for choice Wheat Hay. The best is now held at \$14 ¢ ton. Corn Meal and Middlings have advanced slightly.

FRESH MEAT—The only change in our list is an advance of 1/2 ¢ lb on live Hogs.

FRUIT—Fruit prices have fluctuated considerably during the week, and the list of Fruits now in is considerably extended. Our table gives to-day's rates for all kinds.

HOPS—Some Hops are jobbing at 45¢ ¢ lb, but 42¢ is the top at wholesale. We note a sale of 8 bales at that figure. There is already some interest in the coming crop, and sales to arrive have been made. We have not been able to obtain prices. The outlook in all the Hop region of this coast is reported good, and a crop larger than last year's is expected. New Hops will not be in before Sept-15th and later.

LIVE STOCK—We note the following sales: 2,200 Sheep, Wethers, in Sonoma county, \$1.95; 500 Lambs, \$1.62; each; 4,000 mixed Ewes, Wethers and Lambs in San Joaquin valley, \$1.87; 117 Steers, \$32 each; 110 Cows, \$17.50 ¢ head; 270 Steers at \$37.50 each; 517 picked out of 1,000 Steers at \$35 each; 5 carloads Calves, \$12 each; 2 carloads do, \$9 each; 165 Cows and Steers mixed, in Salinas valley, \$25 each; 1,000 Hogs, 5¢; 500 Hogs, 5¢; 920 Hogs, 5¢ ¢ lb.

OATS—Oats are a little higher. We note sales: 250 sks medium Oregon at \$1.40; and 400 do new California at \$1.20.

ONIONS—Red Onions are unchanged, but Silver Skins are lower and now selling at \$1 ¢ ct.

POTATOES—New Potatoes are falling into the tracks of the last crop, and have lost value rapidly during the last few days.

PROVISIONS—There has been a sharp advance in Eastern Hams in sympathy with the Chicago excitement; some brands are 2¢ higher ¢ lb.

VEGETABLES—Prices have undergone considerable change, as may be seen by our table of quotations.

WHEAT—The wheat trade is still dormant. The season is not yet fairly opened. We note sales: 400 sks choice Sonora at \$1.55; and 300 do off grade at \$1.17.

WOOL—The trade is quiet. Northern County Wools are now pretty well cleaned out. There is considerable trade in the better qualities of Eastern Oregon Wool, but there is a large amount of fine heavy lots which carry much dust and are still unsold. We note sales of 125,000 lbs Northern Wool at 28¢; 50,000 lbs San Joaquin at 20¢ @ 23¢.

GENERAL MERCHANDISE.

[WHOLESALE.] WEDNESDAY M., July 28, 1880.

CANDLES.	OILS.
Crystal Wax.....17 @ 17 1/2	Pacific Glue Co's
Eagle.....12 @ 12	Neatfoot, No. 1.....1 00 @ 90
Patent Sperm.....25 @ 30	Castor, No. 1.....1 00 @ 90
	do, No. 2.....95 @ 80
	Baker's A. A.....25 @ 75
	Oliver, Agnol.....25 @ 75
	Possel.....4 75 @ 25
	Palm, B.....9 @ 90
	Linsed, Raw, bb.....90 @ 90
	Bolled.....95 @ 90
	Ocoanut.....60 @ 60
	China nut, cs.....70 @ 70
	Sperm.....1 40 @ 40
	Coast Whales.....35 @ 45
	Polar.....80 @ 90
	Lard.....80 @ 90
	Eleophine.....16 @ 17 1/2
	Oliver's Bril't.....16 @ 17 1/2
	Photolite.....16 @ 17 1/2
	Nonpareil.....19 @ 20
	Eureka.....19 @ 20
	Barrel kerosene.....20 @ 20
	Downer Ker.....34 @ 34
	Elaine.....34 @ 34

PAINTS.	SALE.
Pure White Lead.....6 1/2 @ 10	China, Mixed, lb.....5 @ 7 1/2
Whiting.....14 @ 15	Hawaiian.....7 @ 7 1/2
Putty.....4 @ 5	
Chalk.....14 @ 15	
Paris White.....24 @ 25	
Venetian Red.....34 @ 34	
Averill Mixed.....34 @ 34	

SOAP.	SPICES.
Castle, lb.....8 @ 15	Cloves, lb.....47 1/2 @ 50
Common brands.....4 1/2 @ 6	Nutmeg.....37 1/2 @ 10
Fancy brands.....7 @ 8	Pepper Grain.....14 @ 15
	Mustard, Cal.....19 @ 20
	Mustard, Cal.....19 @ 20

SUGAR, ETC.	TEA.
Cal. Cube, lb.....11 @ 11	Young Hyson.....40 @ 65
Powdered.....11 @ 11	Moyune, etc.....40 @ 65
Fine crushed.....11 @ 11	Country packd Gun.....40 @ 65
Granulated.....10 1/2 @ 10 1/2	powder & Im.....35 @ 75
Golden O.....70 @ 9	Hopson.....30 @ 35 1/2
Cal. Syrup, kg.....25 @ 30	Foot-Chow O.....27 1/2 @ 32
Hawaiian Molasses.....25 @ 30	Japan, 1st quality.....40 @ 42
	2d quality.....25 @ 40

LEATHER.	WEDNESDAY, M., July 28, 1880.
Sole Leather, heavy, lb.....32 @ 35	
Light.....28 @ 30	
Jodot, 8 Kil, doz.....38 @ 42	
14 to 13 Kil.....50 @ 55	
14 to 16 Kil.....65 @ 70	
Second Choice, 11 to 16 Kil.....40 @ 45	
Simon Ulmo, Females, 12 to 13 Kil.....55 @ 60	
14 to 15 Kil.....60 @ 65	
16 to 17 Kil.....60 @ 65	
Simon, 18 Kil.....61 @ 64	
20 Kil.....65 @ 68	
24 Kil.....70 @ 73	
Robert, 7 and 9 Kil.....29 @ 32	
Kil, French, lb.....1 00 @ 1 37 1/2	
Cal. doz.....45 @ 50	
French Sheep, all colors.....12 @ 15	
Eastern Cal for Backs, lb.....1 00 @ 1 25	
Sheep Roans for Topping, all colors, doz.....9 @ 10	
For Linings.....6 50 @ 10 00	
Cal. Russet Sheep Linings.....3 00 @ 5 50	
Boot Legs, French Cal, pair.....4 @ 4 50	
Good French Cal.....4 @ 4 50	
Best Jodot Cal.....4 75 @ 5 25	
Leather, Harness, lb.....35 @ 40	
Fair Bridle, doz.....45 @ 60	
Skirting, doz.....33 @ 37	
Welt, doz.....30 @ 36	
Buff, ft.....20 @ 22	
Wax Side.....19 @ 20	

DOMESTIC PRODUCE.

[WHOLESALE.]

BEANS & PEAS.	WEDNESDAY M., July 28, 1880.
Hay, cut.....95 @ 105	
Butter.....10 @ 15	
Castor.....25 @ 30	
Peas.....15 @ 35	
Red.....95 @ 105	
Pink.....95 @ 105	
Sm'l White.....1 05 @ 1 15	
Lima.....5 50 @ 7 00	
Field Peas, b'k eye.....25 @ 50	
do, green.....10 @ 25	

BROOM CORN.	CHICORY.
Southern.....14 @ 24	California.....4 @ 4 1/2
Northern.....24 @ 34	German.....6 1/2 @ 7

DAIRY PRODUCE, ETC.	BUTTER.
Cal. Fresh Roll, lb.....2 1/2 @ 2 1/2	
Fancy Brands.....25 @ 25	
Pickle Roll.....22 1/2 @ 22 1/2	
Firkin, new.....22 1/2 @ 22 1/2	
Western.....22 1/2 @ 22 1/2	
New York.....22 1/2 @ 22 1/2	

CHEESE, Cal. lb.....12 @ 13	EGGS.
N. Y. State.....12 @ 13	Cal. fresh, doz.....22 1/2 @ 25
	Ducks.....18 @ 20
	Oregon.....16 @ 17
	Eastern, by express.....15 @ 16
	Picked, doz.....15 @ 16
	Utah.....15 @ 16

FEED.	PROVISIONS.
Brn, ton.....13 00 @ 14 00	Cal. Bacon, extra.....11 @ 11 1/2
Corn Meal.....26 @ 50	clear, lb.....11 @ 11 1/2
Hay.....8 00 @ 13 50	Medium.....12 @ 12 1/2
Middlings.....30 @ 35	Light.....10 1/2 @ 11 1/2
Oil Cake Meal.....30 00 @ 40	Lard.....10 1/2 @ 11 1/2
Straw, bale.....40 @ 47 1/2	Cal. Smoked Beef.....12 @ 12 1/2

FLOUR.	MEAT.
Extra, City Mills.....25 @ 50	do, Country Mills.....40 @ 50
do, Oregon.....4 50 @ 4 75	do, Walla Walla.....4 50 @ 4 75
Superfine.....3 50 @ 4 00	

FRESH MEAT.	SEEDS.
Beef, 1st quality, lb.....6 @ 6	Alfalfa.....10 @ 12
Second.....5 @ 6	do, Chile.....4 @ 6
Third.....4 @ 5	Oats.....14 @ 15
Mutton.....3 @ 3 1/2	do, Common.....7 @ 10
Spring Lamb.....4 @ 5	Mustard, White.....3 @ 5
Pork, undressed.....5 1/2 @ 5 1/2	Brown.....1 1/2 @ 2
Dressed.....7 @ 7 1/2	Rape.....3 @ 8
Veal.....6 @ 6 1/2	Ky Blue Grass.....20 @ 25
Milk Calves.....6 1/2 @ 6 1/2	do, Red Top.....16 @ 18
do, choice.....7 @ 7 1/2	do, Orford.....20 @ 25
	Red Top.....20 @ 25
	Hungarian.....8 @ 10
	Lawn.....30 @ 50
	Messquit.....10 @ 12
	Timothy.....10 @ 12

GRAIN, ETC.	TALLOW.
Barley, feed, ct.....70 @ 75	Crude, lb.....5 1/2 @ 5 1/2
do, Brewing.....75 @ 75	Refined.....7 1/2 @ 7 1/2
Chevalier.....35 @ 40	
do, Coast.....1 00 @ 1 25	
Buckwheat.....30 @ 40	
Corn, White.....1 30 @ 1 42 1/2	
Yellow.....1 12 @ 15	
Small Round.....1 30 @ 1 50	
Oats.....1 30 @ 1 50	
Milling.....1 55 @ 1 55	
Wheat, No. 1.....1 50 @ 1 55	
do, No. 2.....1 42 1/2 @ 45	
do, No. 3.....1 42 1/2 @ 45	
do, choice.....1 57 1/2 @ 62 1/2	

HIDES.	Wool, ETC.
Hides, dry.....10 @ 18 1/2	Beeswax, lb.....2 1/2 @ 2 1/2
Wet, salted.....10 @ 10 1/2	Honey in comb.....11 @ 13
	do, No. 2.....11 @ 13
	Dark.....11 @ 13
	Extracted.....6 @ 7 1/2

HOPS.	NUTS—Jobbing.
Oregon.....25 @ 30	Walnuts, Cal.....12 @ 15
California, new.....35 @ 42 1/2	do, Chile.....8 @ 10
Wash. Ter.....25 @ 30	Almonds, hd shd lb.....8 @ 10
Old Hops.....6 @ 10	Soft sh'l.....18 @ 20
	Brazil.....14 @ 15

FRUITS AND VEGETABLES.	WEDNESDAY M., July 28, 1880.
Apples, basket.....35 @ 60	Plums, peeled.....9 @ 11
do, box.....50 @ 75	Pitted.....15 @ 17
Apricots, bx.....1 50 @ 2 00	Prunes.....12 1/2 @ 13
Bananas, basket.....2 50 @ 4 00	Raisins, Cal, bx.....1 00 @ 1 50
Blackberries, chst.....3 00 @ 4 00	do, Halves.....1 75 @ 2 00
Cherries.....10 @ 16	do, Quarters.....2 00 @ 2 25
Cherry Plums, bx.....3 00 @ 4 00	do, Eighths.....2 25 @ 2 50
Citrus, Cal, 100.....7 00 @ 8 00	do, Longs.....2 25 @ 2 50
Ocoanuts, 100.....7 00 @ 8 00	do, Halves.....2 25 @ 2 50
Crab Apples, bx.....75 @ 1 00	do, Quarters.....2 50 @ 2 75
Currants, chst.....50 @ 60	do, Eighths.....2 75 @ 3 00
Figs, black, bx.....50 @ 75	Zante Currants.....8 @ 10
Gooseberries.....5 @ 8	

VEGETABLES.	WEDNESDAY M., July 28, 1880.
Asparagus, bx.....1 00 @ 1 25	
Beets, lb.....1 1/2 @ 1 50	
do, Cal, box.....1 1/2 @ 1 50	
do, Stocking.....1 1/2 @ 1 50	
do, large, box.....5 00 @ 7 00	
Lemons, Cal bx.....3 00 @ 3 50	
Sicily, box.....8 00 @ 9 00	
Australian.....4 50 @ 5 00	
Nectarines, box.....1 25 @ 1 75	
Oranges, Cal bx.....3 75 @ 4 75	
do, Tahiti.....3 00 @ 3 50	
do, Mexican.....30 @ 35	
Peaches, box.....30 @ 35	
do, Crawford.....1 00 @ 1 50	
Pears, basket.....25 @ 30	
do, Bartlett.....1 00 @ 1 50	
Pineapples, doz.....7 00 @ 9 00	
Plums, lb.....75 @ 1 00	
Prunes, German.....1 25 @ 1 75	
Raspberries, ch't 50 @ 60	
Strawberries, ch't 80 @ 100	
Sugar Cane, bble.....2 @ 2 50	

DRIED FRUIT.	WEDNESDAY M., July 28, 1880.
Apples, sliced, lb.....10 @ 11	
do, quartered.....15 @ 18	
Apricots.....15 @ 18	
Blackberries.....15 @ 18	
do, Bartlett.....15 @ 18	
Citron.....23 @ 24	
Dates.....9 @ 10	
do, loose.....7 @ 8	
Fig, pressed.....4 @ 6	
do, loose.....12 @ 15	
Peaches.....12 @ 15	
do, pared.....12 @ 15	
Pears, sliced.....9 @ 10	

BAGS AND BAGGING.	WEDNESDAY M., July 28, 1880.
Eng Standard Wheat, 102 @ 11	45 lb.....9 1/2 @ 10
California Manufacture.....40 lb.....9 @ 9 1/2	
Hand Sewed, 22x36, 101 @ 10 1/2	Wool Sacks.....4 1/2 @ 5 1/2
22x40.....12 @ 12 1/2	Hand Sewed, 34 lb, 47 1/2 @ 50
23x40.....13 @ 13 1/2	do, 47 1/2 @ 52 1/2
24x40.....13 @ 13 1/2	Machine Sewed.....45 @ 50
Machine Sewed, 22x36, 101 @ 10 1/2	Standard Gunnies.....4 @ 4 1/2
Flour Sacks, halves.....8 @ 10	Rean Bags.....7 @ 7 1/2
Quarters.....3 @ 4	Twine, Detrick's A.....43 @ 45
Eighths.....3 @ 4	do, A. A.....43 @ 45
Hessian, 60 inch.....14 @ 15	do, Lonesdale, Ex.....44 @ 45
	Stand.....43 @ 45

GOLD, LEGAL TENDERS, EXCHANGE, ETC.	WEDNESDAY M., July 28, 1880.
SILVER, 1/2	
GOLD BARS, \$900 @ 910.	SILVER BARS, 10 @ 18 ¢ cent. is
count.	
EXCHANGE on New York, 15, on London bankers, 49 1/2 @ 49 1/2	
Commercial, 50; Paris, five francs ¢ dollar; Mexican	
dollars, 121 @ 122.	
LONDON CONSOLS, 98 1/2; Bonds (4 1/2), 112 1/2	
QUICKSILVER in S. F., by the flask, 1/2 lb, 42 1/2 @ 45.	

Commission Merchants.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

O. DITSON & CO. are Sole Agents for the United States for the extensive catalogue of

Novello's Musical Publications.

Among them are more than a thousand Anthems and Choruses, Part-Song and Glee Books, Cantatas, Oratorios, Operas, etc. Send for Catalogue.

We call especial attention to the valuable series of Primers or Easy Instruction Books, of which very popular ones are, **THE RUDIMENTS OF MUSIC**, (50 cents, by CUMMINSON) **THE ART OF PIANO-FORTE PLAYING**, (\$1), by PAUER **THE ORGAN**, (\$1), by DR. STAINER **SINGING**, (\$2), by RANDEGGER **MUSICAL FORMS**, (\$1), by PAUER **HARMONY**, (\$1), by DR. STAINER **INSTRUMENTATION**, (\$1), by PROET, and **THE VIOLIN**, (\$1), by TOURS.

Send for Gen. Garfield's Grand March (40 cts.), and Hancock's Campaign March (40 cts.). Fine Music and elegant portraits of the Presidential candidates.

TEACHERS WILL NOT FAIL to examine, during the summer, the books needed for their winter's work. We mention **THE TEMPLE** (\$1), and the **VOICE OF WORSHIP** (\$1), for Singing Schools and Choirs; and for the latter, **THE AMERICAN ANTHEM BOOK** (\$1.25), and **EMERSON'S ANTHEM BOOK** (\$1.25). For High Schools, **THE WELCOME CHORUS** (\$1); for Common Schools, **SONG BELLS** (50 cts.), nearly ready; for Sunday Schools, **WHITE ROBES** (30 cts.); and for Temperance work, **TEMPERANCE JEWELS**, (35 cts.) and **TEMPERANCE LIGHT** (12 cts.). All are FIRST-CLASS books. Don't fail to examine.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE BUCKEYE FORCE PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.



Single samples will be mailed from this office for 50 cents, postpaid. Wholesale and retail agents wanted.

THE BEST FILEHOLDER.—After having used Dewey's patent elastic hinge fileholder for over a year past, the *News* cheerfully indorses it as the best newspaper fileholder in existence, possessing important advantages over any and all others in use. The holders are neat, light and convenient, and the newspapers are placed in them with the utmost facility and least possible time and exertion. They are the simplest, handiest and cheapest of all. Anybody keeping files of papers in reading rooms, offices or at home, should send at once to the proprietor, A. T. Dewey, San Francisco, and get the only proper fileholder. Samples by mail fifty cents.—*Gold Hill News*.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

DO

NOT FAIL to send for our Price List for 1880. Fill in any address upon application. Contains descriptions of everything required for personal family use with over 1,000 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

GENERAL Purchasing Agent, James B. Sheat, 416 and 3 Davis St., S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

DEWEY & CO.'S

Scientific Press



Patent Agency.

(ESTABLISHED 1860.)

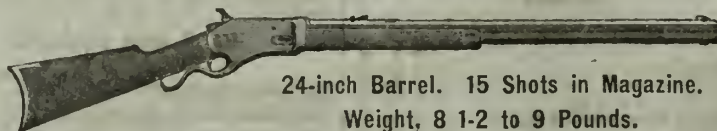
Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

SEEDS.

ALBERT DICKINSON, Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird's Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

Pumping Engine For Sale.

NEW UPRIGHT WILCOX ENGINE.

14-inch Cylinder, 6-inch Stroke. About 8-Horse Power. Will raise 3,000 gallons per hour. Was used to dig the well at Chronicle office. Never used otherwise, and is in perfect order.

PRICE, \$300.

Mr. Wilcox sold similar engines at \$800 each. I have taken this engine as an attorney fee, and will sell it for this price and WARRANT it. Address

MANUEL EYRE,

Law Office, No. 630 Clay St., room 25, S. F.

PACIFIC WATER CURE

— AND —

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,

Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair-top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluzome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address BYRON JACKSON, Prop'r.



OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100, Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody. San Francisco, Cal.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 600 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL Press (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO., Publishers, 202 Sansome St., S. F.



Calvert's Carbolic

SHEEP WASH,

\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.

DIVIDEND NOTICE.

The German Savings and Loan Society.

For the half year ending this date, the Board of Directors of THE GERMAN SAVINGS AND LOAN SOCIETY has declared a dividend on Term Deposits at the rate of six (6) per cent. per annum; and on Ordinary Deposits at the rate of five (5) per cent. per annum, free from Federal Taxes, and payable on and after the 15th day of July, 1880. By order.

GEO. LETTE, Secretary.

San Francisco, June 30, 1880.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 100: Game Anthora, 15c. Lyman & Co., Clintonville, Ct.

Agricultural Articles.

W. H. CARSON. JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought-iron crankshaft with
double bearings for the crank
to work in, all turned and
run in babbitted boxes.
Positively self regulating
with no collaring or springs
of any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knolls without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of supe-
riority, and can be relied upon as the best and most desir-
able Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day.
Combining strength and durability. Easily moved. Will
be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.

TRADE MARK.

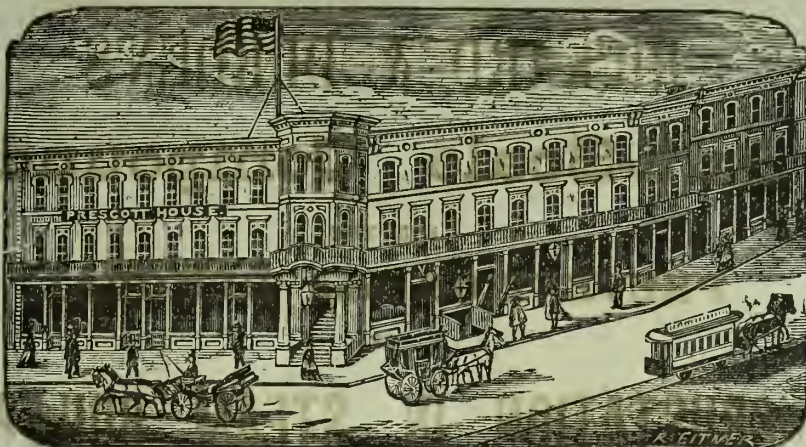


LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.00 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

50 Perfumed, gilt edge & chromo Cards, elegant case, name
in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

RICHARDS & SNOW,

SUCCESSORS TO BARKER & SNOW,

IMPORTERS OF

IRON PIPE AND PLUMBERS' STOCK,

Sole Agents for the Yale Lock Mfg Co.,

AMERICAN TACK CO.,

AND FOR THE SALE OF AMOSKEAG AXES.

406 & 408 MARKET ST., S. F.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

VICTORY



THE CALIFORNIA
Spring Tooth Harrow
AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon
State Fair. Over \$12,000 worth of these implements sold
in California since January 1st, and every one WORKING
to PERFECTION. Farmers cannot MAKE MONEY as fast
in any other way as by using them. Send for descriptive
circulars.

BATCHELOR, VAN GELDER & CO.,
900 & 902 K St., Sacramento.

AMERICAN
MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing,
Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

YOUR NAME PRINTED on Forty Mixed Cards for
Ten Cents. STEVENS BROS., Northford, Conn.

Contents of Pamphlet on Public Lands of
California, U. S. Land Laws, Map of
California and Nevada, Etc.

Map of California and Nevada; The Public
Lands; The Land Districts; Table of Rainfall in Califor-
nia; Counties and Their Products; Statistics of the State
at Large.

Instructions of the U. S. Land Commis-
sioners.—Different Classes of Public Lands; How Lands
may be Acquired; Fees of Land Office at Location; Agri-
cultural College Scrip; Pre-emptions; Extending the
Homestead Privilege; But One Homestead Allowed; Proof
of Actual Settlement Necessary; Adjoining Farm Home-
steads; Lands for Soldiers and Sailors; Lands for Indians;
Fees of Land Office and Commissions; Laws to Promote
Timber Culture; Concerning Appeals; Returns of the Reg-
ister and Receiver; Concerning Mining Claims; Second
Pre-emption Benefit.

Abstract from the U. S. Statutes.—The Law
Concerning Pre-emption; Concerning Homesteads; Amend-
atory Act Concerning Timber; Miscellaneous Provisions;
Additional Surveys; Land for Pre-emption; List of Cali-
fornia Post Offices. Price, post paid, 50 cts.

Published and sold by DEWEY & CO., S. F.

The Excelsior Animal Trap



REMOVAL.

John F. Geary, M. D.

For the last 18 years at 632 Howard street, San Francisco,
has

REMOVED TO OAKLAND.

Consulting rooms, Erie House, 1113 Broadway.
Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.
Diseases of women and children a specialty for 25 years.

GILLES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

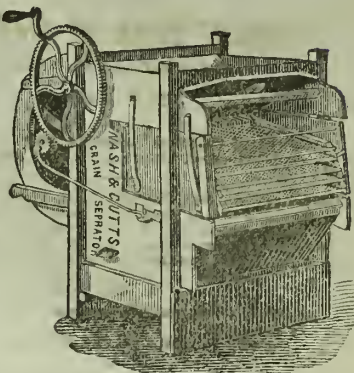
Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

STILL AHEAD!

Trade
Mark.

"The Improved
Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fairs
from 1870 to 1890.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats
cracked wheat, etc., in a satisfactory manner, but is alike
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTEL and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our
Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.

2d. Being located here, we know what is wanted much
better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.

Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO., Sacramento, Cal.

We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.
Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.

We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.



Windmills!
HORSE POWERS!

TANKS AND PUMPS

Built and repaired at

No. 51 Beale Street, S. F.

Send for circulars.

F. W. KROGH & CO

(Successors to W. I. TUSTIN.)

THE DINGEE & CONARD CO'S
BEAUTIFUL EVER-BLOOMING

ROSES

Strong Pot Roses, suitable for winter bloom,
sent safely by mail, postpaid. 5 splendid varieties,
your choice, all labeled, for \$1; 12 for \$2; 19 for \$3; 26
for \$4; 35 for \$5. For 10 cents each additional, one
Magnificent Premium Rose to every dollar's worth
ordered. Send for our NEW GUIDE TO ROSE
CULTURE, and choose from over 300 finest sorts.
We make Roses a Great Specialty, and are the largest
Rose-growers in America. Refer to 100,000 customers in the
United States and Canada. THE DINGEE & CONARD
CO., Rose-growers, West Grove, Chester Co., PA.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

A NEW BOOK.

A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.



35 Fine Engravings showing the
positions and actions of sick
horses. Gives the cause, symp-
toms and best treatment of dis-
eases. Has a table giving the
doses, effects and antidotes of all
the principal medicines used for
the horse, and a few pages on the
action and uses of medicines.
Rules for telling the age of a
horse, with a fine engraving show-
ing the appearance of the teeth
at each year.

It is printed on fine paper and has nearly 100 pages, 7 1/2 x 5
inches. Price only 25 cents, or 5 for \$1, on receipt of which
we will send by mail to any address.

DEWEY & CO.,

202 Sansome St., S. F.

INVENTORS, and others interested, will receive DEWEY
& Co.'s MINING AND SCIENTIFIC PRESS PATENT AGENCY
Circular free on application at this office. It contains 42
pages of hints and information about Patents, Patent
Laws, Patent Office Regulations, and how to obtain valid
patents.

50 New Style Cards. Lithographed in bright colors, 10c.
60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

SEMI-ANNUAL STATEMENT

OF THE

Grangers' Bank of California,

Published in Compliance with Law.

JULY 1880.

Amount of Capital actually paid
in U. S. Gold Coin.....\$425,760.00

State of California, City and County of San Francisco—
G. W. Colby and A. Montpelier being duly sworn, severally depose and say that they are respectfully the President and Cashier of the Grangers' Bank of California above mentioned, and that the foregoing statement is true.
(Signed) G. W. COLBY, President.
A. MONTPELLIER, Cashier.

Subscribed and sworn to before me this twenty-eighth day of July, 1880.
(Signed) JOHN RAFFERTY, Notary Public.

Statement of the Actual Condition

OF THE

Grangers' Bank of California.

At the close of business, June 30, 1880.

ASSETS.

Bills Receivable, Secured by Warehouse Receipts, etc.	\$134,594 84
Loans, Secured by Mortgage.	67,240 73
Real Estate (Bank's interest in Grangers' Building)	77,200
Other Real Estate	6,562 87
Due from Banks	9,875 10
Office Furniture, Fixtures and Safe	3,000
Interest Accrued	16,361 92
Expenses, Internal Revenue tax and License	8,892 96
Cash on hand	43,611 70

Total.....\$667,333 11
And that said assets are situated in the following counties, to wit: Alameda, Butte, Colusa, Contra Costa, Inyo, Merced, Kern, Washoe (Nevada), Solano, Sonoma, Stanislaus, San Francisco, Tulare, Tehama and Monterey.

LIABILITIES.

Capital Stock Paid in Gold Coin	\$425,760
Due Depositors, etc.	177,292 16
Bills Payable (Mortgage assumed on Real Estate)	40,000
Interest Account (Undivided Profits)	24,280 95

Total.....\$667,333 11
State of California, City and County of San Francisco—
G. W. Colby and A. Montpelier, being each duly sworn, severally depose and say that they are respectively the President and Cashier of the Grangers' Bank of California, above mentioned, and that the foregoing statement is true.
(Signed) G. W. COLBY, President.
A. MONTPELLIER, Cashier.

Subscribed and sworn to before me, this twenty-eighth day of July, 1880.
(Signed) JOHN RAFFERTY, Notary Public.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

RICKARD & DURDEN'S

Anti-Scale Compound.

FOR THE

PREVENTION and REMOVAL

OF

INCRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having demonstrated the value of this invention, and its applicability to different qualities of waters, we now offer it to Engineers and Steam Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

BERRY & PLACE MACHINERY CO.

Market Street, Corner Fremont, - - San Francisco.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES**, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

AS CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

RECORD OF SUPERIORITY.

1878—AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5—Breeding Ewes	\$22.50
Pen 5—Yearling Ewes	22.50
Pen 5—Ewe Lambs	22.50
Pen 3—Ram Lambs	22.50
Yearling Ram (1st and 2d)	38.50
Two-year-old Ram	22.00
Ram and five of his Lambs	30.00

Sweepstakes:

For best Ram of any age or breed, and five of his Lambs	75.00
---	-------

THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda Co., Cal. E. W. FERT, Agent.



1879—AWARDED

J. H. STROBRIDGE,

First Premiums:

Pen 5—Breeding Ewes	\$22.50
Pen 5—Yearling Ewes	22.50
Pen 5—Ewe Lambs	22.50
Two-year-old Ram	22.50
Yearling Ram	22.50
Ram and five Lambs	30.00
Pen of 3 Ram Lambs	22.50

Sweepstakes:

For best Ram and five of his Lambs, of any age or breed	75.00
---	-------

Traveling Agents.

We want several canvassing agents who will make it their business to solicit subscriptions and advertising for our first-class progressive newspapers. Men of ability and experience can secure good pay and permanent employment. Send references and state your past occupation, etc., to the publishers of this paper.

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. McCORMICK.

827 Market St., between Fourth and Fifth.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. E. NAYLOR, 304 Bartlett St., cor. 24th, bet. Valencia and Mission, S. F.

Pocket Map of California and Nevada.

Compiled from the latest authentic sources, by Chas. Drayton Gibbs, C. E. This map comprises information obtained from the U. S. Coast and Land, Whitney's State Geological, and Railroad Survey; and from the results of explorations made by R. S. Williamson, U. S. A., Henry Degroot, C. D. Gibbs and others. The scale is 18 miles to 1 inch. It gives the Judicial and U. S. Land Districts. It distinguishes the Townships and their subdivisions; the County Seats; The Military Posts; the Railroads built and proposed, and the limits of some of them; the occurrence of gold, silver, copper, quicksilver, tin, coal and oil. It has a section showing the heights of the principal mountains. The boundaries are clear and unmistakable, and the print good. 1878. Sold by DEWEY & CO. Price, postpaid, \$2; to subscribers of this journal, until further notice, \$1.

SANTA CLARA, CAL., APRIL 18, 1880.

Messrs DEWEY & Co. Gentlemen:—I received the Letters Patent for my improvement in Paper Bag Machines, together with the extra copies that I ordered on the 20th ult. Also a copy each of your most valuable weeklies, containing a full description of my invention and notice of patent. You will please accept my thanks for the gentlemanly and business-like manner in which you have dealt with me from the beginning of my application, and feel assured that I shall take pleasure in recommending your firm to all who may wish to procure Letters Patent. Very respectfully yours, ED. O. BENNETT.

P. O. Box 246.

This paper is printed with ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorsey, 527 Commercial St., S. F.

FIREMANS FUND

Insurance Company.

JUNE 30th, 1880.

ASSETS:

CASH on hand and in Bank	\$40,029.27
U. S. BONDS, registered	195,875.00
OAKLAND CITY BONDS	29,500.00
OAKLAND GASLIGHT BONDS	17,500.00
FIRST NATIONAL GOLD BANK STOCK	10,080.00
LOANS on BOND and MORTGAGE	153,100.00
BILLS RECEIVABLE, secured by collateral	20,050.00
REAL ESTATE	209,218.33
MARINE PREMIUM NOTES	27,733.20
PREMIUMS in course of collection	57,000.18
INTEREST due and accrued	8,525.41
ADVANCES on Mort'd property, etc.	2,795.73

ADDITIONAL CASH CAPITAL now being called in.....\$767,307.17
350,000.00

Will Make Total Assets, \$1,117,307.17

THE

FIREMANS FUND

Insurance Company

Bases its CLAIMS TO THE BEST PATRONAGE upon its sound financial condition, reinforced by its ACCESSION OF CAPITAL, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair and clearly expressed contracts, and prompt and equitable adjustment and settlement of legitimate losses.

For SEVENTEEN YEARS it has been favorably known as a conservative Underwriter, and during that time has paid over

\$4,000,000 in Losses,

Passing triumphantly through the heaviest conflagrations known to modern history.

Agents

IN ALL THE PRINCIPAL LOCALITIES IN THE U. S. Insurance of Grain and Growing Crops in California a Specialty.

Home Office:

401 California St., San Francisco.

WILLIAM SEXTON,	Supervising Agents.
E. W. CARPENTER,	

D. J. STAPLES,	GEO. D. DORNIN,
President.	Secretary.
ALPHEUS BULL,	WM. J. DUTTON,
Vice President.	Asst Secretary.

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, DEWEY & CO., Office MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome Street, S. F.—1879.

SAN FRANCISCO, May 25, 1880.

Messrs DEWEY & Co.—GENTLEMEN:—In acknowledging receipt of my two patents, I desire to express my thanks for the prompt attention which my business has received. The successful manner in which you have conducted the same shows a marked shrewdness as Patent Agents, and I shall take pleasure in recommending your firm to all who desire to obtain patents. I have received copies of the MINING AND SCIENTIFIC PRESS containing descriptions of my inventions. With the best of wishes, I remain, Yours truly, LOUIS BEGON.

Engraving. Superior Wood and Metal Engraving, Electrotypy and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

SADDLES, HARNESS, WHIPS, LEATHER. W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly reduced prices.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, AUGUST 7, 1880.

Number 6

The Winged Phylloxera.

EDITORS PRESS:—I attended the meeting in Sonoma valley last week and brought home with me samples of infested roots taken from the same vine as those examined by Dr. Bleasdale, as I happened to be present when Mr. Harazthy dug up the vines for the Doctor to examine. I looked over the roots with the Doctor's glass, but failed to discover any but the wingless variety. I enclosed my samples in a glass jar and brought them home with me after the meeting. On Sunday morning, two nights and one day after placing them in the jar, I took them out to show them to my friends, and while I was relating to them the proceedings of the meeting in Sonoma, and saying that there was little danger from the rapid spread of this pest, as the insect in its winged form had not yet appeared, a Japanese gentleman, who was then looking over the infested roots, cried out: "I see one with wings now!" On a careful examination of the roots under the loose pieces of bark, we found eight full winged specimens, looking exactly like the one pictured in the RURAL PRESS of March 29, 1879. I enclosed five of these in a glass and sent them to Prof. Hilgard.

The next day we found four specimens exactly like the picture in the above issue of the RURAL PRESS, with the little pads on their sides like rudiments of wings. I have now had them in the bottle four days and they still continue to hatch, but no more of the winged kind. If those who are interested in this matter desire to prove the truth of this discovery, let them follow Prof. Riley's directions found on page 72 of the RURAL PRESS for Jan. 31, 1880. This is the right time in the year to make the test.

In order to arrive at any just conclusion as to the extent that this pest has already extended over the State, it would be well to begin at the apparent border of the infested district, and let the examination radiate out in all directions until the full extent is found. In my judgment, it far exceeds the present apparent locality. We have no just reason to doubt but that this insect will, in this State, repeat its history in Europe.

When the cattle plague appeared in England they passed a law to examine and destroy any herd of cattle found to be infected, and the government paid two-thirds of the value of those slaughtered. Suppose we did the same in effect with vineyards found to be infested; would it not be wiser than to run the risk of almost certain loss, within a few years, of our vineyards throughout the State? Whatever is done, must be, in the very nature of things, done quickly, or this justly-dreaded pest will have spread beyond all control.—J. S. HYDE, Fountain Grove, Santa Rosa, Cal.

The above announcement by Dr. Hyde is very interesting, and not the less so from the fact that the insects he sent to Prof. Hilgard, although truly a winged-form, were sterile, and not capable of spreading the destruction which our vine-growers fear. In order to show the difference between the fertile and infertile-winged forms, we have reproduced engravings from Prof. Riley's drawings of the phylloxera, which show clearly the distinction between the two. Fig. 1 is the fertile-winged female, which thus far has not been observed in this State, unless some of the insects retained by Dr. Hyde are of this form. Fig. 2 shows the outline of each of the five specimens received by Prof. Hilgard. It will be observed that in the fertile-winged female the abdomen is prolonged and that the body is about half as long as the whole insect wings included, and is of a tapering, rounded form. In the sterile, the body is rarely one-third the length of the whole, and the abdomen is abruptly contracted, as shown in the engraving. It would have been better if the engravings had shown the front view of each insect, but the different forms of the abdomen can still be clearly seen.

Concerning the finding of the sterile-winged form by Dr. Hyde, Prof. Hilgard spoke at the meeting of the Horticultural Society as follows: "After all the matter still rests pretty much as we conjectured it was two years ago. I then stated that either the winged phylloxera was not here at all, or in very small numbers. There are five or six varieties of the insect non-winged, which live on the roots, which produce a winged form towards autumn, which, like the wingless form, is simply a female which lays eggs without any connection on the part of the male. The winged female is simply an egg-layer, like the others. She lays a few eggs only. Some of these eggs produce males and others females. It seems to be necessary that there should be a kind of renovation of the race in that way. The winged insect is dangerous, of course, because it is capable of flying to some extent. In Europe the winged form has served to carry the insect a distance of 30 or 40 miles at one jump, leaving districts between unaffected. In Sonoma the progress of the pest has been slow, and it has been thought that the winged insect was absent. The winged forms produce only two varieties—one fertile, the other infertile. I understand that in other countries the proportion of infertile ones is

small and that of fertile ones large. Of the eight sent me by Dr. Hyde, I find that five are of the infertile kind. I infer, therefore, from the evidence thus far produced, that the spread of the pest will still be comparatively slow, depending upon the kinds that crawl instead of those that fly."

The announcement by Dr. Hyde will doubtless induce a still wider search for the winged insect. We shall be pleased to receive any specimens which may come to the eyes of our readers to determine their exact nature.

DEPRAVED BEES IN CITIES.—The breaking of

FIG. 1.



FIG. 2.



FERTILE AND INFERTILE FORMS OF WINGED PHYLLOXERA.

the eighth commandment by city-bred bees is becoming proverbial. In Los Angeles there has been a heated contest between beekeepers and fruit growers—in fact their epithets to each other have been stinging. The same bone of contention is being gnawed in other parts of the world by those who have bees and those who have sweets. We read in an English paper that apiarians are so numerous in Paris that their bees do great damage to their co-citizens. One inhabitant alone in the 19th Arrondissement

ing part of his discovery. Of 80 healthy fowls, which had never had the disease, 20 died immediately after being inoculated with the cholera poison in a virulent form. The poison was then very much reduced in strength, and a second score of the fowls were inoculated with it. They all suffered from the disease in a slight degree, but they all recovered, and when afterward inoculated with poison of full strength, only 8 of the 20 died. A third lot of 20 was then inoculated twice with the weaker poison,

Pasteur's Study of Chicken Cholera.

Pasteur declares that chicken cholera is caused by a microscopic parasite ("le microbe"), and he has studied its habits until he knows what it feeds upon, and can produce it and kill it at will. This parasite, he says, finds its food in the body of the animal, and, therefore, if microbes be introduced therein, so as gradually to exhaust this nourishment thereafter, the animal is proof against the disease, because the microbes die of hunger. The experiment by which he proves his theory is the most interest-

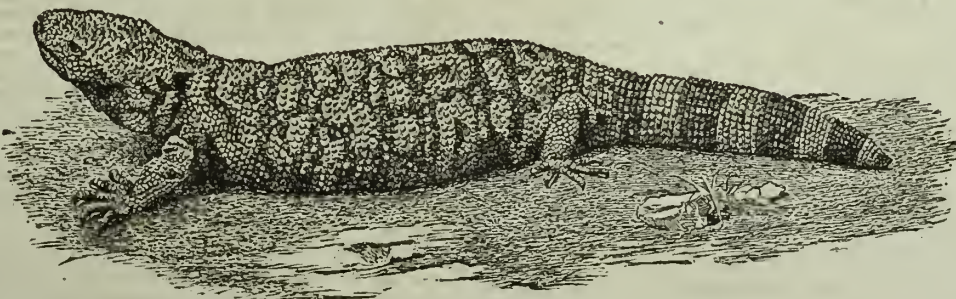
The Aztec Lizard.

Prof. J. G. Lemmon, the well-known botanist and naturalist, brought with him from his last visit to Arizona a living specimen of a rare reptile, called the Gila monster or Aztec lizard (*Heloderma suspectum*). The engraving on this page gives a good idea of the animal. The engraving is from a photograph by Williams & Samuels, cor. 11th and Clay Sts. Oakland.

The specimen is a female and is believed to contain many eggs, which would account for its rounded form. It is 19 inches long, 9 inches around the body, has a thick tail like a kangaroo, and weighs two pounds. Its color is yellow, with clearly defined black scales one-eighth of an inch in diameter, resembling the marking of a butterfly. This peculiar appearance is said to be the model which the Aztecs followed in making their pottery. The Mexicans also have decorations after the same pattern, and the Indians of this coast certainly follow it in their basket-work. This specimen is very seldom seen and is known to be the rear guard of the past race of prodigious fauna represented by *dinosaurius*, *megatherium*, *pterodactyle*, etc. It is slow-motioned, cannot overtake its prey, and is consequently easily devoured by its enemies; hence, its liability to become extinct, which enhances the value of the few specimens in existence. The Indians regard the reptile as a great delicacy. The coyote and fox eagerly dig it out of its burrow in the sand, and the white eagle, hawk and vulture prey upon it when exposed. It feeds upon the eggs and young of other animals.

There is a curious fact about the reptile which does not appear in the engraving, and that is, that its two sides do not correspond in markings. Scientific men call this a lack of bilateral symmetry. This lack of symmetry does not exist elsewhere among reptiles, and is found only in the flounder, in the family of fishes, where the difference is produced by the fish lying constantly on one side. The lizard, running upon its feet, thus has this peculiar result without apparent cause, and is hence a marked exception to the rule of dualism in animal forms.

This rare specimen of the saurians was captured near Phoenix, Arizona, by a chief of the Maricopa Indians, using a small lasso made of a picket rope. The animal has been living in quiet in the city of Oakland, and has been examined by many interested persons.



THE AZTEC LIZARD (*Heloderma suspectum*) FROM ARIZONA.

keeps from 800 to 900 hives; and there are a great number to be found in the 13th Arrondissement, near the goods station at Ivry. Valuable as are bees to their owners, they do a great deal of damage in various directions. At the Say sugar refinery, for instance, it is calculated that the damage amounts to 25,000 francs a year; for a whole jarful of syrup will be emptied in less than a couple of hours, and two or three bushels of bees are taken or destroyed within the day. The workmen, who are obliged to follow their occupation bare to the waist, suffer terribly from these little pests, and frequently get badly stung.

A CATTLE-HERDER named King, living near the Cheyenne river, Dakota, recently lassoed a four-year-old buffalo, and is now endeavoring to domesticate the animal.

In 1869 London had 13 gas companies, employing an aggregate capital of £7,828,844. Now there are but 4 companies, but their capital is \$12,631,818.

and only five died, when they were afterward tested with the stronger "mixture." The final score of fowls were inoculated four times, at regular intervals, and thereafter it was impossible to give any of them such a dose of microbes as to cause its death. The conditions of the experiment are said to have been such as to leave no room for doubt as to the results obtained. Consequently, it would seem that chicken cholera must be added to the list of diseases prevented by inoculation. It is a long step from cholera in fowls to cholera in man, and M. Pasteur does not seem to take it. He does think, however, that there is a connection between chicken cholera and a disease common among the negroes of Senegal. The symptoms are very much the same, and, in corroboration, it may be mentioned that the cause of the "sleeping sickness" is said to be eating fowls afflicted by a certain throat disease. This hint opens a wide field for speculation.

INDIA'S yield of tea is estimated this year at 70,000,000 pounds.

EAST INDIAN WHEAT PRODUCTION.—When four years ago we announced that East India was looming up prominently in the list of wheat-supply regions, we were dismissed with a slur by an interior critic who is generally well informed on agricultural subjects. It seems however, that we were quite right in the statement. The *Mark Lane Express* says that some 19½ millions of acres, yielding 26½ million quarters are now returned in the wheat producing tracts in the different provinces. According to the *Indian Herald* for April, the area under wheat in India is about six times as great as that in England, for in 1878 there were in Great Britain 3,218,417 acres under this crop. Dr. Forbes Watson ranks India fourth in the list of wheat-producing countries, placing the United States, France, and Russia before her. In the Punjab, north-western provinces, and Oude, and in the central provinces, the average yield per acre stands at 13½, 11½, and 8 bushels respectively. Irrigation, the use of manures, and higher cultivation have, however, more to do with the extra out-turn of the acreage in these districts than the degrees of latitude; and as the improved system of cultivation becomes more generally known and more generally practised among the ryots the greater advances may be expected in the Indian wheat trade.

UNIMPROVED Riverside (San Bernardino county) lands are held at from \$100 to \$200 per acre.

POULTRY is rapidly fattened for market in France on barley and steamed yellow carrots.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—EDS

Anaheim Odessa Wheat.

EDITORS PRESS:—The seventh crop of Anaheim Odessa wheat is now being harvested, and during all these years not a trace of rust has appeared upon it. This year has not been a very severe test, as there has been but little rust on any kind of wheat in this county, and then only in a few isolated localities. The Odessa has been thoroughly tested this year, having been grown upon the high and dry mesa, on the moist but comparatively elevated valley lands, and on the low, wet corn lands of the Gospel swamp, and in every instance it has not failed to mature a crop of nice plump grain. On the drier lands the early sown crops are invariably good, and promise a yield of from 15 to 30 cents per acre. The late sown crops (in February and March) got pretty severely handled by a hot, dry spell of weather lasting one week, which occurred about June 1st. Up to that time both early and late sown were looking as well as possible. That which was out in head suffered but little; but all the grain which had not headed out was scorched severely. Much of it looked like uncut hay, and was considered utterly worthless; but when the welcome fogs began to roll in from the "broad Pacific," to the astonishment of every one the apparently dead grain revived, and has yielded an average of about five cents per acre of good plump grain. It was a most remarkable resuscitation. Barley that was scorched in the same way died without a struggle. I am convinced that no other grain would have revived and produced seed under the same circumstances. These crops were on the mesa land, and on the higher and drier parts of the valley. On the sandy land in the same district the grain was but little affected, being worse on the heavy land. I account for it in this way: We had an unusual quantity of rain last winter; the heavy land being well saturated with water, the grain made surface roots; consequently, where the ground was dried down, say three inches, by the "hot spell," the plants were almost entirely deprived of moisture, and naturally wilted; but the sandy land being more porous and the roots having followed the moisture to a depth below the influence of the evaporation, was naturally less affected. And also the earlier sown grain, having used up the surface moisture, had extended its roots deeper in the soil, beyond the drying influence, also suffered less. The crops on the low lands nearer the sea were entirely unaffected, and were green and thrifty through the whole of this disastrous visitation.

The hot, dry air doubtless saved the other varieties of wheat from rust, as it occurred just at the critical time. I am confident that the "hot spell" did ten times the good it did harm, as there was at least 10 acres of wheat liable to rust sown to one of Odessa. The strong north wind that did so much harm in the northern part of the State, and which occurred later in June, did no harm here except to knock down rye and barley; but the stiff-strawed Odessa, much of which was four to five ft. high, paid no heed to it, and stood as erect after the blow as before. With us the blow only lasted one day.

We have to learn by experience; and our farmers are all agreed upon one point, and that is, that on our drier lands wheat cannot be sown too early. Wheat raising is comparatively a new business to most of our farmers, but this year Los Angeles takes rank among the wheat-growing counties, with all the possibilities in the future of taking the first rank among them. What we want is an immigration of Northern farmers, who are accustomed to the business, to buy or rent our vacant lands and treat them as they have been accustomed to do at the North. Unless they wish to do so, they need not purchase at first, as they can rent all the land they want at \$1 and \$2 per acre, and test the land beforehand. On properly-prepared land, wheat sown in time will make a remunerative crop four years out of five. This is more than can be said of some parts of the State. Another very important point in our favor is our facilities for shipping. Large sea-going vessels can be loaded here direct for Europe. This was done last year, and will be this; and when the immense area of fine wheat lands that are now devoted to the pasturing of sheep, and Los Angeles and San Bernardino counties are occupied by wheat farmers, a large fleet of ships will be loaded in San Pedro bay.

The "Anaheim Odessa wheat" is a peculiar variety, and differs in its growth from any variety that I have seen. When it first comes up, the leaves are very fine and slender and make very little show; the color is a very dark green, and at that stage it resembles rye. In a week you notice that the nucleus of a stool has formed and that the leaves and shoots have become perceptibly broader and stronger as they spread out in every direction from the center. All of the first efforts of each plant are exclusively devoted to covering all of the land within reach, and it is only after the different stools touch each other that it grows upward at all. On weedy ground this is an important characteristic, as if weeds grow you can run over it with

a mower and cut the weeds close to the ground two months after seeding, not only without injury to the wheat, but, on the contrary, to its manifest benefit. I have seen fields this year that apparently were one mass of mustard and malva, with no wheat visible, that after mowing became a fine crop of beautiful weedless wheat. This is not practicable with many other varieties. Another peculiarity is that it delights in fogs; it possesses a great faculty of condensing moisture from the air. It cannot have too much fog. This peculiarly fits it for the coast lands where other wheat is liable to rust—where its immunity from rust makes it a certain crop. It is also suited for the reclaimed islands and the low, wet lands of the Sacramento and San Joaquin valleys, which are equally liable to rust. Another advantage is that such a small quantity of seed is required. If sown early, not more than 25 to 30 lbs. of seed should be sown. If it has time it will cover the ground. The grain is small and plump, and goes farther than larger grain.

The color of the grain is a light amber, and it is extremely rich in gluten, just the kind of wheat that millers want to mix with the white, starchy wheat, in order to make good baker's flour. Our crop this year, owing to the causes I have mentioned, will not be more than half as large as it promised to be in May; but notwithstanding the fact that we will sow at least 10 times as many acres as we did this year, there will doubtless be a considerable surplus to spare for seed.

The "Anaheim Odessa" is a bald wheat, but mixed with it is an occasional stool of a bearded variety that possesses in other respects the same characteristics, it does not rust, and ripens at the same time. The grain is somewhat longer, and darker colored, and resembles the Red Mediterranean wheat that I remember 40 years ago in Pennsylvania. One farmer showed me some that he had gathered before harvesting last year, and cultivated separately this year, and will sow it separately again. I feel a great interest in extending the cultivation of our "Anaheim Odessa" as I consider it a very valuable variety. If sown early, on properly prepared land, with a reasonable rainfall, I consider it a sure crop. I was about to close, but I forgot to add another recommendation that it possesses. Mr. S. L. King, of Garden Grove, six miles south of Anaheim, left in my office a sheaf of wheat of this variety, that he sowed on November 16, 1879, on alkali ground so strong that he has always failed to sprout corn on it, or raise any other crop previous to this, that he estimates will yield 25 cents per acre. The wheat stood six ft. high, and the straw is bright and the grain is full and plump. Other parties have told me of their success in growing this wheat on alkaline soil; but they all agree that it must be sown early to succeed.

We are about doing great things in sugar making this year, but I will await results and make that the subject of another letter.

WM. R. OLDEN.

Anaheim, July 25, 1880.

Tehama County Notes.

EDITORS PRESS:—Monday the 26th a stiff norther sprang up and blew for three days, hindering our sturdy yeomen very materially in their work of gathering the golden harvest. One or two narrow escapes from that dreaded horror of the farmers during harvest time, "fire"—were reported; luckily, no serious fire occurred, but threshing in a high wind is a thing to be avoided if possible, for should a fire get any headway in a stubble field, it would prove a serious and difficult matter to master.

Cutting and stacking is very generally finished among our small and medium farmers; and the busy hum of the separator is welcome music to the anxious ones who are waiting their turn like impatient customers in a barber's shop. The bulk of the harvest has been gathered in the Antelope valley, but threshing outfits are scarce on the west side of the river, and the bulk of grain has yet to be put through the separator on our side of the old father of Californian rivers. A large and new outfit belonging to A. Hammons moved over from the Antelope, where it has turned out some first-class work, this evening to the uplands, where it will have nearly two months work.

From parties who have harvested their crops on the red lands, I learn they are more than satisfied at their yield of grain on this new land this season; the grain is in splendid milling condition, plump and heavy, clean and abundant, the sacks are heavy, and the yield above their anticipations. So far I have heard of no sales, nor do I know of what is offering. From observation I judge our farmers are not anxious to sell until the market is firmer and briske; they seem to be holding for an advance. Our local millers are getting parcels at \$1.25 to \$1.30, and \$1.35 per cental; the latter price being paid for choice quality. In conversation with a mill owner the writer learns that the favorite varieties of wheat for milling purposes is unquestionably the different "white varieties," "White Proper" having a decided preference. On our large ranches very little of the white wheat is sown as a rule, owing to its liability to *shell out* when standing too long for the header. "Proper wheat," however, is being given a trial, and seems to come up to the expectations of our large farmers; and, no doubt, when the fact shall become generally known, that this vari-

ety is preferable to the miller, and he offers a better figure for it, the "Proper wheat" will be more extensively sown.

One great drawback to our hard-working and industrious farmers is the want of cheap transportation. The high rates charged by the railroad company takes off a large margin from the producer's share of the profits. That noble "highway" which the creator placed through the center of this prolific valley—the winding Sacramento river—has been closed by the obstructions placed in the river by the railroad company at Tehama, in the shape of tons upon tons of rock brought from Rocklin, to prop up the center pier of the bridge. It is to be feared that the opening of this natural "highway" will be a thing of the distant future; the meantime our farmers and merchants have to pay tribute into the coffers of the wealthiest corporation of the Pacific coast. Whispers of a project have been heard in the marts of our town of late in regard to this vital question of cheaper transportation, and it is devoutly to be wished that our local capitalists will put their shoulders to the wheel and come to the rescue of the producers in supplying cheaper transportation. A narrow-gauge railroad could be built to Mackintosh's landing, or to points where the Sacramento river is navigable; that would pay the projectors and relieve our people from the yoke of excessive freight. From evident signs, the writer predicts the early formation of a transportation company of local capitalists who will move the future crops of Tehama county at a considerable lower figure than the California and Oregon branch of the C. P. R. R. are now doing.

Red Bluff, Cal.

FELIX.

A Bee Coaxer and a Force Pump.

EDITORS PRESS:—I am this year experimenting a little as an apiarist. I find the literature of the profession very wordy, but not over-lucid. In taking off surplus honey boxes some bees remain among the combs after considerable smoke has been injected. These may be got rid of by placing the honey receptacle in a larger box, and covering this larger box with boards, just leaving a very narrow opening at one corner. Let things remain thus all day, and by night hardly a bee but will have returned to the hive. Langstroth omits to mention this. Mr. Jonathan Wright told me of the plan.

Force Pumps.

Perhaps a little force-pump experience may be of use to some of your readers who, like myself, depend on windmill and force pump for their water supply. All force pumps seem more or less troublesome, especially to novices in mechanics. I use the Excelsior No. 2 and had great trouble in making it work at first. Everything seemed right about pump and mill, but the plunger went up and down without throwing any water into the tank. Two shallow iron cups, back to back, fastened to a brass rod constitute the piston. These, of course, were packed with the new leathers, as they left the factory; but not till I had put on a second leather on the upper cup could I make my pump throw water. The mill and pump then worked fairly for 12 months. Lately, however, the pump again refused to throw water, and no double packing would persuade it.

I overhauled everything, and finally concluded that its failure was due to the dripping of the lips of the iron cups, which were quite thin and eaten into by rust. So I had two solid pieces of iron turned the same size as the cups, but with no concavity, and put them in place of the cups; my pump at once gave me satisfaction.

If the manufacturers would make their concaves with thicker lips they would oblige others as well as myself.

EDW. BERWICK.

Carmel Valley, July 26, 1880.

Experience in Fresno County.

EDITORS PRESS:—The probabilities in my private letter which you published in the *RURAL PRESS* last fall were cut a little short by our heavy early rain. However, I obtained 2,350 lbs. of honey for the season. This year I commenced with 50 stands of bees—35 of my own, the balance I work on shares. I had 18 stands in all sorts of old box and frame hives, which I transferred to Langstroth frame hives, obtaining comb enough to average five frames to the hive, and all containing honey or brood. About 15 of the old stands had sets of dry comb for upper stories. I have increased to 105 stands. There has been no increase since May 25th, nor any honey taken from May 26th until July 17th, there being a failure of honey after our last cold spell and shower in May. Bees scarcely made a living for several weeks, but are doing very well now. I have taken 725 lbs. of honey since July 17th, and I have about 25 hives to go to yet before getting once around. I have taken 2,225 lbs. for the season to date. The probabilities I will leave out, as I like to hear or read of facts for such things. However, I will say that in starting out this season my object points were fixed at 100 stands of bees and 10,000 lbs. of honey. I would like to hear more from our coast county beekeepers.

P. LOUCKS.

King's River Apiary, Fresno Co., Cal.

HORTICULTURE.

The Peach Tree and its Diseases.

At the meeting of the California State Horticultural Society held in this city July 30th, the following paper was read by Dr. J. Strentzel, of Martinez:

One of the most abundant and luscious fruits grown in Asiatic countries, introduced by the Romans into Europe, did not find a congenial locale for its propagation, apparently losing stamina. Transplanted to this continent it spread rapidly, and is now one of the most extensively cultivated orchard fruits. A denizen of another hemisphere, it cannot be otherwise but that the tree may have suffered by coming in contact with varied climatic conditions of soil and culture, which shows itself distinctly in older cultivated settlements, where the soil is beginning to lack the elements of fertility required for the growth of the tree. Thus through the extent of the Southern States the peach suffers from the yellows—an acknowledged contagious disease produced by a fungus, induced by the lack of alkali in the soil, and subject to amendment by its replenishment. In the Eastern States the curled leaf and white mildew are prevalent, and in both regions the peach root-borer destroys many trees. In California, previous to the year 1852, a few peach trees were found about the Missions and around Los Angeles, the fruit of small size, white or yellow, globular, with a deep suture, the trees badly affected with curled leaf. Later, when budded imported trees began to be plenty, their vigorous growth and luxuriant foliage were characteristics distinguishing them from the so-called Mission peach. A few years later the curl began to appear also on budded trees. Eight years ago the white mildew was recognized spreading along the Sacramento river. The Dolly Varden style of peach is now the rule through the central part of California. By slow degrees it has progressed in evil until now an almost total failure of the peach causes us to meet to-day and anxiously concert for the better. A fond hope is cherished by some that the present is an exceptional season; that in future the trees will recover their former luxuriance, and the fruit its lusciousness and beauty. In some measure these anticipations may be realized, but, judging from analogy, we are apt to be disappointed.

The Enemies of the Fruit Grower.

The enemies of the fruit-grower multiply; the tent and green caterpillars, the codling moth, the pear slug, several varieties of borers, and pit-eaters and numerous cocci and aphides, the most troublesome of them, the woolly aphis on the apple tree, and the phylloxera on the vine—no telling when the curculio will show—admonish us that constant vigilance can only guard our fruit from spoilation. All these insects are now actively at work in our midst, requiring co-operative action to combat them under theegis of society through its government, by the employment of specialists and experts to search the ways of these pests and ascertain the most feasible means of their destruction. Much in that line has been already done by the efforts of the Department of Agriculture in Washington; a great deal more than credit is given for. Its entomologist and microscopists have done considerable work, and it is desirable that these researches be continued and the reports distributed in a manner to insure their reaching parties interested in agriculture and anxious for information upon those vital subjects. Troublesome and hard to conquer as the army of insect predators may be, there are others still more insidious in their approach; favored by the elements, they spread with lightning speed to the destruction of higher organized plant life; they are the class of cryptogamic parasitic plants embraced under the name of mildew and fungi; their seed or spores may remain suspended in air, water or earth for an indefinite length of time, until favorable conditions or presence of pabulum call them to life and indefinite multiplication.

Curled Leaf and White Mildew.

Those under our consideration are now the curled leaf and the white mildew on the peach. It appears superfluous to describe their appearance, *habitat* and way of living—they are before you, the denuded, debilitated, fruit-bare trees tell the story. The connection between cold, rainy spring weather and prevalence of curled leaf appears to be established. In such years the superabundance of sap furnished to the leaves, for want of warmth and sunshine, remains in a crude state, a condition favorable to the sprouting of spores, the irritation produced by the entry of radicles in the cellular tissue of the leaf causes an augmental flow of crude sap and consequent disorganization of the whole structure, to the detriment of the fruit, which, being starved, drops off. Again, during warm, dry weather, if some curled leaf appear, it affects only a part of the foliage on a tree—often only a part of a leaf, which soon dries up, new growth is brought forward to supply the wants of the fruit of the tree. There is also apparent a constitutional peculiarity and difference in the structure of the leaf in some varieties, which enables them to resist the encroachments of the parasite. These constitute the non-curling varieties, although in exceptionally unfavorable season like the present, they partially submit, but they are apt to recover sooner; this peculiarity is taken advantage of in selecting them for orchard culture, or to raise seedlings for

bndding. Fortunately we can go a step farther by nsing a near relation of the peach which is more robust and healthier, free from curled leaf under any conditions, viz., the sweet hard shell almond; it should have our preference for stock plants, and it is used for that purpose abroad.

Remedy for Mildew.

The white mildew takes lodgment near and on top of the shoots, often spreading over the leaves, and is a disgusting, leprous blotch on the fruit, some varieties resisting the attacks more or less, but none are entirely exempt. The shortening of the affected shoots would be of some service, and still better results may be anticipated from alkaline and sulphur washes. Between them a solution of bluestone recommends itself most forcibly, owing to its low price, facility of application and being effectual in destroying fungi and their spores. Heretofore the low price of fruit left us no means to experiment with; the want of time, still more grievous, are obstacles to following this kind of research by individual horticulturists. It is a legitimate field for experimenting by our agricultural colleges, experimental farms and national gardens in Washington—the houquets of knowledge thus raised would be some offset for the many thousands squandered for mere ornamentation. But such good time is hardly to be expected, and individual effort by public-spirited members of this society must continue to strive to do the good work—to clear off the leprous spots from the delicious peach—to return the tree to its pristine luxuriance and fruitfulness.

Prunes and their Proper Names.

The following letter, addressed to the Secretary, was read at the meeting of the State Horticultural Society last Friday:

Will you allow me to suggest that the August regular meeting be devoted to the study of the prune question? We are, in the first place, rather badly mixed with regard to the correct nomenclature of prunes; and, in the second, what is the best variety to grow to produce an article equal or superior to the imported French and German prunes?

We have in cultivation in California prunes known as: Petite d'Agen, Burgundy, Fellenberg, Hungarian, Prince Engelbert, Wangenheim, Early prune and German prune, and possibly some more. By comparing the catalogues of our leading nurserymen, and again comparing them with Downing's "Fruit and Fruit Trees of America," we find various discrepancies, but it may reasonably be hoped a committee appointed by the State Horticultural Society will once and for all settle this disputed question.

The prune which is at present most largely cultivated here is "Petite d'Agen," answering to Downing's description of "Prune d'Agen." It is generally conceded that this variety is very extensively grown in France for drying purposes, but it is possible that even under the most careful system of "grading" that fruit large enough could be obtained from it to equal the first-class imported prune. It will be noticed also that the pits of the latter are longer and altogether differently shaped from those of "d'Agen."

We have several entirely distinct varieties which are known as "German prunes," but that which is generally called "Spanish" or "Mission" (probably only because it was brought here by the old Spanish *padres*) is, so far as I can find, the only one which, according to Downing, and under the name of German prune, is "perhaps the most universal and most valuable fruit tree in Germany, Hungary, Saxony and all central Europe." This tree is to be found in almost all the older settled portions of the State, but it is doubtless, in many cases, a seedling, as it reproduces itself nearly true, but it is rarely known to mature even one-fourth of a crop, though blooming most profusely every season. What reasons are assigned for this? Has it been thoroughly tested on different stocks and in different localities?

Felix Gillet, of Nevada City, tells me, in answer to queries, that he has just imported the variety which is grown in France to produce the large prune for export, and which he calls Grosse Prune d'Agen. Now we have had for some years in California the Hungarian, Grosse d'Agen and English Pond's seedling, so called, which, according to some, are identical, and by others are claimed to be distinct. We can not all be right, and we must pay some attention to what is said by those who have lived in the countries where the article is raised and prepared for market. Mr. Gillet says also that "the Royale de Tours is most extensively cultivated in France for drying, where it, the dried article, is known as *pruneaux*."

Would it not be well for members to be requested to bring with them at next meeting samples of all varieties of "prunes" they have, that they may be referred to a committee for correct nomenclature, and the whole matter be given that careful study which, by its importance, it justly deserves. LEONARD COATES, Yountville, Cal.

[By reference to our report of the meeting of the Horticultural Society on another page of this issue, it will be seen that the suggestion of Mr. Coates was approved, and prunes will be the leading subject at the August meeting.—EDS. PRESS.]

SAND is worked with cement to keep the latter from cracking, to harden it and to lessen the cost of the mass.

FLORICULTURE.

Flower Growing for Perfumes.

At the meeting of the California State Horticultural Society, held in this city July 30th, a paper was read by G. P. Rixford concerning floriculture for the extraction of essential oils and other perfumed products, as follows:

We cannot imagine a more delightful and at the same time a more profitable branch of horticulture than the cultivation of flowers for their perfumes. That the climate of a large portion of California is perfectly adapted to the growth of the principal varieties used by perfumers there can be little doubt. This industry has long been an important one in southern France, where the climate is similar to ours, while an experienced Frenchman, Dr. Piesse, of the noted firm of Piesse & Lubin, perfumers, has just expressed a favorable opinion of the probable success of flower-farming in south Australia. The climate of both these countries is so similar to that of this State it is safe to assume that the culture would be successful at least in our warmer valleys.

The amount of capital required is very moderate, and one great advantage is that the whole process of growing the flowers and extracting their essential oils is simple, and can be wholly completed by each grower either on a large or small scale. The products of the flower field may be put in a form so concentrated and valuable that the distance from market is of little consequence. The investment of large capital in great establishments for distilling the flowers, as in France, is not necessary, since in Turkey along the southern slope of the Balkan mountains, where a large quantity of the otto of roses is made, each farmer does the distilling for himself, the apparatus for which is very simple and often of his own construction. Small stills can be purchased here for \$15 or \$20, which will answer every purpose of the small cultivator. Without entering into the details of distilling the flowers, we give the methods of cultivation adopted in France, translating from *Cours d'Arboriculture*, a work by A. Du Breuil, recently published in Paris.

The cultivation of plants for their perfumes is confined to the most southern departments of France, near the borders of the Mediterranean. Those chiefly grown for the purpose are the bigarade orange, rose, Spanish jasmine and cassia.

The Orange.

We will first consider the orange. Orange flowers in the hands of the perfumer constitute one of the principal sources of his industry. From them are obtained the orange-flower water made use of both in perfumery and in medicine. In Southern France (the departments of the Var and Alpes-Maritimes) the harvest of flowers of both the common and the bigarade orange commences in the month of May and continues into June, and it is not unusual to see it resumed in autumn; but the autumnal blooming occurs only after a very dry summer, when, with the commencement of the rainy season, the trees put forth a new growth and blossom again, though this second flowering is much less abundant than the first. Experience has demonstrated that the flowers of trees grown upon hills are richer in essential oil than those of trees upon the rich, deep soil of the valley or plain.

The flowers are gathered by extending cloths under the trees after the sun has dried off the dew, when vigorous shaking brings them down. This operation is repeated every two days during the blossoming period. Care must be taken to avoid gathering the flowers immediately after a rain, or before the sun has entirely dried off the dew, otherwise the trees will suffer from the operation and the flowers will lose their aroma and be spoiled by fermentation. To obtain the sweetest and most delicate perfume, the flowers should be gathered when ready to expand. At that time they contain the greatest quantity of essential oil. Notwithstanding the harvest of flowers, there always remains a sufficient number upon the trees to give a crop of fruit. Orange trees begin to bloom and produce fruit at the age of five years, and are productive for about 40 years. For this time a bigarade tree produces at least 40 kilogrammes (84 lbs.) of flowers each year.

The Rose.

Also of great importance is the rose, several varieties being cultivated, from the flowers of which the essence is extracted. In the vicinity of Cannes, Grasse and Antibes, the *rosier des quatre saisons* (damask rose), *rosier de mai* or *rosier de tous les mois*, is chosen as giving the strongest perfume. The bushes are planted upon land which is not susceptible of irrigation, but which receives a thorough cultivation previous to setting them out. The rosebush is propagated by means of cuttings and suckers. The plants are set in rows three feet apart and at intervals of nine inches in the row. During the summer they receive several workings to destroy the weeds and to preserve the moisture in the soil. During the following spring dead and languishing wood is cut away and the vigorous shoots are bent over and fastened to the tops of the shorter canes. They are manured and cultivated and the soil is stirred several times during the summer, the same culture being repeated each season.

The harvest commences the second spring after planting, and the plantation reaches an average productiveness about the third season. The gathering takes place from the beginning of April to about the middle of May. There is

usually a second blossoming in autumn, but the flowers are much less abundant and possess much less perfume.

Eight bushes of average productiveness gives one kilogramme (about 2½ lbs.) of flowers. As 40,000 bushes are planted on one hectare of land it follows that the crop is 5,000 kilogrammes of flowers per hectare, which at the usual price of 50 centimes per kilogramme give a product of about \$366 per acre.

The Spanish Jasmine.

The Spanish jasmine (*Jasminum grandiflorum*) came originally from India. It is remarkable for its large white flowers, which are purple without. At the north it is cultivated in conservatories for ornament, but in the vicinity of Cannes, Grasse and Antibes it is an object of quite extensive field culture for its flowers, which are eagerly sought after by the perfumers. The following are the principal points in its cultivation as practiced in the vicinity of Cannes: For the plantation a rich, strong soil, susceptible of irrigation, is selected. The plant is propagated by grafting upon the common jasmine (*Jasminum officinale*), which is grown from layers and cuttings. The ground is manured and thoroughly worked, and the plants are set in rows two ft. apart, and at intervals of four inches in the row. The planting is done in the fall, and the ground receives a thorough cultivation in the spring, and is irrigated several times during the summer.

The following spring, that is, when the plants are one year old, they are cleft grafted near the ground. The soil is again abundantly manured and thoroughly worked, and the surface is left in a form to facilitate irrigation. A trellis about two and one-half ft. high, made of canes, is placed along each row, to which the shoots from the grafts, which develop rapidly, are to be fastened. In addition, the plants should be watered every two days from the commencement of May to the middle of October.

At the approach of winter earth is thrown against the rows of plants sufficiently to thoroughly protect the base of the graft from freezing. In spring all the shoots above the earth and unprotected will be found killed by the frost. The dead shoots are all to be cut away as near as possible to the point of insertion of the graft. The trellises are to be re-established, the ground is to be manured and cultivated, and the surface left in the best form for irrigation, as previously described, and the plantation is to receive the same treatment each year.

The harvest begins the first season that the grafts are inserted. It commences in September and extends into November, after which the flowers do not contain sufficient perfume to pay for gathering. The flowers are delivered to the perfumers as soon as possible after picking, as they rapidly lose their odor. The average product is 40 kilogrammes of flowers for 1,050 plants, or in the neighborhood of 6,640 kilogrammes per hectare, which at 2 francs, 25 cts. per kilogramme gives a value of 14.940 francs per hectare, about \$1,112 per acre.

The usual duration of a plantation of Spanish jasmine is 10 years. About that time the roots of the plants are attacked rapidly by rot. Experience has shown that the ground should be cultivated for at least four years with other crops before being again planted with jasmine.

The Farnese Cassia.

Another perfume plant of note is the Farnese cassia, or cassia of the Levant, (*Acacia Farnesiana*), a shrub with pinnate leaves, originally from India, which grows to a height of 16 ft. Its spiny branches are covered towards the end of summer with little fragrant yellow flowers in dense heads. At the north it is grown in the conservatories, while in the warmest parts of Southern France it is cultivated in the open air for its flowers, which play an important part in the perfumer's art.

Cassia is propagated in spring from seeds, the covering of which is so hard and impermeable to moisture that they would be several months in germinating if committed to the soil entire. In order to facilitate their growth they are cut or worn away upon the side by rubbing, after which they are soaked until swollen, which ordinarily takes place at the end of two days. They are sown in nursery rows in well-pulverized soil. Germination takes place immediately, and the growth is so rapid that the young plants soon acquire the length of the finger, when they are fit for the permanent plantation.

The soil selected for the plantation is usually a mica schist, dry or well drained, and sheltered on the north. Previous to planting, which takes place in spring, the ground is deeply and thoroughly worked. Autumn planting does not succeed for the reason that the roots rot during winter, and because the young plants, by reason of their removal, are more exposed to frosts and less able to endure them. The plants are put out in quincunx order at distances of two meters or six and one-half ft. They are immediately cut back to a height of two inches above the ground and are then irrigated.

Directions for Cultivation.

During the growth of the plants, four or five shoots, which are to form the framework of the head and should take the form of a goblet, are allowed to grow. The plants are again irrigated towards the end of May. The following year, in March, the four or five shoots which were allowed to grow the previous season are cut back to a length of about 15 inches. The ground is manured and thoroughly cultivated.

Towards the end of May the second year the buds are nipped, reserving three at the summit of each shoot, one on each side and one at the top, making, when grown, 12 or 15 branches or

twigs to each plant, from which the flowers are to be gathered. During the following spring, the branches which produced the flowers during the summer are cut quite down to the base and a single new flowering shoot is allowed to grow in its place. The same operation is repeated each year, as well as the irrigation at the end of May, and a thorough cultivation and manuring in spring after the pruning.

The gathering of the flowers commences at the beginning of September and lasts about two months. The product is delivered fresh to the perfumers. The flowers, however, retain all their aroma and a great part of their value after they are dried. The cassia furnishes a crop of flowers during the first year after planting, but the plants do not reach their full capacity (one kilog. of fresh flowers) until the fifth year. The ordinary price is five francs per kilogramme, or 40 cents per lb. A hectare contains about 5,000 plants and gives a revenue of about 25,000 francs, or at the rate of about \$1,500 per acre. The plantations live to be very old, frequently being vigorous and productive at 50 years of age.

THE DAIRY.

Bermuda Grass.

EDITORS PRESS:—I do not think that the same space in any newspaper columns will ever accomplish more good than will the space in the *RURAL* that is being devoted to illustrations of grasses and forage plants. It is impossible for a person to realize the comprehensiveness of the prevailing ignorance pertaining to names of different kinds of grass. Your illustrations and descriptions will correct this evil.

Your illustration of Bermuda grass, though entirely correct as to form—of a limb from a stolon—yet it does not show its habit of growth. It seems worthy of a column illustration of a section of a stolon. Its growth here on my farm is as follows: A seed or a joint of a stolon, or a small piece of a root or a stem, if left on the ground, soon takes root and throws up a bunch of succulent stems and leaves a foot or more in height. About as soon as the roots are established the growth of the stolons begins. These stolons are branches or stems about as large around as an ordinary lead pencil. They extend rapidly in every direction, growing 8 or 10 inches in a week, and throwing out a profusion of vigorous roots and branches from all of its joints, which are only two or three inches apart. I send you a portion of one of these stolons. This is only a part of this season's growth, as the stolons always winter-kill, leaving the rooted joints as separate bunches of grass for the next spring's growth to start from. To get this stolon I took a knife and cut through a mass of similar ones a foot in thickness—a thousand of them! I got this out a little over 12 ft. in length, but on account of weight I send only a portion of it, just enough, to aid my description, to give an accurate idea of its habit of growth.

These stolons form a perfect net-work, a foot thick, crossing each other in every imaginable direction, covering the earth as with a massive net-work of ropes or cords, and each separate cord most firmly bound to the earth every two inches of its length by tufts of long, tenacious, fibrous roots. I know of nothing that will at all compare with the Bermuda grass to hold dikes, ditch banks or bottoms against the action of water. Nothing of water, short of hydraulic piping, can move a bank well set with these stolons and roots. Water will not kill it. In places where the fall in my irrigating ditch was so great that I had at first great trouble from the "waters cutting it out," I have now a growth of Bermuda grass perfectly protecting both banks and bottom of ditch.

It is not valuable for hay here in California, where we have alfalfa, millets and impees that make 10 to 15, or even more, tons of hay per acre. But from its hardness, its ability to stand "haking or drowning," and from its good feed qualities, the avidity with which all kinds of stock eat it, and its adaptability to all kinds of soil and conditions, it fills a place as a pasture grass that should secure its introduction into every pasture in the country.

Here on my farm it is a biennial, not producing seed till the second year from the sowing of the seed. From roots planted, however, it produces seed the first year, requiring in our soil and climate 160 days to mature its seed from the time it begins to grow in the spring. It does not mature seed in the United States anywhere east of the mountains, unless possibly in a limited area about the Gulf of Mexico. This, added to the fact of the extreme smallness of its yield of seed, places the demand for and price of seed out of all proportion to prices paid for other grass seeds. I am of the opinion that where it is well established in our State, that money can be made by saving the seed. Though, for all localities where freight is not high, it is best propagated by planting joints of roots or stolons. Plant any time of year where you can irrigate. Where you cannot irrigate, plant when the ground is moist—any time in winter. I have planted a half acre to-day, July 31st, with thermometer at 90° Fah. in the coolest room of my house.

Sanders, Cal.

W. A. SANDERS.

[The specimen sent by Prof. Sanders arrived in good order and shows clearly the habit of growth which he describes above. We shall keep the sample in our office in case any reader who has not seen Bermuda grass may desire to learn its style.—EDS. PRESS.]

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

Our Great Rival.

[Written for the RURAL PRESS by JEANNE C. CARR.]

The lessons learned at Philadelphia during the exposition can never be forgotten by any who studied with a view to their practical application.

Thus in the specialty of pottery alone. Hundreds of operatives and scores of manufacturers of the common Rockingham and other wares went back to their clays determined to equal the finest European exhibits of household pottery. The business of ceramic manufacture in America has quadrupled since the close of the exposition, while the quality of the work put upon the market is incomparably better and more artistic. Thus the interests of American workman have been materially advanced.

The agriculturist has been slower in applying the lessons of the centennial, perhaps, because the displays which relate directly to his pursuits were so vast, so scattered and required so much time for their careful comparison. As I wandered day after day through the different sections of the Australian exhibits, I could but feel what an immense effort would be required to compete successfully with such a rival. Wheat, wine, wool, woods adapted to every conceivable use in the arts, gold, oranges and olives, were shown from each of the colonies. If anything seemed wanting in New South Wales or New Zealand, one would observe it prominently brought out in the Queensland or Adelaide sections.

All the known indigenous plants of south Australia were shown in a herbarium prepared by Dr. Schomburgk. Dried fruits of fine quality, including raisins and prunes, currants, etc., were to be seen; also almonds, walnuts, figs, apricots and nectarines, mulberries of several kinds, gooseberries, raspberries and strawberries. In short, I could not think of anything upon which we in California pride ourselves which was not equally the boast of Australia.

All this is brought freshly to my mind in reading the account in the Australian papers of the wonderful display made at the Sydney exposition by the Acclimatization Society of Queensland. The catalogue of plants shown is a remarkable one, viewed from the climatic standpoint, and Mr. L. A. Bernays, Vice-President of the society, says: "Of the large majority of these shown, there are stocks available for distribution among the members of the society; while of others, at present too tender to exhibit, plants will be fit for distribution towards the end of the year."

The leading aim of this society is plant-acclimatization, and its work, persistently carried forward for years, has already added materially to the resources of the colony, increasing the range of field and orchard products and of all the interests which depend upon a varied agriculture and horticulture. Among the plants shown is the most delicious of fruits, the mangosteen, which in England is sometimes, though rarely, produced under glass. We find also on the list acocrotine and Barbadoes aloes, date, wine and sago palms, pepper, allspice, clove, cinnamon, a long list of caoutchouc-producing plants, anatto, logwood, and a score of vegetable dyes, a long catalogue of medicinal plants, strychnine, ipecacuanha, etc., tallow trees and wax trees, tea of China and Japan, and Paraguay tea, betel, cashew, the coca plant; even the Indian pita, from which pith hats are made, is exhibited among the textile collections.

Let us endure if need be a trifling humiliation by contrasting the usefulness of such an exhibit, taken in connection with the Botanic Gardens established at Sydney, Melbourne, Adelaide and in the younger colonies with our practice in America. We make an enormous annual outlay for the support of our fairs, and no one would depreciate the popular usefulness of such gatherings, but each county and State fair is a repetition of the last, and there is no great center in any State of our Union where collections of permanent interest are being made or preserved. Suppose there was connected with the State Agricultural Society an Agricultural Museum, where everything which would illustrate the progress of the State in this direction could be seen, and that in each of our States, an experiment station and botanic garden had received a fair share of the money expended for agricultural displays, would there be any need of urging the claims of such societies before our Legislatures?

It is interesting to notice in the Grange newspapers of nearly every State, a cordial support and furtherance of the work of the National Department of Agriculture. This is largely due to the influence of the Centennial exposition, where thousands saw the models, the collections of fungi and insects injurious to agriculture, in the United States building. No description ever did or ever can convey the same impression which is given by well arranged collective exhibits. They are the great popular educators. And just as the Centennial resulted in a permanent exhibition in Philadelphia, so our annual State or county fairs should be looking toward the same result on a smaller scale.

Some portion of the fair grounds should be planted as a permanent park with all the varieties of trees which can be grown in a grain section. At no distant day the Golden Gate Park may rival the Botanic Garden of Australia, and in the heart of our metropolitan city, a winter garden affords profitable instruction and entertainment to visitors from all lands, and to thousands of public school children, where one day in Woodward's Garden is worth to them many a week's study of the printed page. Pasadena, July 28, 1880.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

OUR CROPS.—Register, July 30: Not enough thrashing has been done in this county up to this time to form any close estimate of the yield of wheat for the season, but so far as the grain has been bagged, the result is far ahead of the estimate, while the quality is better than for several years. Mr. Kepple, who farms about 1,200 acres in Hamilton township, says that the poorest of his grain this year is equal to the best of that raised by him last year.

CONTRA COSTA.

OVERFLOWED LAND.—Antioch Ledger, July 31: A sample of wheat from the ranch of Mark Walton, near Iron Horse Landing, is the best we have seen this season. It grew on land that was overflowed, which, perhaps, accounts for the full plump kernel, as it appears none of the grain on overflowed land was parched by the hot winds. The wheat crop will average better than was expected, though some fields are very much shrunken. Thrashing still continues and but little new wheat has been brought to our wharves. There seems to be a disposition among farmers who are able, to store their grain and await better prices.

SAMPLE WHEAT HEADS.—Martinez Gazette: A dozen sample heads of wheat, of the Jones Club variety, from the farm of Mr. A. W. Hammitt, in San Ramon valley, were left at our office a few days since, which we think are as fine as any we have ever seen. The heads will average 14 double rows, or meshes, and the meshes will average 9 or 10 plump grains of wheat each, many of them having more than 12.

LAKE.

MOLDS WHITE WHEAT.—Bee, July 29: We have on our table a few sample heads of "Molds English white wheat" raised by Isaac Alter, Paradise valley. It presents as fine an appearance as any wheat we ever saw. Mr. Alter first obtained four quarts from the Patent Office at Washington, from which he raised 1,122 lbs. This year he expects a yield of 50 bushels to the acre from the same grain, and on ground that has produced grain for 20 years.

LOWER LAKE.—To all appearances the farming districts surrounding the village are of the healthiest possible nature. Fruits as yet are scarce, but the prospect is fully as brilliant as elsewhere. Grape growing, which is bound to be the leading industry of Lake county before many years, is already occupying the attention of some of their ranchers. One man, L. B. Tremper, has set out a vineyard of 80 acres, we are told, and proposes to make that his chief pursuit.

LOS ANGELES.

THE FAIRS.—Commercial, July 29: There appears to be a prospect that our Sixth District Agricultural Society will take the management of the entire exposition this fall, of the Agricultural and Horticultural Societies. The Agricultural Society has been organized, and is in strong hands, with Mr. J. E. Hollenbeck at the head as President. The society is out of debt and has a reserve to fall back on in case the fair should not make expenses, while the Horticultural Society is still in debt from the publication of the Horticulturist, and does not feel able to incur new responsibilities at present. We are glad that the public-spirited gentlemen of the Agricultural Society have come to the assistance of the Horticultural Society and will make a display that will keep up the credit of southern California.

BEETS.—The great field of sugar beets belonging to Mr. Nadeau, on the Brea rancho, is being gathered and sliced for drying, preparatory to being transmuted into sugar. In a short time the manufactory at Florence will be ready for operations.

THE ORANGE CROP.—So far as we can learn from our orchardists the orange crop never looked better. The trees are not so full of fruit as last year, but the quality and price will be good. At present good oranges are worth from \$40 to \$50 per 1,000.

NAPA.

GOING FOR THE WILD HORSES.—Reporter, July 30: Prof. Tapp, the horse trainer, is going to try to catch the famous wild horses of Howell mountain. These animals have been on the mountains for years, as wild as deer, and if the Professor succeeds in catching them he will certainly have accomplished a wonderful feat. A gentleman of Napa while out driving recently came suddenly upon four of them. They raised their heads and gazed at him for a moment with flashing eyes, presenting a beautiful appearance, then dashed away into the bushes. As before stated these horses have been running wild on the mountains for years, and it is not known exactly how they came there, although it is said that many years ago a man pastured a large band of horses on the mountains for some time, and they got away from him. They were

formerly much more numerous than they are at present, but some of them have been cruelly shot by persons who have been unable to capture them. When Mr. Smith Brown owned the Angwin place he succeeded in enticing four of these horses into his barn but before he could close the door three of them got away, the fourth he fastened inside, but the animal throwing his head between his forelegs, leaped through a small manure hole in the barn and made his escape. It was a wonderful jump, for the hole was several ft. from the ground and not much larger than the horse's body.

MENDOCINO.

OUR PASTURES.—Ukiah Press, July 30: It will soon be, or is now, a question as to what grasses can be successfully introduced in our grazing lands to take the place of the fast disappearing wild grasses indigenous to the country. The hills of Mendocino were once covered with wild oats, and the valleys, gulches, swales and low places with clover. Continued overstocking has killed out the oats; tramping the ground has hardened it so that the heavy rains rush off furiously and gully out the clover beds, while Napa thistle, barley grass and obnoxious weeds generally have taken the place of the luxuriant feed of 20 years ago. In the low lands and fields some few farmers have put in small patches of mesquit, alfalfa and timothy. The first two are counted poor feed for horses, except when in the green, and the first is worthless except it is kept down close, as stock will not eat it when seeded. Mesquit for hay must be cut as soon as it opens its head, and even then stock must be taught its use. Alfalfa does no good except on the best river loams, and will soon die out unless on land that can be overflooded yearly. Timothy is the best of all, when sown on damp, rich, bottom land, either for grazing or hay, and is quite extensively used by Baechtel Bros., of Little Lake, and Simpsou & White, of Cabot. They have fields now 18 years in timothy that are still good. But none of these are fit for hill pasture, except it be the mesquit, and we know of no one that has tried it in this section. On the coast, if its seed is scattered on timber land, cleared or partially so, it soon covers the ground with its rank verdure, and is there considerably used for hay. For our pastures we want a perennial grass that stock will eat in all the stages of its growth, from the early spring until mid-winter following. It must not only be palatable when green and succulent, but must be grateful to a decently fed brute when in the sere and yellow leaf. Stock do not like mesquit when grown and left to ripen on the ground; so, no matter how hardy it may be, it does not offer the conditions best adapted to our needs.

LITTLE LAKE.—Cor. Dispatch, July 30: This portion of our county is assuming a more lively appearance than it has presented for a year past. The farming interests are looming up in importance. The large quantity of hay made this season is of the very best quality, while the grain crop promises a better yield than we had a right to expect. The potatoes raised here this season will be sufficient in quantity to more than supply the demand for home consumption, and this is considered an important advance step, as we have heretofore depended on the coast for our supplies. There is an abundance of fruit, such as apples, pears and plums. Peaches will be scarce. The wild blackberries are quite plentiful on the coast. Eugene McPeak and wife, and Al. Cressley have just returned from there with 37½ gallons of the luscious fruit. They also brought in a fat black bear, which weighed about 400 lbs.

MONTEREY.

CARP.—Democrat, July 31: A reporter witnessed the feeding, by Mr. Jones, of his aquatic family. Taking with him a stale loaf of bread, a few minutes' walk brought him to the margin of a pond where a wide plank extended over the water a foot or more above it, resting one end on the bank, and the other made fast to an upright post in the pond. Walking on this plank in a stooping posture, Mr. Jones gave a whistle, moderately loud in tone, similar to a dog call, and in a moment the water around him was alive with the playful carp, all eager for the bread, which he broke off in pieces the size of an egg, partly immersing it in the water, but still retaining it in his hand. The fish would fairly crowd each other to get hold of the bread, hundreds of them tumbling over each other to crowd around him, and would allow themselves to be handled and taken out of the water, seeming rather to like the notice taken of them. Mr. Jones feeds them with bread or any soft vegetables, such as lettuce or asparagus, regularly once a day, and enjoys the society of his marine friends much. They are soft to the touch, and appear to like being petted, and will eat from the hand as readily as a tame chicken or kitten.

SAN BERNARDINO.

HAY PROSPECTS.—Valley Index, July 30: The alfalfa fields were so badly injured by worms that it has affected the price of hay. Alfalfa hay (loose) has gone up to \$5, and barley hay to \$6 per ton. Some are predicting that barley hay will be \$12 per ton before January 1st, and we yesterday saw a bet made that it would be \$15 before March 1st.

SAN JOAQUIN.

THE WHEAT YIELD.—Independent, July 31: The wheat crop of San Joaquin county this year will far exceed in quantity the yield of any previous year. All along the eastern and southeastern portions of the county the harvest is turning out well, and in the southern portion, on the sand plains south of French Camp, and

extending to the Stanislaus river, the production is the largest ever before known. This statement is made on the authority of a farmer who has resided in that section many years, and who knows whereof he speaks. On Roberts' island the yield is simply enormous. Much of the wheat will, it is estimated, yield 70 bushels to the acre. There are large areas throughout the county on the dry plains that will average as high as 30 bushels to the acre. Harvest results generally are far better than farmers anticipated.

RUST-PROOF WHEAT.—Experiments in growing rust-proof wheat, originally brought from Iowa, have been tried in San Joaquin county for several years. The wheat is dark colored. This season a considerable quantity of it was raised on Roberts' island, and we perceive that the S. F. Produce Exchange mistakes it for Red Mediterranean. There is nothing Mediterranean about it. Bread made in this city from the flour of this wheat was exhibited in the Produce Exchange several days ago, and pronounced by the members to be superb—as sweet and good as any they ever tasted.

A PECULIAR DISEASE AMONG HORSE FLESH.—In the southeastern portion of this county a disease is prevailing among horses which has caused considerable inconvenience to farmers engaged in heading and threshing their grain, as, owing to the prevalence of the disease, work horses are scarce. A gentleman who yesterday was in Farmington informs us that several horses had died, and whole teams employed about headers and threshers had been taken with the disease. When the animal is first taken his eyes seem to be affected, discharging much water. Soon the horse coughs incessantly, and seems to be distressed in breathing. His legs swell, and the horse will lie down, and some of them which have recovered continued to lie down for two or three days. Their breath is very offensive, and the disease seems to be something entirely strange to this portion of the county.

SAN LUIS OBISPO.

WHEAT YIELD.—Tribune, July 31: The labor of harvesting the enormous crops on the Nipomo ranch is progressing. The yield is simply prodigious. A portion of one tract farmed by Mr. Morris has been cut and threshed, and the average yield per acre was 33 sacks, or over 65 bushels of wheat. Another tract yielded 103 bushels of oats to the acre. Mr. Morris has another large field of wheat which he thinks will yield fully 45 sacks, or about 90 bushels of wheat to the acre.

SANTA CLARA.

SPLENDID WHEAT.—Eds. Press: A few days ago, while at the house of Mr. John Messersmith in the interests of the RURAL PRESS, my attention was called to the finest sample of wheat heads I have ever seen. Mrs. M. gave me the bunch of heads to bring home, and I wish I could send them to the Press office. I learned this variety of wheat to be new in the neighborhood, and is called "Smith's White Club Wheat." Wishing to see the field from which the heads were taken before it was harvested, in company with a friend from the East we drove out to Mr. Messersmith's farm, some three miles south of Santa Clara, on last Monday. And we were well repaid for our trouble. Mr. M. has a large farm, of nearly 300 acres—one of the very best in this valley—and we saw much to admire in every department of the place; but the 35 acres sown to this new wheat capped the climax of anything we had ever seen in the way of growing wheat. In one portion of the field, where there had been a fruitless effort to cut it with a reaper, the growth was wonderful as to thickness on the ground, strength of straw, and the size and fullness of the heads. A grain dealer from San Jose thought he could pick out an acre in that part of the field that would yield 100 bushels to the acre; and I should think that if ever an acre of wheat yielded that amount this would. I weighed the 40 heads I brought home, and although they were cut green and somewhat shriveled in drying, they weighed over 10 ounces. In one head I counted 116 grains. I advised Mr. Messersmith to save every bushel of his wheat for seed, for I am sure every farmer who could see his field would wish to get some to sow. The enormous bunches cut by the reaper before it broke down, seemed nearly to cover the ground from which they were cut. One peculiarity of Mr. Messersmith's farm I have noticed for years, he can always raise corn, melons, squashes, alfalfa, potatoes and other summer crops without irrigation. His large "truck patch" of these kind of things we saw, looking so fresh and green as to remind us of the scenes of our boyhood, away back in "the States."—G. W. M., Santa Clara, Cal.

GILROY CROPS.—Advocate, July 31: The harvest is progressing favorably and the field machinery is in active service. The better we become acquainted with the crops the more satisfactory do they appear. The yield proves above the expectations of those who only anticipated a moderate crop. Some reports are extraordinary from the lands which are this year giving their first fruits, as well as from the fields which have been subject to repeated cultivation. Mr. Turner's crop of "Snowflake" wheat, of which we have a sample before us, shows an average of 28 cents to the acre, and Mr. Wayland's acre average 23 cents. Heavy crops will be harvested on all the ranches of the northwest of the valley. Indeed good accounts come from every part of the township.

SANTA CRUZ.

OPENING THE HILLSIDES.—*Courier*, July 28: Mr. F. A. Hihn is employing a large force of men and teams constructing roads and otherwise opening up the country beyond Vine Hill. A road is being built from Vine Hill to Elbon & Houck's mill, near tunnel No. 3 on the S. P. C. R. R., one from there to the Soquel turnpike, and down the Soquel creek; and with the co-operation of other land-owners in the vicinity, there is a prospect of making this hitherto unknown region available for settlement, and we expect to taste many a luscious peach and enjoy the flavor of palatable wine from grapes grown on these now barren hillsides.

SONOMA.

WHEAT AND CHEAT.—Chas. Alexander, in *Healdsburg Flag*, July 29: I have been often asked the question how I came out with my cheat-from-wheat experiments. I will make the plain statement that I tried experiments for four different seasons, the two first with all the pains and caution that I deemed necessary, such as selecting good wheat, clean soil, and plenty of water and sunshine—in fact, every precaution that I thought any one could ask; and, sure enough, I obtained a couple of stalks of cheat in both instances. So the thing was proved clear enough, without a doubt, that wheat would turn to cheat. Notwithstanding I was so well satisfied of the fact that I had proven my point, when Prof. Hilgard gave us his receipt for preparing the soil, so as to be sure there was no foul seed in the soil that would germinate, I thought I wouldn't be mulish about it, so I prepared for another trial, with the same precaution as before, excepting that I boiled the soil in a pot for an hour or so. I then planted the wheat, and it all sprouted and came up green and nice. It was submerged sufficiently to turn it all to cheat, but at the proper time to make my report there was no cheat. Some of my cheat friends suggested that I might have made a mistake somewhere, in not keeping it under water long enough, or something of the kind, and I was not fully satisfied myself, as I had made cheat in the first two cases. I concluded I would try it once more, with the same preparation as before, only more abusive, if possible, such as keeping under water and freezing, subjecting to hot sunshine, etc. But now it is summer, and again I must make my report, "No cheat." And I tell my cheat friends that Prof. Hilgard is right when he says, "Wheat will not turn to cheat." The question now is with some, Must we "bile" all our wheat land?

FRUIT EXHIBITION.—*Petaluma Argus*: Mr. Wash Gilham, of Green valley, whose fruit display has been a feature of our fairs, has consented to take entire supervision of the fruit department of our approaching exhibition, and in consequence will not be a competitor himself. He informs us that the orchardists of his section are making preparations for a display of fruit such as will totally eclipse anything of the kind ever before seen in Petaluma. From our knowledge of Mr. Gilham's zeal and energy in connection with previous fairs, we feel confident that his predictions will be more than verified.

STANISLAUS.

THRESHING NOTES.—*News*, July 30: We understand that Mr. Richards, near Grayson, in this county, with four headers and one of Pitts' 36-inch cylinder separators, cut and threshed 5,140 acres of grain in 38 days. The wheat crop is this year unusually large in our county. As a result, threshing machines are in demand. Their scarcity will necessarily cause much of the grain to be placed on the market quite late.

TEHAMA.

FLIES AND SHEEP.—A gentleman who has a large number of sheep in the mountains, says the Red Bluff People's Cause, states that, although feed is abundant, sheep do not seem to gain in flesh, and he attributes it to their being annoyed by flies. It seems that as soon as the day has advanced far enough for them to come out, they attack the sheep and compel them to huddle together to avoid being bitten. Thus the sheep only have an opportunity to graze a short time in the morning, before the flies come out, and a short time in the evening, after the insects retire. The sheep are never corralled, on this account, but are free to roam during the night. The flies are becoming an intolerable pest, and no amount of feed will cause the sheep to gain while they are present.

YUBA.

BIG THRESHING.—*Banner*, July 30: Lou. White informs us that Conrad Shuler's threshing machine, running in this valley under Lou's management, has threshed since it began running, 20 days ago, an average of 1,128 sacks per day.

NEVADA.

GRASSHOPPERS.—*Reno Gazette*, July 26: Most of the farmers in the valley have reached the conclusion that they will only have one crop of hay this year. The hoppers are swarming all over the meadows, and eat the second growth as fast as it comes up. They are flying and laying eggs, and will probably be worse next year.

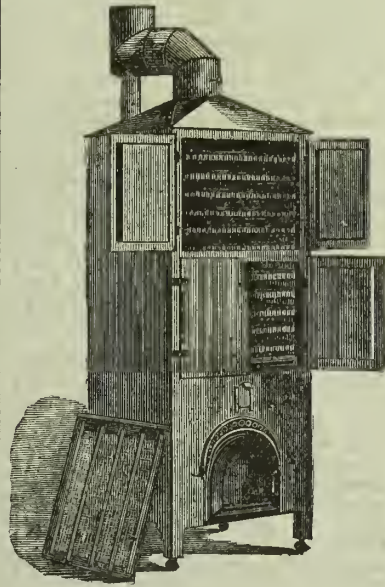
A TOAD was found on a flower pot standing in the window of a house in Rochester several days ago, and was carried across the street and put in a yard there. The next day he was found again on the flower pot. He was taken much farther away, but two days later was found again in the pot.

The Zimmerman Fruit Drier.

We give on this page engravings showing two sizes of the Zimmerman fruit drier, an apparatus which is claimed to be well adapted to the needs of those who wish to turn the surplus fruit of their orchards into a durable and marketable form. We have known of the Zimmerman drier for some time, and have noticed many good notes of its workings in our Eastern exchanges. We trust it may be found well fitted to California needs, for a small drier for farm-house use is a thing which every fruit-grower desires. The Zimmerman is certainly worth attention and trial.

The editor of the *American Agriculturist* made a practical test of the Zimmerman drier and pronounces in its favor. In the lack of experience of our own with it, we cannot do better than refer briefly to the results described by our contemporary. The *Agriculturist* says: "We stated last month that the 'Zimmerman fruit and vegetable drier' appeared to be constructed upon correct principles. A subsequent trial more than confirms the opinion formed on a mere examination. This drier is made in several sizes; that shown in the engraving is No. 2, and best suited to general use. No. 1 is of half the capacity; No. 3 is of double the capacity, and only needed by those who dry on a large scale. The machine shown as No. 2 is 6 ft. high, 2 ft. deep and 26 inches wide. Below is a furnace or stove for the fuel. This has a door at the front, and the fire is managed without opening the chamber of the drier. In the bottom are dampers to regulate the admission of air, which, entering, is heated by contact with the furnace, then passes among the fruit, etc.,

SIZE NO. 2.



THE ZIMMERMAN FRUIT AND VEGETABLE DRIERS.

and out through a covered chimney at the top; thus there is a continuous upward current which, in the larger driers, is increased by so connecting the smoke pipe with the ventilating pipe, that the ascending current from the furnace helps the upward draft. Trays or racks of galvanized wire are provided to hold the fruit, etc., and these rest upon ledges placed at the sides, as shown in the engraving. The affair is readily portable, and may be used out-doors, or inside, where it can be connected with a chimney. Experience proves, what an examination indicated, that this meets every requirement of a useful drier, and it completely obviates all the difficulties that attend the drying of fruit in the open air. The Zimmerman, by allowing the drying to go on in wet weather, prevents the great loss attendant upon the old method, while the exclusion of light, of flies and dust, joined to the rapidity with which drying is done, remove the other obstacles to the best results. This drier turns out a product so superior in appearance, in color and cleanliness as to astonish those who have never seen fruit properly dried, and so unlike the common sun-dried fruit as to warrant the different name that the Zimmerman Drier and Baker Co. have given to the product of their machines, viz: 'Evaporated fruit.' They claim that fruit thus prepared is worth in the market at least double that dried in the ordinary way."

The Zimmerman driers are being introduced on this coast by Linforth, Rice & Co., of 323 Market, St., S. F., and will doubtless be put into actual use with this fall's fruit by many growers.

A PAPER house, equipped with paper furniture, paper carpets and curtains, a paper stove and paper dishes, together with stylish paper clothes for the occupants, is among the curiosities of the Sydney, Australia, exhibition.

At Central, D. T., an Indian tomakawk is exhibited. It has 19 notches cut on it, said to represent the men killed in battle by its former owner, 3 of whom fell on the Custer battlefield.

QUERIES AND REPLIES.

Sulphuring Vines.

EDITORS PRESS:—Each time I have worked at sulphuring grapevines it has given me a used up, tired out spell, and the last time I had a turn of sore eyes immediately after. Is this a common experience? This locality is peculiarly free from fogs, heavy dews and hard winds. The sulphur put on the vines 20 days ago is much of it on the leaves yet; the vineyard smells strong of the sulphur. Is it advisable to resulphur while the last application is still fuming the vineyard? I found putting one or more pebbles the size of a marble in the can used to shake over the vines a great help to pulverize the sulphur and jar the can, thus keeping the holes open.—C. A. W., Cosy Nook, Evergreen, Cal.

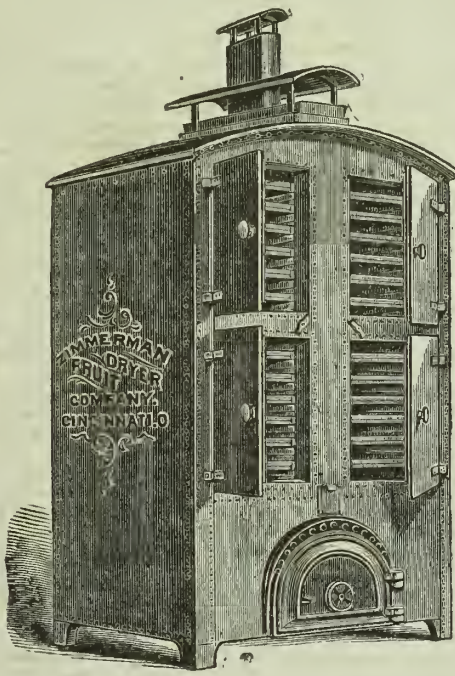
Sulphuring vines is often found trying to the system. Especially is this the case if the sulphuring is continued late in the forenoon after the sun has acquired good power and the fumes from the vaporizing sulphur is abundant. The eyes generally give the signs of discomfort and the effect sometimes lasts several days. Different persons are differently affected.

We should not expect to re-sulphur when the former dose was still so effective as our correspondent describes. His prescription for keeping the sulphur in shape to pass through the perforations of the can is good. But a dredge or a long can, shaped something like a sugar scoop of the storekeeper, will allow the sulphur to be thrown forward and as the arm is raised again the sulphur falls backward and the air rushes in through the perforations and keeps them well cleared out. The dredge is used in many vineyards in preference to the bellows.

Destructive Rabbits and Birds.

EDITORS PRESS:—We are greatly annoyed and suffer considerable loss through the depredations of rabbits and birds. The former gnaw the trunks of our young trees, and evince a fondness for water and musk-melons, musk-

SIZE NO. 3.



melon vines, potato tops and the tender growth of young grapevines. The birds take perhaps one-third of our peaches, apricots and figs, and presumably will bestow their attention to the nectarines when ripe. Is there not some way to destroy rabbits other than through the medium of steel traps and shotguns? A wholesale business is what we want. Wouldn't several large hawks, stuffed with wings raised as in the act of starting to fly, mounted on top of poles, distributed through an orchard, scare off the birds? I remember having seen in the Press an article giving the result of an experiment with sulphate or carbonate of baryta for killing rats. It was stated that some rabbits were killed by eating it. Will not some reader who has stood off birds and killed rabbits by wholesale (if there be such a one) rise and explain.—MORSE BROTHERS, San Bernardino, Cal.

The subject is open for discussion. Who can give successful methods?

Cheap Extractor, etc.

EDITORS PRESS:—Will you please have the kindness to inform me through the columns of your valuable paper in which number I can find directions to make a cheap honey extractor, also the name of any firm or firms in S. F. where materials for bee culture can be obtained and oblige.—E. M. H., Berkeley.

In the *RURAL* of May 1, 1880, page 295, Mr. I. B. Rumford gives his way of making a cheap extractor. We know no firm making a specialty of beekeeper's supplies. If there be such the public should be informed of the fact by advertisements.

Fruit Tree Diseases.

EDITORS PRESS:—I would like to know if there are any fruit raisers who have trees—cherry, apricot, prune and peach—are four and six years old, and that have been heretofore healthy now dying. Mine are, some of them, losing all the leaves, and they look as though nipped with the frost. I would like to know if anyone else has such experience.—Mrs. E. J. SQUIRES, Calistoga.

We hope any who have suffered in the way mentioned above will report the facts. The deeds of this peculiar year should not be lost sight of.

The Soldiers' Daughters' Home in England has, in the 25 years of its existence, educated 800 soldiers' daughters and placed 350 in schools as teachers or in families.

The United States is said to consume more raisins than any other country. The best are the Malaga, of which about 1,250,000 boxes come to us from Spain every year.

News in Brief.

THERE are 14 twins in one ward in Nashville, Tenn.

THE national debt decreased \$5,576,053 during July.

A LONDON lady had \$4,000 worth of flowers at a party.

GREECE spends more than 5% of her whole revenue in education.

FORTY-FOUR horses were burned, August 1st, in White Sulphur Springs, West Va.

A SCHEME has taken shape for holding an international exhibition in Rome in 1885.

IN an encounter in Chicago August 1st, Wm. Mackin fatally shot his brother Michael.

SIR BARTELE FRERE has been removed from the Governorship of the Cape Town Colony.

FORESTVILLE, Sonoma, has had seven or eight distinct earthquake shocks this week and last.

A PRISONER in the jail in Fremont, O., has been identified as Bender, of infamous notoriety.

THERE has been a general increase in farm wages all over the country during the past year.

VICTORIA's band has been repulsed in an attempt to cross into the United States from Mexico.

At a riot in Victoria, Brazil, on the 28th ult., the troops and police fired on the populace, and killed 20 persons.

A NATURAL cavern, 600 ft. long, and others of less size, have been discovered near Wells, Somerset, England.

THERE is more building now going on in Tucson, A. T., than at any other time in the history of the city.

A TRACT of 50,000 acres on the Northern Pacific railroad has been bought for a colony from Belfast, Ireland.

THE Rump rebellion in Hindostan shows no sign of collapse, as the British troops cannot endure the unhealthy climate.

JOHN GIBBONS, a stage-driver, accidentally shot himself through the heart with a revolver at Milton, Calaveras county.

THE chief travel to the top of Vesuvius by the new railway is done by night to see it illuminated by the electric light.

DOC. HAMILTON, a railroad brakeman, was ran over by eight cars at Independence, Oregon, July 29th, and instantly killed.

THE German revenue falls below expectations, and the Ministers are trying to invent new means for increasing the taxes.

THE Philadelphia Times says that everybody who bathes in Philadelphia water is obliged to take another bath to wash the mud off.

THE Baltimore schooner *George Washington* was searched by officers from a Spanish vessel off the east coast of Cuba on July 6th.

At Eureka, Nev., July 30th, N. A. Chandler, a well-known citizen, shot and killed himself. Financial embarrassment was the cause.

TENNESSEE has established a yellow fever quarantine against New Orleans, and Kentucky, Mississippi and Arkansas may do the same.

JOHN WILLIS, night clerk in a hotel at Helena, M. T., was attacked by a desperado and his companion, and was badly cut about the head.

A PARTY of Eureka sportsmen went out on Humboldt bay one day last week and managed to hook 700 rock cod, besides a number of halibut.

IN London parasols get larger and larger. In some cases it is said there is no distinction in size between a parasol and the family umbrella.

THE right to hold a City Court in Los Angeles under the Constitution has been raised in the case of a Chinaman tried for violating the license law.

COMMON sense is 'getting ascendancy in the matter of children's shoes. Fewer little girls are seen with the high heels, which spoil their feet and their gait.

A DAUGHTER of Secretary Thompson, while out riding at Mare Island on July 27th, was thrown from a runaway horse, but fortunately escaped uninjured.

THE Gatling gun is said to be surpassed in deadliness by a Swedish invention, which has been adopted by the Prussian navy, and can be carried into the maintop.

OF the 671 artists' models in Paris, 230 are Italians, 120 French, 80 Germans, 60 Swiss, 49 Belgian, 45 English, 30 American, 3 Austrian, 2 Portuguese and 1 Irish.

IN PARIS three francs are given to poor people for each child brought to the dispensary to be vaccinated, in order to induce parents to permit the operation.

A GENTLEMAN in Ulster county was married without knowing it. At least he is claimed by a young lady as her husband, and she shows a certificate confirming her statement.

THE old-fashioned leather fan, which was such a conspicuous feature of a lady's dress in the time of "good Queen Bess," has recently been revived under different names.

A FRENCH gentleman who tried to fast for 30 days, abstaining from all drink as well, died on the 21st of July, no amount of medical skill being adequate to restore his wasted vitality.

THE jury in the *Seavanhaka* case find that the disaster was caused by the bursting or collapse of one of the taps of the starboard boiler, whereby the flames were drawn under the gate-bars into the fire-room.

FORTY-FIVE freight trains, comprising 1,500 cars, almost all of which were filled with grain, passed south on the Hudson River railroad Saturday, July 31st. It was the heaviest one day's shipment since the road was built.



The Other Side.

"The words are good," I said; "I cannot doubt," I took my scissors then to cut them out. My darling seized my hand. "Take care!" she cried; "There is a picture on the other side!"

I fell to musing. We are too intent On gaining that to which our minds are bent. We choose, then fling the fragments far and wide, But spoil the picture on the other side.

A prize is offered. Others seek it too; But on we press, with only self in view. We gain our point and pause well satisfied; But, ah! the picture on the other side!

On this, a sound of revelry we hear; On that, a wail of mourning strikes the ear. On this, a carriage stands, with groom and bride; A hearse is waiting on the other side.

We call it trash, we tread it roughly down, The thing which others might have deemed a crown; An infant's eye, anointed, sees the gold Where we, world-blinded, only brass behold.

We pluck a weed and fling it to the breeze; A flower of fairest hue another sees. We strike a chord with careless smile and jest, And break a heart-string in another's breast.

Tread soft and softer still as on you go, With eyes washed clear in Love's anointing glow; Life's page, well finished, turn it, satisfied, And lo! heaven's picture on the other side.

Waiting for the Cows to Come.

The farm-house wears a modest mien,
The dormer windows quaint and brown;
And through a tangled web of green
The spring-house roof goes sloping down.
A fragrance on the air sweeps by,
Of new-mown hay, all wet with dew;
And on the barn-roof, thatched with rye,
The pigeons softly light and coo.

The lambs upon the upland play,
The sunset spreads its rose-red glare;
The mountain ranges stretch away
Through dreamy paths of purple air.
Beside the bars, beyond the wood,
Within the mellow twilight gloam,
How oft, a bare-foot boy, I stood,
To wait until the cows came home!

The battle of my life I fought,
Far from the scenes of boyhood's time—
Yet even in my sleep I sought
To clasp a stronger hand than mine!
I heard again the thrasher's flail,
And well remember sounds of home,
And watched the evening sunlight pale
While waiting for the cows to come.

Farm House Chat.

[FOR THE RURAL PRESS BY MARY MOUNTAIN.]

The St. Paul Pioneer Press gives news of industrial education that means a great deal to all whom it may concern:

"At the Iowa agricultural college every girl in the junior class has learned how to make good bread, weighing and measuring her ingredients; mixing, kneading, baking, and regulating her fire. Each has, also, been taught to make yeast, and biscuits, pies, puddings and cake of various kinds; how to cook a roast, broil a steak, and make a fragrant cup of coffee; how to stuff and roast a turkey, make oyster soup, prepare stock for other soups, steam and mash potatoes so that they will melt in the mouth, and, in short, to get up a first-class meal, combining both substantial and fancy dishes, in good style. Theory and practice have gone hand in hand. Vast stores of learning have been acquired in the arts of canning, preserving and pickling fruits, and lessons taken in all the details of household management, such as house furnishing, care of beds and bedding, washing and ironing, care of the sick, care of children, etc. The girls are also thoroughly grounded in science, mathematics and English literature; but this is of small account compared with the foregoing catalogue of virtues. If there is anything that commands the unlimited respect and devotion of the masculine mind it is ability in woman to order well her own household. Each one of these Iowa girls, it is safe to say, will marry within six weeks after graduation."

No one can blame the Pioneer editor for his enthusiasm about these girls, but he need not consign them to a matrimonial market quite so brisk as that, or intimate that a first-rate womanly training will lead especially to a scramble for marriage.

On the contrary, it ought to lead to a great deal of sound common sense and homely wisdom that will teach the young graduates to make haste slowly in all the great affairs of life.

But what a jolly good time they must have had learning to cook in such a place, where everything is bright, and sweet, and clean, and handy; plentiful, handsome and scientific! And not alone the joyful labor and fun of the lessons, but think of the eating! Each girl has her favorites among teachers and classmates, and to their end of the table will she smuggle her choicest dainties, and enjoy with them a "discussion" of her most perfect lessons. Professors of chemistry and hygiene will find delicious illustrations ready for each topic, and the table-talk alone ought to be almost a liberal education.

There is no doubt that these graduates in domestic science will carry reform right and

left into the crude and dingy home kitchens, and "college notions" will become common property. We all want better, handier, handsomer kitchens. It is all nonsense to run a stove pipe through some forlorn old "lean-to," put in a few rusty kettles and smutty fry-pans, and wonder why the girls don't take to housework.

If I should say that the hard-working wives of farmers, who ought to have the best kitchens in the world, have really the meanest, the most ill-adapted, most hideous ones, would anybody say that I am mistaken? If any RURAL PRESS reader has one that she is proud of, please write and tell us about it, and we will all rejoice over a notable exception to the general rule.

And if there is anywhere in the State a "neighborhood" of farmers, perhaps the mothers could help each other and their daughters to a livelier interest in domestic science by forming a "Cookery Club" something after the manner of one I have heard about among the young ladies of Santa Cruz. They meet once or twice a month at the houses of members for a pleasant, social visit, and certain ones are appointed to make, bake and bring certain articles of food which shall serve the double purpose of refreshing the company and giving evidence of skill or progress toward skill in cookery.

Each in turn will have a chance to try their luck through quite a range of light refreshments, and it will be in order to discuss heavier dishes, and in fact skirmish over the whole ground.

You see, it is a great thing, in the first place, to get together for the express purpose of doing and talking the genuine practical affairs; and you can call it the Housework Club if you like; for it should be elastic enough to take in every topic that can interest mothers and daughters, and might often merge into a quilting frolic or a "sewing bee." It would not be expensive, like an agricultural college, but might perhaps do as much good.

Wanted—Paper Veils.

Many years ago I had a journey to make through miles of such dust as needs no description, for we all know what it is like, and I had to wear my clean, new hat. Of course it would be utterly spoiled for a new hat, for it would never seem clean again.

As I stood in deep regret, wishing there was some other way, I noticed the soft buff tissue-paper that had wrapped it, and in a minute I had it cut in a circle, tucked under the brim, and fastened with a pin here and there; then put on the hat, tied a brown veil on, as usual, and did not get nervous about the dust, having now nothing it could spoil.

Perhaps others have done the same thing, and has it never occurred to them that a long and ample paper veil would be a great convenience in the dusty season?

It must be soft and tough, perhaps somewhat like the paper napkins; but those I have not seen, yet I am sure a soft and elastic veil could be made for wrapping the head and neck, and to serve as a perfect protection for the hair and head-gear. If some inventor is already at work upon this idea, I think he is sure to make a good thing of it.

New Way to Patch a Carpet.

There were holes in the carpet, but it must be made to last a little longer, and she was dreading the wearisome job of patching it, when one lucky day the "good old lady" came to make her a visit, and just as they got settled for a comfortable chat, the poor little baby stubbed his toes in that treacherous carpet, and caught a bad fall. Then she told the old lady all about it, and got comforted with a bit of ingenuity so simple it seemed strange she had never thought of it herself. The old lady said:

"Now don't you go to breakin' your back gettin' down there to sew on patches, for ther' ain't no need on't. Jest you make some good flour paste, and plaster your patch on firm and solid, and keep this baby off till it gets good dry, and if you don't find it a good, labor-savin' trick, I won't say another word."

So she did her patching with paste, and is ready to say that it answered the purpose very well; and others are free to use it, as there is no patent on it.

SURE TO WIN.—The gentleman is sure to win, in this life of ours. If you speak the right word at the right time; if you are careful to leave people with a good impression; if you do not trespass on the rights of others; if you always think of others as well as yourself; if you do not put yourself unduly forward; if you do not forget the courtesies which belong to your position, you are quite sure to accomplish much in life which others with equal abilities will fail to do. This is where the race is not to the swift nor the battle to the strong. It is where you make people feel that you are unselfish and honorable, and truthful and sincere. This is what society is looking for in men, and it is astonishing how much men are able to win of self-respect, and success, and usefulness, who possess these qualities of good breeding.

AN UNFORTUNATE REPLY.—A young gentleman somewhat numerous in social circles took his sister, a wee miss, the other day, to see a family in which he is a regular caller. The little girl made herself quite at home, and exhibited great fondness for one of the young ladies, hugging her heartily. "How very affectionate she is," said the lady of the house. "Yes, just like her brother," responded the young lady, unthinkingly. Paterfamilias looked up sternly over his spectacles, the young man blushed, and there was consternation in the family.

Home Thoughts.—No. 5.

[Written for RURAL PRESS by ELMA.]

As I sat watching a friend arrange a curtain before some shelves the other day, memory asserted her sway and the scene before me faded, and in its place there arose before my mind's eye an old stone farm house, in one room of which there was a recess, in front of which hung a curtain to hide the articles placed therein. What revelations were made when the curtain was withdrawn at the house-cleaning season! How many things were found there that had been thought lost! Childish brains and hands were often to blame, and many times when an article was missing, the question was asked, "Have you looked behind the curtain in mother's room?" How easy it was to draw the curtain and let in the light.

How hard it is to see behind the curtain that one draws between his inner and outer life. In vain do we strive to know what are the thoughts when we must accept the verbal expression. How frequently we meet people of whom we say, "We like them, but—" and there we must stop. We have no reason to give why there is not a hearty friendship felt for them; but there is something that repels. Suddenly there is an action, a word, perhaps but a look, that lifts the curtain and we realize that what was before scarcely a suspicion is now a knowledge that our distrust is well founded.

We take up the works of an author and yield to fascination of his imagination. Often comes the thought: "This man speaks from the heart. Only a noble mind and a pure heart could give expression to these words that breathe with living force; only a mind and heart fired with holy purposes and aims could send forth the thoughts that must do good to all who read them." When that author's biography is placed before us, with what avidity do we seize the opportunity to lift the veil that has hidden from us himself. But what discoveries await us. The dignity and delicacy with which he endows certain creatures of his imagination are but his subservience to wealth and power. The dainty, delicious repasts he describes are but the result of his unsatisfied gluttony. The vicious attributes he ascribes to some characters come from the desire to debase or crush everything that would stand in the way of his personal or family aggrandizement. The power of will that he so delights to exhibit is, in him, only a brutal force that he exercises upon those under his control. We would fain drop the curtain and yield again to the olden charm, but it cannot be. Ever present is the idea that the delicately-framed sentences had their rise in the grossest thoughts, that only a ready brain and pen have clothed with graceful words.

But there are some we meet, towards whom we are irresistibly drawn. Association with them fills us with a greater longing to be true and better in every way. Goodness and truth seem to be around them as a shield. And when we catch a glimpse of the inner life from which emanate the thoughts that govern their actions, we are filled with wonder and admiration because of the goodness, purity and innocence which we see. And though we feel impatient because of our own failings, we are still incited to strive to gain the higher planes of physical and spiritual intelligibility and morality.

Saratoga, Cal.

THE SADDLE AGAINST THE BUGGY.—The memory of man extendeth to the day when the boys on the farm were proud to ride a fine young horse to church or to see the girls. He took pride in the colts and taught them to move freely under the saddle, and above all, when the colt was broken he was taught to walk. Now, the boys must have a fine buggy and harness, and the colt must show his style and speed all the time. The boy is in too great a hurry to allow the colt to walk. The colt, buggy and boy are soon a used-up set by fast driving. The whole business of buggy riding by farmers' boys is expensive, extravagant and demoralizing. Not one farmer in ten can afford such a turnout for the lad. Many of them buy a buggy and let it stand in the sun and storm. They are too poor to have a house for vehicles. Some men cannot afford the luxury of a buggy. If we could return to the fashion of riding on horseback we would save millions to the farmers, and the boys and girls would develop better forms and have better health. Any lazy lout can ride in a buggy, but to be a graceful rider on horseback one must have some energy and get up in his nature. There is life and health in riding on horseback. The whole system feels the invigorating effect of it. The rider and the horse catch the fire of sympathy and excitement in the run or fast paces, and every nerve and muscle of the body is brought into healthful invigorating play. The mania for trotting horses has been felt on every farm in the land. The country is full of road horses that some man or boy loves to pull the string on. They are usually poor saddlers, slow walkers, and rough. We need a reform. The place to begin is in breeding a class of horses of good size, style and action, that can move freely in more than one gait. The English market is open for such horses. The well-knit horse of good style and action, suitable for a hunter or a carriage, will bring better prices than our average horse. The farmer will find it to his interest to raise a class of colts that the boys will like to ride. He can raise three

or four fine saddle-colts for what one buggy and harness will cost, and a fair saddle-horse will bring more than the average roadster.—*Nashville American.*

Housekeepers' Dresses.

"Such pieces as that do discourage me so," said Lynda, laying down the paper with an air which was a cross between a pout and a cry. "What is the piece about?" asked Cousin Jane.

"Oh, it tells us young wives how sweetly and nicely we should dress from morning till night if we would keep our husbands' respect and love. Our hair must be arranged as it used to be on those evenings when he used to visit us before we were married. We must not forget the pretty ornaments we were so careful about then. He must never see us in soiled, rumpled dresses. Now, Jane, how can a woman keep herself so fine, hurrying as I do from one piece of hard work to another, from house to barn, now washing greasy kettles and pans, now churning and mixing bread and feeding chickens, digging potatoes and cleaning things for dinner. Do you suppose I can wear pink cambrics about such work, as I used to when I was a teacher, or that I can wear fine lace at my wrists, or can keep my hands as white and soft as they used to be?" and she looked rather regretfully on the brown fingers which were kept so busy all day.

"Of course, Lynda, you cannot carry out these directions in all particulars, with your line of work, as another woman might who had none of the drudgery of housework to attend to. But the idea holds good still. There are certain possibilities of neatness even with housework, which are a wonderful comfort to a woman and a pleasure to her household. For one item, always have something snow white about your neck, and don't think your gold pin too nice to fasten it with. This is very simple in itself, and it will not be much trouble to do up a half dozen every week, giving you a fresh one every morning. Get a neat print and trim it with a bright contrasting color. This gives a freshness and cheeriness to a dress that is always pleasant to the eye, and is no harder to iron than a dingy brown. A woman may look pretty even over the wash-tub, Lynda, if she will only stand before the glass five minutes when she dresses herself in the morning. Looking-glasses are a great blessing in a house, Lynda, you may depend upon it."—*Aunt Eva, in Farm and Fireside.*

An Overworked People.

At a recent meeting of American physicians and surgeons, William Walter Phelps made the following remarks, which will bear careful and repeated reading: We are a nation without contentment, without rest, without happiness. In a feverish race we pass from the cradle to the grave—successful men, to whom life is a failure. Our boys leave the university when English boys leave their school. Our merchants leave their trade, retiring to some more dignified or honorable work, as they believe it, at an age when the German merchant first feels the master of his trade. We are always anticipating the future, forcing the task of a whole life into part. Worse, we are not content with doing a year's work in a month in our calling, but we must do enough in all other callings to win distinction there. In other lands it is enough to be a lawyer, physician, clergyman, merchant. Here we are nobodies unless we fill the sphere of all human occupations. One must be a statesman and know political science as if already in office. He must be an orator, and ready to persuade and instruct; a wit to shine at the dinner table, a litterateur, a critic! There is too much human nature in man for this to mean anything except a discontented life and a premature death. And the remedy? Correct public opinion. We must honor the man who faithfully does his task, whatever it is. Not the task, but the faithfulness with which it is done, must be the measure of the honor. Then men will be content with their father's trade. This will give us that family association which is a sure pledge of good conduct and patriotic love. This will give us, too, that traditional aptitude which alone gives great mechanical excellence. It will not be a bad time for American manufactures when we find stamped on them what Mr. Griggs finds on Japanese bronzes, "Done by the ninth bronzer in this family." Then men will keep the occupation of their youth for their age, and, having leisure, will build the foundations broad enough to withstand bankruptcy. Then men will seek excellence in their callings. Then men will alternate labor with rest, and obey the demand of nature.

PERFECT LOVE.—Holy and beautiful is the smile of fathomless and perfect love. Too seldom does it live; too seldom lighten heavy cares and earthly sorrows. Too seldom does it gladden hardened hearts, give refreshing dew to thirsty souls. Too seldom, indeed, does it have a birth. Too often does it soon leave life's pathway, even if fairly born and dearly welcomed there. On the other hand, as the preacher would say, the house of a man happily married is a paradise. He never leaves it without regret, never returns to it but with gladness. The friend of his soul, the wife of his bosom, welcomes his approach with a smile and a word that sends joy to his heart; and the longer he lingers in the atmosphere of her love, the more he desires to dwell there forever.

How the Store-keeper Bought and Sold the Butter.

Buying.

"Here comes Robby from Sleepy Hollow, with a load of butter. We are short, aren't we, Jonas?"

"Yes, all gone but the bad lot, and they are all crying for something good."

Robby, from his wagon, "Nipper, I've got some butter for ye."

Nipper is busy and does not hear.

"Hello there, Nipper, come and see this butter."

Nipper slowly closed his order book, directs the delivery boy to hop around with the codfish, shifts a yellow ham near the door from one peg to another, cocks his stovepipe on the back of his head, thrusts a thumb in each armhole of his vest, and shuffles slowly toward the street as though about to squint at the state of the weather.

"Why, Robby, what you got there?"

"Butter, Mr. Nipper."

"Butter, hey? Now, if ye had eggs I might buy. Butter's dull, Robby."

"Is that so? Daisy heard as it had gone up."

"Gone up!—well, yes; gone up thespout. Dick, take them turnips to Richfinger," turning away.

"Won't ye look at this lot, Mr. Nipper?"

"Robby, we're full. Jonas was just sayin' he couldn't store another tub. The town's glutted—glutted, and heaps of it is spoiling in New York, and there are no buyers."

"But this is an extra lot, from the best pasture, with the spring brook in it, where you used to catch trout, Mr. Nipper, and Daisy made it with her own hands."

"Yes, yes, but it looks salvey like—worked too much—no texture you see, and full of buttermilk; won't keep, Robby, won't keep. Then it lacks the gilt-edge tone and flavor. What do you ask for it?"

"Well, Daisy thought as how she ought to have fifteen cents."

"Too high, too high; can't buy; good morning."

"See here, Nipper, what'll ye give?"

"Well, Robby, if I give you ten cents for that butter Jonas will be mad as a boiled lobster; Jonas will swear and make things lively. But you're an old friend, and I'm going to do it and take the consequences."

Selling.

"Richfinger, come this way; I can show you an awful nice lot of butter; there it is. That's what I call elegant; made by Daisy Buttercup, the neatest and prettiest girl in the country. I used to spark her mother before she married. She's dead now; old friends, you know, and can't help dealin'. Look at the color—there's dandelions and buttercups; look at the texture—as free from salve as snow-flake, and if ye find a hair or bug I'll make ye a present of it. I dare say ye can scent the clover blossoms. Taste of it; notice the tone, the mellowness, the aroma—equal to cream candy any time. What do you think of it, Richfinger?"

"What's the price, Nipper?"

"Twenty-five cents to an old customer."

"Pretty high, isn't it?"

"That depends on what ye're buyin'. Grease is grease, and butter is butter. If ye want grease I can sell for less, but if ye want to lay in the best grade, the gilt-edged, the gold-leaf, as it were, June butter—butter that'll keep, mind ye, ye might go further and fare worse. Let me tell ye that butter is on the rise; the town is cleaned out, and them New York chaps are out looking up round lots. That means a foreign demand, and great scarcity, sir—great scarcity."

Maxims.

The late Baron Rothschild had the following maxims framed on his hank walls:

Attend carefully to details of your business!
Be prompt in all things!
Consider well, then decide positively!
Dare to do right! Fear to do wrong!
Endure trials patiently!
Fight life's battle bravely, manfully!
Go not into the society of the vicious!
Hold integrity sacred!
Injure not another's reputation or business!
Join hands only with the virtuous!
Keep your mind from evil thoughts!
Lie not for any consideration!
Make few acquaintances!
Never try to appear what you are not!
Observe good manners!
Pay your debts promptly!
Question not the veracity of a friend!
Respect the counsel of your parents!
Sacrifice money rather than principle!
Use your leisure time for improvement!
Venture not upon the threshold of a wrong!
Watch carefully over your passions!
Xtend to every one a kindly salutation!
Yield not to discouragement!
Zealously labor for the right!
And success is certain!

WELCOME HOME.—In the mountains of Tyrol it is the custom of the women and children to come out when it is bed-time, sing their national songs until they hear their husbands, fathers and brothers answer them from the hills on their return home. On the shores of the Adriatic such a custom prevails. There the wives of the fishermen come down about sunset, and, singing the first stanza, they will listen awhile for answering melody from off the water, and continue to sing and listen till the well-known voice comes home on the waters telling that the loved one is almost home. How sweet to the weary fisherman, as the shadows gather around him, must be the songs of the loved ones at home, that sing to cheer him; and how they strengthen and tighten the links that bind those humble dwellers by the sea.

Young Folks' Column.

Our Puzzle Box.

Numerical Enigma.

I am composed of 37 letters.
My 11, 4, 8, 6 is a wooden vessel.
My 17, 1, 4, 37 is a fish.
My 24, 32, 5, 35 is a plant.
My 30, 3, 30, 16 is a coin.
My 27, 7, 34, 10 is a fish.
My 12, 28, 31, 20 is an insect.
My 2, 25, 26, 22 is an animal.
My 16, 15, 13 is a plant.
My 23, 29, 21 is a plant.
My 19, 9, 33, 8 is a reed.
My whole is an oft-quoted proverb.

JENNIE.

Double Acrostic.

1. A rule or direction.
2. Having no energy.
3. A part of speech.
4. The alchemist's liquor for transmuting the baser metals into gold.
5. Injudiciously.
6. A Hebrew measure.
7. A bird.
8. A little moon-or satellite.
My finals give the name of a celebrated poet, and my initials the title of one of his poems. L. W. R.

Problem.

A pole 43 feet high was placed perpendicularly on the same plane with another perpendicular pole 20 feet high, the bases being 100 feet apart. What was the distance between the tops of the two poles? UNCLE CLAUDE.

Syllable Puzzle.

My first is to know.
My second is to move.
My third is a negation.
My fourth is to avoid.
My whole denotes dismay.

UNCLE CLAUDE.

Cross-word Enigma.

My first is in age, but not in date.
My second is in ancient, also in late.
My third is in pain, but not in sore.
My fourth is in noise, but not in roar.
My fifth is in Asia, but not in Peru.
My sixth is number, but not in two.
My seventh is in orange, but not in plum.
My eighth is in finger, but not in thumb.
My ninth is in Europe, but not in Spain.
My tenth is in Utah, but not in Maine.
My eleventh is in hog, but not in cow.
My twelfth is in shovel, but not in plow.
My whole is a biographical name. W. H. G.

Answers to Last Puzzles.

GEOGRAPHICAL ENIGMA.—"The fear of the Lord is the beginning of wisdom."

LETTER ARITHMETIC.—Charleston.

HIDDEN TREES AND ANIMALS.—Laurel, or pine; 2. Gnu; 3. Fir; 4. Lion, or ape; 5. Leopard; 6. Maple, or oak; 7. Zebra.

DIAMOND PUZZLE.

P
A R K
A L O N E
P R O M I S E
K N I F E
E S E
E

DECAPITATIONS.—1. Rat, at; 2. More, ore; 3. Coat, oat; 4. Hart, art.

Making Things Beautiful.

"Dear me, but she's a fright of a doll; just look, Marsie Bernard, just look at her face," and Bell Stevens held the "fright" quite out at arm's length, with a contemptuous toss of her frizzled head and a contemptuous look in her eyes.

Marsie looked up for an instant and then down at the ribbons she was twining through her fingers, wondering as she twined, how a doll with wax cheeks and flossy hair that would comb, could be a fright, and wondering if she would ever have a doll with such wonderful dresses, all flounced and frilled, such cunning hats and stockings and shoes, and thinking of the homely rag baby, Jessamine, which she had so fondly sung asleep before she came away and tucked snugly in the cradle in the corner.

"The girls have such sweet dolls," continued Bell partly to herself, "and as to clothes, deary me, I am just ashamed for any body to see these frights," and she threw the abused doll down at her side, greatly risking her head altogether, and turned again to Marsie.

"What kind of dolls are yours at home? Are they very fine?"

"I only have one," said Marsie softly.

"It is a grand one then, I suppose. I'd rather have one and have it just the nicest kind, you know, than to have all these frights."

"Jessamine is only made of rags, and her clothes are not fine at all, but I love her and she is pretty to me."

"Made of rags! I don't know what you mean, but then she has some kind of a fine face?"

"Not nice like your doll's, for it is only of rags."

"Now Marsie Bernard, I most don't believe you!"

"Mamma made her and I love her," said Marsie, thinking regretfully of having been ashamed of her.

Bell came and knelt down quite close to Marsie as she sat on the floor, and twining back the long golden curl that had fallen over her face, stooped to look in the black eyes and see if they were "telling true."

"Hasn't she any hats?" continued Bell, "nor any shoes to take off?" and has she nothing but rag cheeks, and no wax at all?"

She leaned over and picking up the fright she had cast down, began smoothing the rumpled hair as she asked:

"Why hasn't Jessamine fine clothes?"

"Mamma hasn't time to spare: she sews and sews everybody's things to get money for me and Bobbie, and then she is too pale and tired to sew for dolls."

"But Flaxy is a fright—now don't you think so,

Marsie?" Bell began, again coming back to the original point.

"You have spoiled her a little, but she is sweet, I think."

"Prettier than Jessamine?"

"Jessamine is only rags, you know, so she cannot be pretty only to me."

"How can she be pretty to you?"

"Because I love her, and mamma made her for me."

"That don't make her pretty."

"Mamma says it is our own eyes and hearts that makes things ugly or beautiful."

"I don't believe I know what you mean."

"Why, don't you know when you look at Flaxy if you think about the ugly things she will be ugly, but if you think how blue her eyes are and how pretty her hair and try to find the pretty things about her, she will be pretty to you? That is what mamma means when she says things are beautiful or ugly as we make them so by our own eyes and hearts."

GOOD HEALTH.

Eye-Sight.

Milton's blindness was the result of overwork and dyspepsia.

One of the most eminent American divines having, for some time, been compelled to forego the pleasure of reading, has spent thousands of dollars in value, and lost years of time, in consequence of getting up several hours before day and studying by artificial light. His eyes never got well.

Multitudes of men or women have made their eyes weak for life by too free use of the eye-sight, reading small print and doing fine sewing. In view of these things, it is well to observe the following rules in the use of the eyes:

Avoid all sudden changes between light and darkness.

Never begin to read, or write, or sew for several minutes after coming from darkness to a bright light.

Never read by twilight, or moonlight, or of a very cloudy day.

Never read or sew directly in front of the light, or window, or door.

It is best to have the light fall from above, obliquely over the left shoulder.

Never sleep so that, on the first waking, the eyes shall open on the light of a window.

Too much light creates a glare, and pains and confuses the sight. The moment you are sensible of an effort to distinguish, that moment cease, and take a walk or ride.

As the sky is blue and the earth green, it would seem that the ceiling should be a blueish tinge, and the carpet green, and the walls of some mellow tint.

The moment you are prompted to rub the eyes, that moment cease using them.

If the eyelids are glued together on waking up, do not forcibly open them, but apply the saliva with the fingers—it is the speediest diluent in the world—then wash your face and eyes in warm water.—*Exchange.*

This has been going around for about 10 years, and its ownership, we guess, is lost; but it is good enough to go on indefinitely.

PEDESTRIAN EXERCISE.—In pedestrian exercise for pleasure, sport, or health, much power may be saved by skillfully balancing the spine on the pelvis, and so adjusting and harmonizing the movements of the upper and lower extremities ("getting the swing" as it is called), that the force of gravity does a great part of the work. This is the great secret of the professional pedestrian, whose object is to economize strength, not to expend it. This art is easily acquired, and even a delicate lady, with a week's practice, can cover a distance which at first would seem impossible. But one of the first essentials of true exercise is resistance. There must be some obstacle to overcome, some weight to be lifted, if we would break down muscular tissue and build up with new material. This resistance, a moderate walk will never give. One must needs walk ten or twelve miles a day in order to get exercise enough to keep the body in a healthy condition. To accomplish this task requires from two to three hours. Aside from the benefit to be derived from the inhalation of fresh air, the same amount of exercise may be taken in twenty or thirty minutes by lowering and raising the body, alternately, flexing and extending the legs, by taking a short run, or by making a few excursions to the top of a seven-story building.

HALLUCINATION OF THE SENSES.—Prof. Maudsley remarks, in a recent lecture, that one striking feature observed by medical men who have had cases of hallucination under their charge is that the patients cannot be convinced that the objects they see, the sounds they hear, and the smells they perceive, have no real existence, and that the sensations they receive are the result of their excited nerves. It frequently happens, too, that a person who suffers from hallucination in respect of one sense has the others unaffected, and is, on all other matters, perfectly normal. Hallucination may arise either from an idea on which the mind has dwelt, appearing as something exterior, or from excitement of the sensory ganglia. It is said that Newton, Hunter, and some others of equal professional eminence, could, at will, picture forms to themselves till they appeared to be realities.

DOMESTIC ECONOMY.

ROULETTES WITH STRAWBERRIES AND CREAM.

Rub a tablespoonful of butter and half a tablespoonful of sugar together and mix with a beaten egg, a cup of sweet milk, half a cup of flour, a pinch of salt and half a teaspoon of flavoring extract; place a smooth frying pan on the stove, butter it as lightly as possible, and when hot drop in a teaspoon of the mixture; tip the pan sidewise and turn it until the entire bottom is covered with a cake as thin as a wafer; then set the pan to the back of the stove to cook slowly until the edges are brown and crisp, when the center will also be done; remove it to a plate and roll *instantly* into the shape of a cornucopia. These cakes can be easily handled while warm, but will become brittle when cool, and will keep their shape perfectly. Butter the frying pan for only the first one; bake the day before they are wanted, but fill only just before serving with whipped cream and strawberries; beat rich sweet cream to a stiff froth. The pan should be set on ice in warm weather, as the cream must be beaten stiff enough to stand alone, which it cannot be unless it is kept cold; sweeten with pulverized sugar, and fill the horns half or three-quarters full; then fill up with fine ripe strawberries sprinkled with pulverized sugar. The roulettes are very good filled with whipped cream alone, or even plain apple sauce.—*Prairie Farmer.*

CHICKEN RISsoles.—Mince or chop very finely some remnants of roast or boiled fowl free from skin; add an equal quantity of ham or tongue, as well as a small quantity of truffles all finely minced; toss the whole in a saucepan with a piece of butter, mixed with a pinch of flour; add pepper, salt and nutmeg to taste, as well as a little minced parsley; stir in off the fire the yolks of one or two eggs beaten up with a few drops of lemon juice, and lay the mixture on a plate to cool. Make a paste with some flour, a little water, two eggs, a pinch of salt, and two or three of sugar; roll it out to the thickness of a penny piece, stamp it out in round pieces three inches in diameter; put a piece of the above mince on each, then fold them up, fastening the edges by moistening them with water. Trim the rissoles neatly with a fluted cutter, dip each one in beaten-up egg, and fry a golden color in hot lard.

RASPBERRY VINEGAR.—Mash three quarts of ripe raspberries and put them in a stone jar with a quart of good, pure cider vinegar; place in the sun all day and in the cellar all night; stir occasionally, and in the morning strain off the juice and add to it as many freshly mashed berries as there were at first; place again in the sun; in 24 hours strain off the juice a second time; mix this liquid with four lbs. of loaf sugar and boil for 15 minutes; skim, and strain, and bottle while hot; soak new corks in hot water, drive them well into the bottles and cut off even; dip the tops of the bottles in hot cement, lay them on their sides in sawdust, and keep in a dark place; mix the vinegar with ice water to form a cool and refreshing drink.

GRAPEVINE LEAVES AS HOPS.—Did any reader ever try using grapevine leaves instead of hops in head-making? Simply use grape leaves as though they were hops, only, perhaps, requiring a little larger quantity. After having made yeast, just before setting it to rise, stir into it from one-half to one teaspoonful (according to quantity of yeast) of light hop yeast, or that made by soaking yeast-cake in a little warm water, stirring in the flour and allowing it to rise. After the yeast has become light, use as you would hop yeast. While the leaves on the vines are still fresh and green, gather the tenderest and best, dry and save for winter use.—*Inter-Ocean.*

REMOVING HARD PUTTY.—Hard putty, it is said, can be removed from a window-sash with great readiness by simply applying a piece of heated metal, such as a soldering iron or other similar instrument. When heated—but not red-hot—the iron is to be passed slowly over the putty, which is thereby rendered so soft as to be easily parted from the wood.

BEEF-STEAK CAKES.—One and one-half cup of sugar, 1 cup of butter, 1 cup of sweet milk, 3 eggs, 2 teaspoonfuls of cream-of-tartar, 1 teaspoonful of soda, $3\frac{1}{4}$ cups of flour. Divide equally: To $\frac{1}{2}$ add $\frac{1}{2}$ cup of chopped raisins, cinnamon and cloves to taste. This makes four round tins. Put together in alternate layers of dark and light. One egg for icing to put between layers.

ALMOND PASTRY.—Pound three ounces of almonds, one-quarter lb. of butter, two ounces of loaf sugar, with a little rose-water until it becomes a thick paste. Spread it on a buttered tin, bake it in a slow oven. When cold divide into eight pieces, put a spoonful of preserves on each piece and cover with whipped cream.

TO TAKE MARKING INK OUT OF LINEN.—A saturated solution of cyanuret of potassium, applied with a camel's-hair brush. After the marking ink disappears, the linen should be well washed in cold water. It must be remembered that this compound of potassium is rank poison, and must be handled with great care.



DEWEY & CO., Publishers.
A. T. DEWEY. W. B. EWER.
Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.
ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.
A. T. DEWEY. W. B. EWER. G. H. STOROS

Our latest forms go to press Wednesday evening.

SAN FRANCISCO:
Saturday, August 7, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Winged Phylloxera; Pasteur's Study of Chicken Cholera; The Aztec Lizard, 81. The Week; The Potato Disease, 83. Meeting of the State Horticultural Society, 88-89. Lyon's Grain Cleaner, 89.
ILLUSTRATIONS.—Fertile and Infertile Forms of Winged Phylloxera; The Aztec Lizard from Arizona, 81. The Zimmerman Fruit and Vegetable Driers, 85. A New Grain Cleaner of California Design and Manufacture, 89.
QUERIES AND REPLIES.—Sulphuring Vines; Destructive Birds and Rabbits; Fruit Extractor, etc.; Fruit Tree Diseases, 85.
CORRESPONDENCE.—Anaheim Odessa Wheat; Tehama County Notes; A Bee Coaxer and a Force Pump; Experience in Fresno County, 82.
HORTICULTURE.—The Peach Tree and its Diseases; Prunes and their Proper Names, 83.
FLORICULTURE.—Flower Growing for Perfumes, 83.
THE DAIRY.—Bermuda Grass, 83.
PATRONS OF HUSBANDRY.—Our Great Rival, 84.
AGRICULTURAL NOTES from the various counties of California and Nevada, 84-85.
NEWS IN BRIEF, on page 85 and other pages.
HOME CIRCLE.—The Other Side; Waiting for the Cows to Come (poetry); Farm House Chat; Home Thoughts—No. 5; The Saddle Against the Buggy; Housekeeper's Dresses; An Overworked People; How the Store-keeper Bought and Sold Butter; Maxims, 87.
YOUNG FOLKS' COLUMN.—Our Puzzle Box; Making Things Beautiful, 87.
GOOD HEALTH.—Eye-Sight; Pedestrian Exercise; Hallucination of the Senses, 88.
DOMESTIC ECONOMY.—Roulettes with Strawberries and Cream; Chicken Rissoles; Raspberry Vinegar; Grapevine Leaves as Hops; Removing Hard Putty; Beefsteak Cakes; Almond Pastry; To Take Marking Ink Out of Linen, 87.

Business Announcements.

Zimmerman Fruit Drier—Linforth, Rice & Co., S. F. Institute for Young Ladies—Mme. Zeitaka, S. F. Hope for the Deaf—J. Garmore & Co., Cincinnati, O. Money to Loan—A. Schuller, S. F. Well Augers—U. S. Manf'g Co., Chicago, Ill.

The Week.

So California has outgrown San Francisco after all. According to forecasts of the census which those expert at mathematical divination are giving us, it appears that during the last 10 years the city of San Francisco has increased her population 56%; but taking the city out of the calculation, it is found that the balance of the State has increased 65%. This is a gratifying condition of growth, because the growth outside of the city means the inception and development of productive enterprises which wrestle directly with the raw material of soil or mine, and thus add to the aggregate wealth of the State. So long as the country grows faster than the city there is surety of enduring advancement. And the city itself must find consolation in this fact, because, without the country behind it, the city would fade away. When the city shoots ahead of the country, as it has done during periods of stock inflations and excitements, it is not a healthy growth. It saps the country of a share of its productive energy; it calls men from their farms and workshops, and after robbing them of their savings and their taste for work, leaves them without aim or ambition. Thus, by weakening the country, the city weakens itself and clouds its future. It is gratifying to know that, much as has been done of this, the country is on the whole the stronger after all. And we believe if the census had been taken a year or two hence the tendency would have been still more marked. For there is now a wonderful activity in rural enterprises, and there are some lines of production now gaining strength which will soon give field for the energy of thousands and tens of thousands. The world moves; and in California it is now moving in the right direction, to-wit—toward the rewards of real production, which are the basis of enduring prosperity.

A COLT in Mendocino county, 8 months old, weighs 1,412 pounds.
THE "bad lands" in Minnesota are very good land, and many settlers are finding it out.

The Potato Disease.

What of the potato disease this year? Has the peculiarly cool season, which has doubtless aided the grain in its escape from rust, also repressed the spread of the potato fungus? Who has learned anything from this year's experience with new varieties or with new methods of treatment. The subject is timely, and all our potato-growing readers are requested to contribute the results of the season's experiments and observations for publication.

The subject is brought to mind by the fact that a Commission appointed by the Royal Agricultural Society of England, consisting of both scientific experts and practical potato growers, have just agreed upon a preliminary draft of their report, after a long season of evidence hearing and experience gathering. The potato disease, it will be remembered, has occupied a leading place in English agricultural investigation for a generation, and it is a sad commentary upon the weakness of human wisdom that no absolute escape from the evil has yet been made known. It is true that during that time the science of the disease has been quite well developed, although there are still some points obscure; but the chief point in practice, viz.: how to grow potatoes without having them injured or destroyed, is still undemonstrated. To this end the attention of all scientific investigators and practical growers should be directed.

The report of the English potato disease commission is said to contain 42 paragraphs. It begins by stating that the evidence of the scientific witnesses had clearly established the nature of the potato disease, which, according to them, consists in the growth of a fungus (*Peronospora infestans*) on or in the plant. The disease spreads during the summer by means of spores in seeds, a single fungus producing millions of spores. The almost inconceivable fecundity of the spores accounts for the rapid spread of the disease during summer. The scientific witnesses concurred in believing that burning the stalks and getting rid of the diseased potatoes would be useful. The necessity for the production of new varieties was concurred in by all the witnesses. The growers agreed that within their experience many varieties of potatoes had disappeared, having become utterly worn out. Four to six years are required to establish a variety, and then it steadily improved in flavor by cultivation; but then, after a certain time, any comparative immunity from disease disappears. With good cultivation, a new variety would not degenerate for 20 years. The Champion potato was remarkable for its disease-resisting powers, but it must be expected to succumb in its turn. In the closing paragraphs of the report the committee make various suggestions. After stating all the facts gleaned in the inquiry, the report goes on:

"Under these circumstances, it would appear that the search for new varieties must be undertaken either by the combined enterprise of the larger potato growers, working through such societies as the Royal Agricultural Society of England and Ireland and the Highland Society, or by the government. As up to the present little has been effected by the former plan, it would seem to be time for the government to lend assistance. Your committee are of opinion that experimental farms for the creation and establishment of new varieties of the potato should be established in England, Scotland and Ireland. Whether these farms should be placed under direct government control is a point which might with advantage be determined differently in the different countries. In Ireland the best plan would probably be to extend the existing farms of the Agricultural Department of the National Board, and to specifically direct the attention of the superintendent of these farms to researches on the potato disease, and to the creation, the selection and establishment of new varieties of the potato. In England and Scotland it might be advisable to consult with the leading agricultural societies as to whether, if subsidised, they would undertake the necessary work, subject to government inspection and control. Should these societies decline the task, your committee are distinctly of opinion that the government should appoint in each country a superintendent who should conduct the necessary experiments, and who should endeavor to furnish new and successive disease-resisting varieties of potatoes. Whether a permanent farm or farms should be selected for the cultivation of the new varieties of the potato, whether arrangements should be entered into with farmers and with private producers of new varieties, and as to whether land should be temporarily hired for the various purposes in the different parts of the kingdom, are points of detail which might safely be left to the superintendents to determine.

So far then it appears that the English commission has arrived at much the same conclusions as our potato growers have. They have found clear advantage in the introduction of new varieties, and they have found old varieties to become untrustworthy. They are testing all the new sorts which come forward, and they are not few in number. Enterprising individual potato propagators are doing for this country very much the same work as Great Britain proposes to accomplish by government aid. We believe it has also been demonstrated in this country that efforts in the way of good cultivation, enrichment of the soil and the use of new ground, all tend toward increasing the strength of the plant and aiding its growth, but these alone do not give immunity from the disease. The main question of how practically to escape the disease, unless it be by the constant search for resisting varieties, seems to be still open for solution. We should like to receive from all growers items of this season's experience and observation in the potato fields.

THE census of Utah, recently completed, reveals the fact that the Gentile population has increased 200%, while the Mormon increase has only been 45%.

Meeting of the State Horticultural Society.

The July meeting of the California State Horticultural Society was held in this city on Friday, July 30th, and was one of the best meetings the society has held. The attendance was good and a long list of applicants for membership was recorded. Prof. Hilgard presided. The candidates proposed at the June meeting were duly elected, as follows: J. S. Tremble, James Ogier, A. M. Ogier, J. H. Cornthwait and William Boots of San Jose, and James Shinn of Niles.

Dr. Behr, of the Committee on Botanic Garden, reported the matter as still under consideration, but no finished facts ready for report.

The Secretary made a statement concerning the coming exhibit of the society at the Mechanics' fair, which will open August 10th. Aside from the space for the show of plants in the garden adjoining the pavilion, the managers of the Institute had set aside a space 35 ft. square and furnished it with tables for the fruit exhibit. This space is next to the exhibit in charge of the Viticultural Commission and is prominently located, being but about 100 ft. from the main entrance and in full view from the gallery and the main staircase leading thereto. The managers of the Mechanics' Institute will appoint a competent man to take charge of the material and keep it in good condition. It rested with the members of the society and fruit growers generally to send samples of their best fruit to make a full exhibit and to compete for the many premiums offered. The Secretary expressed the hope that all horticulturists would take hold of the matter vigorously and send forward early whatever was in condition in time for the opening day, August 10th, and send that which ripened later whenever it was in proper form for exhibition. The fair will be open until September 11th, so that there will be a good chance for nearly all autumn fruits before the close of the fair. As much of the daily appearance of the fruit depends upon the man who has it in charge, it is important that a good selection should be made. The Secretary moved that the managers of the Institute be invited to engage Mr. C. D. Voy to take charge of the fruit exhibit. The motion was carried.

Apricots for Name.

Mr. Joseph Sexton, of Goleta, Santa Barbara county, sent a box of very fine apricots of a variety which he had been propagating, but was uncertain about its true name. In a letter accompanying the fruit he said:

This apricot I send for name generally ripens here about July 1st, and is gone by the 15th. We are four weeks behind Sacramento in time of ripening of fruits. Some think our fruits earlier than with you, but that is a mistake. The tree is a rapid upright grower. I had trees that grew from the ground up in one year without irrigation nine and a half ft. This variety, the Blenheim or Shipley and the Royal, I think the best three varieties for this section. The Moorpark ripens uneven and it is a shy bearer. The Hemskirk that I cultivated is late and cracks; others have Hemskirks that have ripened and gone. It is badly mixed here.

Mr. Sexton sent also a sample can of the no-name apricot from the new Santa Barbara canery of Messrs. Sheffield & Dimmick. It was a splendid specimen of canned fruit, and one which does the growers and the canners great credit. Mr. Sexton sent also samples of the apricot he is growing as the Blenheim and asked if it was true to name. The identification of Mr. Sexton's varieties was referred to a committee composed of Messrs. Strentzel, Lewelling, Hatch and Rock.

The Winged Phylloxera.

The Secretary read two letters addressed to the President, by Dr. J. C. Hyde, of Santa Rosa, announcing that he had found the winged form produced from insects taken at Sonoma the previous week. This matter will be considered at length in another column of this issue.

The Peach Tree and its Diseases.

This subject was introduced by Dr. Strentzel of Martinez, with an essay which is printed on page 82 of this week's PRESS. Discussion of the subject followed the reading of the essay.

Mr. Hatch, of Solano, said that he had found that trees in Suisun valley, even comparatively young grafts, were so mildewed that they would not form the fruit buds for next year's crop.

Prof. Hilgard had noticed the same thing on his own trees. He inquired whether experience did not show that young trees were more liable to curl than old ones, and those on rich and sandy lands more than those on poor ones.

Mr. Hatch said that a Mrs. Chadbourne, in Suisun valley, four years ago set out 1,000 peach trees on first-class sandy loam. Consequently they were still young. Some varieties of them presented the aspect of a complete deadening very discouraging. One or two varieties were apparently healthy.

Prof. Hilgard—that corroborates my idea that a rich soil and rapid growth favor this disease. Heavy adobe soil, which is rendered capable of cultivation only by manure, I believe goes far to prevent the curl; and it occurs to

me that since I have manured heavily my trees have curled worse than before.

Dr. Behr in corroboration, remarked that he had noticed that suckers curled worse than legitimate branches.

Mr. Hatch said that he had an early Tillotson 22 years old, that had borne a good crop every year since he had been on the place, nine years, until now. This year its crop is totally destroyed by curled leaf, and the new twigs are covered with mildew.

Mr. James Shinn said that he had corresponded on the subject under discussion with the leading fruit-growers of the State, and he would lay before the society the experience of one of the heaviest peach-growers in California, as related to him. His correspondent stated that in the lower part of his valley, where the soil was light, the curl was very bad. In a young orchard in the same locality, planted on a bench some 200 ft. higher it was much less. In that orchard the lower limbs were much more affected by the disease than the upper ones. This experience would indicate that it would be best to plant peach trees in the foothills.

Treatment for the Mildew.

Mr. Dwinelle said that this discussion suggested a possible remedy, which should be experimented with. It was the remedy with which Dr. Blake had succeeded in protecting his rose bushes at Calistoga from white mildew. Peaches and almonds were very closely allied to the rose, and it was possible that the remedy for one was the remedy for the other. It was a solution of bluestone. Dr. Blake informed him that for two years now he had perfectly protected his roses from mildew by watering their roots with bluestone solution, using a teaspoonful of the mineral to a bucketful of water, and applying some time during the winter, usually when he moved his roses, if he moved them at all, in January or February. For two years he had treated them thus with perfect success, at the same time leaving a few that were not treated in that way. Those that were treated with bluestone were perfectly free from mildew, and those that were not so treated were worse than ever. Farmers are familiar with the use of bluestone as a protection against smut and other fungus in wheat. He thought it would be easy to try this remedy upon peach trees, and that it was worth trying.

Fertilizers Needed by the Peach Tree.

Mr. Dwinelle also remarked that the larger experience of people in the great peach-producing region of the Atlantic seaboard, New Jersey and Delaware, also afforded some valuable suggestions. Beginning in the north of the former State, people were surprised to find that the soil would grow very excellent kind of peaches, and they went into the business extensively, finding it profitable. After some years they found the peach crop failing from disease of one kind and another. They gradually abandoned the old ground, extending their orchards southward, the orchard belt contracting on the north as it advanced on the south. After the lapse of years some experimenter tried it again on the old ground, and found that he could again raise as good crops of peaches there as before. The secret was, that the land had been exhausted by the peach trees, just as a wheat crop will exhaust it, although not so rapidly. The land was used up. The trees became weak, and were not able to resist disease, whether fungus or insect. After lying fallow for some years, or being used for some other crop, was ready for another spell with peaches, although it would not support the trees as long as before. Then again, their insect enemies die off or emigrate after the death of the trees. Possibly in these things lies the secret of the failure of our peach trees. He thought the best manures are those which contain phosphates, potash and a little iron. Chips and filings from a blacksmith shop were as good as any. The American idea that a peach tree was something that would die after a term of years, was not entertained in the old countries. There they are regarded as something like a grapevine, that, with proper treatment, will last indefinitely.

Prof. Hilgard said that it has been found that one of the most efficient modes of manuring was to bury bones about the roots of trees, thus supplying phosphates with very little nitrogen. It recalled the story of Roger Williams being buried under a pear tree, and when his descendants sought to disinter his bones and give them proper sepulture they could find nothing of them. The roots had absorbed them and carried them up into the fruit, and thus his descendants had been partaking literally of his virtues. It had often been noticed that where dogs had been accustomed to bury bones among the roots of trees in the back yard, the trees flourished, notwithstanding the fact that the ground was hard and uncultivated.

Curl Leaf Again.

Mr. Shinn said that one strange thing was, that in the same row of peach trees one variety would curl every year, more or less, and in seasons like this fall entirely, while another variety would be free every time and give good crops. He was inclined to think there was no remedy for curl. He gave it up long ago. There was one thing to do, and that was to give a wide berth to the curling varieties. Make known to fruit-growers any varieties found to be free from curl, so that they may grow them and shun the others. But why it was that one variety would be free from the disease, and another in the same orchard curl badly was a mystery to him. If it was an insect that caused it, why was it

that one kind of tree was attacked, and not every one in the same locality?

Prof. Dwinelle said that the inquiry was on a par with the question, "Why is it that Odessa wheat does not rust and the club wheat does?" Or why the Sandwich Islanders are as afraid of the measles as we are of the cholera.

Prof. Hilgard suggested, is it not likely that those varieties having the softest tissues are most liable to the attacks of fungi? You take the peach that has a very heavy, shoddy growth upon the one that has a rapid growth, and I think experience will show that the resultant variety will not curl.

W. W. Smith, of Vacaville, agreed with Mr. Shinn that the best way to avoid the curled leaf nuisance, was to discard the varieties that curled badly. We do not know where the disease comes from, said he, and we cannot tell how to combat it. I am inclined to think it is hereditary or constitutional like consumption and scrofula in the human family. Take a person that is constitutionally given to consumption, and expose him to damp and cold, and he will develop his disease and die, while a sound, strong man will take no harm, and so it is with the tree. And I think the disease is spread by the custom of nurserymen in sending to canneries to get pits to plant. They are gathered without any knowledge as to whether they came from a healthy tree or not. In the nursery rows some will be strong and some weak, and if they be allowed to stand, some will curl badly while others in the same row won't curl at all. It is because some are healthy and others have the constitutional taint; and if buds from unhealthy trees are used for hudding, every bud will propagate the disease on other trees. The proper way is to use pits only from vigorous seedling trees, and buds from healthy trees. Different soils have something to do with it, no doubt. Peach trees will curl less on adobe land than on any other, and next to that will curl most on low, damp, valley land. The best land to prevent curl, or at least where it is least noticed, is a moderately rich and moderately dry land, where a tree can make a good, fair growth—not an overgrowth—where the wood will mature up well in the fall before frost comes on. I think I can also recognize here the "yellows," a disease which I knew in the East, but which is unknown here. I think I can see it appearing here now. I think it is a constitutional disease, springing from this indiscriminate gathering up of peach pits, and then grafting buds on the trees without regard to where they were taken from. We should be careful to avoid these, and be sure that we get our seeds from good, healthy trees.

Mr. Smith said that his experience is that the older a tree the worse it curls. The oldest tree is the worst curled one in the orchard. One five years old curls worse than one four, and so on down. Plum stock should be discarded in every instance on which to propagate peaches and apricots, from the fact that they sprout so badly. There is one kind of plum from which the seedlings do not sprout, that is the "Old Horse" plum; there are very few of them in this State. As to the varieties that curl worst, "October Free," curls worse than any other. "George the Fourth," "Strawberry," in fact every one of the white peaches curl. Some of the yellow peaches also curl. The "Late Crawford" curls a little, although generally considered free. The "Early Susquehanna" is freest from curl of any variety on my place. "Solway" curled a little for three days and then recovered. "Alexander" curled but little. It is the most exempt from curl of any peach that I know of. The "Briggs" and this new peach, the "Waterloo," claimed to be the earliest peach under cultivation, curled pretty badly. "Susquehanna," "Crawford's Early," "Saint John," the earliest yellow peach that I know of, "Solway," "Jones' Seedling," which did not curl early enough to spoil the crop; these are the freest from curl of all the varieties that I know of. You take the white varieties and they all curl. "George the Fourth" is the freest from curl of any of that kind that I know.

Mr. James Shinn remarked that Mr. Smith must live in a locality bad for curling, for several varieties which Mr. Smith named as affected were free from the trouble in his region.

Dr. Strentzel said that his experience made it clear that the highest ground should be selected for the peach, provided it was such quality of ground as was serviceable for it to grow. It was a mistake to suppose the peach tree naturally a short-lived tree. There was no tree that he knew of that was more healthy in the roots than the peach. It might be chopped down to the stump and it would sprout again and again.

Prof. Hilgard inquired what has been the experience with mildew on almond trees. I find that while almond trees are not affected with curled leaf they are badly so with mildew, the leaves falling off so as to leave only two or three at the top of the twig.

Grafting on Plum Stock.

Mr. Hatch had a practical question to ask. He had some Prince of Wales plums grafted on peach stock. I want to know if I can graft them to apricot. Mr. Shinn said he had a row

of apricot trees that had been grafted for 20 years on plum stocks, but he didn't know whether the stock were seedlings or not. He presumed they were.

W. W. Smith, of Vacaville, thought that Mr. Hatch might graft his apricots on plum trees. It would only be necessary to observe the precaution of cutting them back several times the first year, as the sprouts would grow so fast that their own weight would break them out unless they were cut back. The graft and stock would connect, there need be no fear of that.

The Government Entomologist.

Pres. Hilgard announced that Prof. J. Henry Comstock, entomologist of the Department of Agriculture at Washington was present, having been sent out here to investigate the question of insects infesting fruit trees, and he invited him to address the Society.

Prof. Comstock, in reply, acknowledged the courtesy and excused himself from speaking, at length, saying he came out here to learn. He had spent the preceding winter in Florida, investigating the insects infesting the orange tree, and finding that the orange insects here were different, he had come out here to complete his investigations. While that was his special purpose, he did not intend to shut his eyes to the insect pests of other fruit trees. At some future meeting of the society, after he had made a study of California insects, he might have something to communicate.

The Phylloxera Again.

Pres. Hilgard informed the meeting that the Secretary had placed the Sonoma specimens under the microscope and they might be examined by any who desired. He also called upon Dr. Bleasdale, Secretary of the Viticultural Commission to give some observations concerning the phylloxera. Dr. Bleasdale responding, stated that the finding the winged insect in the colony of Victoria was quite like its discovery here and there, as here it was the sterile form which was found. Dr. Bleasdale spoke also of the proper way of destroying infested vines.

Mr. Rixford, in reply to the inquiry, stated as to the extent of the pest here, said that he understood that one vineyard on Putah creek had been uprooted in consequence of phylloxera. Mr. Smith said that he knew of a dozen there that had been destroyed and given up in consequence of it. They were formerly among the finest vineyards in the State, and were the ones from which the finest grapes in market came. Now the old vines were corded on the places, having been turned into firewood. He knew that phylloxera was the cause of their destruction, because he had seen it both there and in Sonoma, where there was no doubt of it. He understood that they had it in Napa valley too, but were shutting their eyes and denying it.

Mr. Dwinelle intimated a doubt about every case reported being phylloxera. He cited a recent instance, in which some vines were sent to the University from near Healdsburg, with something that everybody supposed to be phylloxera, but which proved to be leafhopper, which he admitted was nearly as bad to have. There were many things besides phylloxera to make vines look sickly.

Prof. Hilgard said that the University and the Viticultural Commission intended to send a man to Napa as soon as they could procure a competent one, to ascertain whether the phylloxera was there or not. He feared that if this was phylloxera in Pleasant valley and in Napa, that it was too late to circumscribe, and that nothing but the renewal of the vineyards would answer.

To Find the Insect.

Dr. Strentzel inquired how to look for phylloxera and recognize it when found.

Prof. Hilgard replied that in the first year the vines begin to languish, manifest spots of ill-health, and fail to produce the usual shoots and the usual amount of fruit. The second year the affected parts form a sort of general depression in the skin surface, and the phylloxera will be found clustering the white rootlets, which are swelled into club shapes and

Plums and Prunes.

The Secretary read a letter from Leonard Coates, of Napa county, suggesting the discussion and exhibition of prunes at the next meeting. The letter is printed on page 83 of this issue. The suggestion was acted upon by the selection of "Plums and Prunes" for discussion at the August meeting. Messrs. John Rock, of San Jose, W. B. West, of Stockton, and W. H. Jessup, of Hayward, were appointed to open the discussion. The subject of "Scale Insects on Pear and Apple Trees" was also adopted for discussion, and all members requested to bring samples of the scales affecting their trees.

After a four-hour session, during which the time was all fully employed, the society adjourned until the next regular meeting, Friday, August 27th.

Lyon's Grain Cleaner.

In an article upon grain cleaners and grain cleaning, which appeared in this paper two or three weeks ago, we alluded to a new machine called Lyon's automatic grain separator, which is being made by the Sweepstake Plow Company, of San Leandro. We present on this page an engraving of it. Its length is about 14 ft., and its extreme height nearly 8 ft., and its weight is a little over 4,000 lbs.

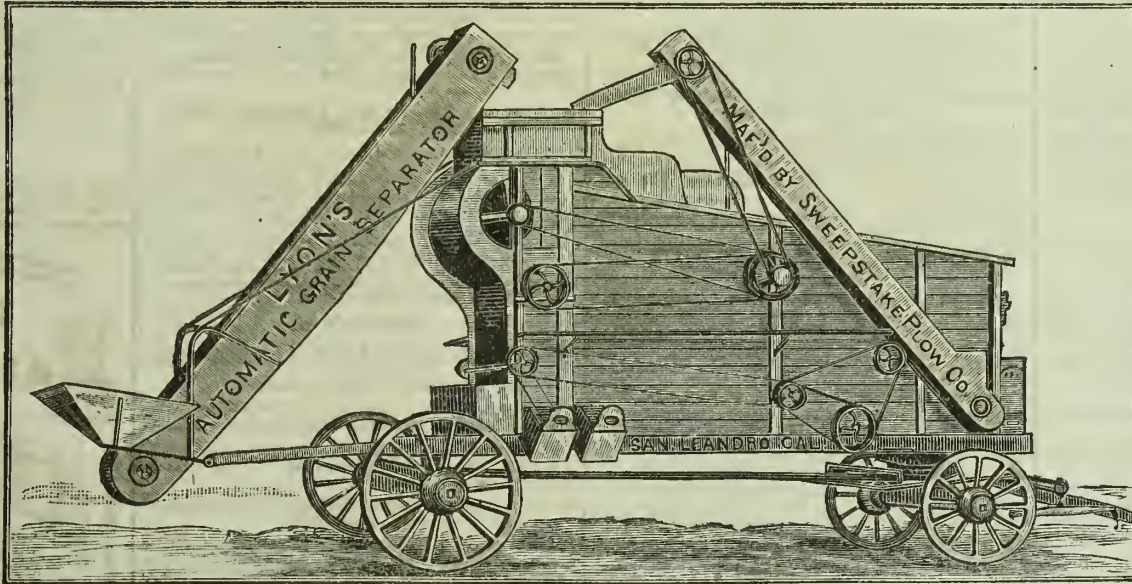
When in operation the larger elevator on the left is lowered to the ground, and the wheat is put into the hopper near the lower end. It is then carried up and discharged into the hopper on the top of the machine, from where it passes over a great number of large screens, having a rapid and short vibration endwise, and finally comes out pure wheat, all the barley, cheat, mustard seed, white caps and other foreign matter having been separated from it, and carried into compartments by themselves. The smaller elevator returns for recleaning the wheat which gets carried over with the tailings, as they are termed. A blast of air from the fan carries off all the light matter.

The distinguishing feature of this machine is the great number and area of its screens, thus allowing the wheat to pass over them in a thin sheet and to continue upon them for a period longer than usual, and until everything is taken from the grain that the screen is capable of taking from it. The very great breadth of the screens (five ft.) and their rapid motion permits the grain to go through with great rapidity, notwithstanding the very thorough action of the screens. Sixty tons per day can be easily cleaned, so it is claimed, and the work is said to be perfect. From the above it will be seen that this cleaner is a very rapid and powerful machine, and is expected to do work that for speed and thoroughness has not hitherto been attempted.

IMMENSE AGRICULTURAL MACHINE PROPOSED.—Mr. Theodore T. Woodruff, inventor of the parlor sleeping car, described, at a recent meeting of the Franklin Institute, his steam motor for cultivation of the soil—an immense machine, estimated to weigh, with water and fuel, about 25 tons, and, as arranged for plowing, estimated to run 132 ft. per minute. In the drawings the machine was represented with 15 plows, each designed to turn 14 inches wide, so that the machine would prepare ground for a width of 17 ft. 6 inches, at the rate mentioned above. The motor is guided as well as driven by steam, and the plows are adjustable (within limits) to any desired depth, over three acres being calculated as the work possible for the machine. The motor may also be adapted for ditching, grinding, thrashing, sawing, etc.

INFLUENCE OF LIGHT ON SIZE OF LEAVES.—M. Ch. Flahault, in the *Annales des Sciences*, brings forward additional observations to support his view that under equal conditions the leaves of plants of the same species are larger in proportion as we go northwards, these relatively higher dimensions being due to the duration of light of relatively feeble intensity. In cases where the chlorophyll is formed in the absence of light, it must be formed at the expense of the materials stored up in the tissues. The importance of these reservoirs of nutriment is still greater in case of flowers. Thus, in the case of hyacinths, both blue and red, M. Flahault found no difference in the color of the flowers grown in the light or in the dark, the color being manufactured from the stores of material in the bulbs.

HOPE FOR THE CASTAWAYS.—The lively interest felt in this city for the safety of the crew of the foundered ship *Mathilde*, who are supposed to be on the island of Socorro, lying off the Mexican coast, was intensified by the graceful act of an English gentleman. As soon as he learned of the probable fate of the castaways, Sir Thomas Hasketh dispatched his steam yacht, *Lancashire Witch*, to their rescue. The yacht sailed on Wednesday. At the same time the government sailing yacht *Freda*, was dispatched by special order of the Secretary of the Navy, on the same errand of mercy.



A NEW GRAIN CLEANER OF CALIFORNIA DESIGN AND MANUFACTURE.

He would not tear up the vine bodily, because the larvae would thereby get in people's clothes and be carried to other places, and the pest be thus distributed. On the other hand, the vine had had to be killed and the ground cultivated to something else with little delay, and accordingly he advised to dig down below the sun-roots, say 8 or 10 inches, and cut the top off; then pour a spoonful of some mineral acid, say muriatic, upon the root, so as to kill it, and burn the tops which had been cut off.

The Spread of the Insect in California.

Mr. Dwinelle said he would like to know how far the pest had spread here. He had heard of it in Sonoma and Fresno, and he would like to know whether it was all over, and people had shut their eyes to it and denied it, as they had for a long time in Sonoma.

Dr. Bleasdale said that they marked one spot affected by it on the ridge dividing Napa and Sonoma, a little on the Napa side.

Mr. Hatch said that with Dr. Hyde he recently went through the Buena Vista vineyard. They noticed two red knolls, the vines on which were very healthy and full of grapes, while those on gray earth only seven ft. away were reduced to a mere tuft of leaves.

Dr. Bleasdale said that there was no use in attempting to fight the phylloxera with any heliof in the power of the soil. Neither richness of soil, nor fineness of cultivation, nor youth nor vigor with the general run of foreign vines can be depended upon for more than a short power to resist it. Manure and richness of soil can sustain a vine to bear more or less of a crop for two or three years, living, as perhaps it may do in that case, on the sun-roots. But I think that we found that nothing, that none of those conditions of which I have spoken, is to be relied upon for a single hour as having power to resist finally the phylloxera.

Mr. Dwinelle said that one danger of infection existed in carelessness in receiving back from dealers boxes from some other vineyard instead of the right ones. The boxes returned might come from an infected vineyard, and convey and introduce the pest to a healthy one.

all sorts of shapes. After that the insect will not be found at the root of the dying vine. They forsake it for healthy ones, affording better pasture, and in a belt 18 or 20 ft. outside of the visibly-affected vines, where they will be found as little yellow grains on the vine roots; and the best place to look for them after that is to dig right between the rows where the branches or roots lap or come nearest together.

Floral Farming.

The second subject announced for the meeting was flower growing for perfumes, and it was introduced by an essay from Mr. G. P. Rixford, which is printed on page 83 of this issue.

Prof. Hilgard said that our orange culturists might easily turn an honest penny by saving the orange blossoms as they were shaken off or on the point of falling every morning. A still would cost but little, and the revenue derived would be considerable. It could only be done in the heated valleys. It would hardly be practical to make rose water or rose essence here, because our flowers have not aroma enough; but once get away from the bay, and it was different. Take the rose geranium. Here you could not pass its distillation off for even adulterated rose water, but in Fresno and farther south the odor of the flower is so much improved that it can hardly be distinguished from the rose.

The Commissioner of Agriculture.

Mr. Hatch said that he had been requested to inform the society that Amos Adams, Secretary of the State Grange, had received a letter from Gen. Le Duc, Commissioner of Agriculture, stating that it was nearly time to order plants for distribution from Japan, and he would like to have suggestions of Japanese plants which would be worth trying in this State. Prof. Hilgard remarked that the College of Agriculture would name some desirable things, and suggested that all who know of such in Japan would do well to name them to the Commissioner. Mr. Hatch also announced that the Commissioner expected to visit this coast during the coming autumn.

The Mechanics' Institute Fair.

The approaching fair of the Mechanics' Institute, which will be opened in the pavilion on the 10th inst., promises to be unusually interesting and attractive. The exhibitions of the Institute have always been characterized by a large and generous spirit, as shown in the systematic efforts to promote and advance the skill, taste, industry and products of the State; but it would seem to be the determination of the managers in the coming fair to surpass all their previous achievements. For this purpose they have earnestly invited the co-operation not only of all those in California who feel an interest in the advancement of its varied industries and products, but as well of the people of the entire coast. We do not doubt that the request will receive an efficient and liberal response; for apart from the palpable advantages that will follow a generous exhibition of the multifarious industries of the coast, the munificent offer of premiums in gold, silver and bronze medals, in diplomas, and in very hard cash, will be an additional and strong incentive. The list of premiums is so large and so valuable that we think it well worth the while to call special attention to it. Here are the details of the ample list: Cash premiums, 62; medals—gold, 40; silver, 313; bronze, 215; diplomas, 92. These handsome prizes will bear the super-scription of the Institute—the highest industrial authority in the State—and are worthy of a keen and generous competition. As awards of merit for some desired quality or valued excellence, they will give substantial character to the possessor; and besides the profit which they will bring directly or indirectly, they will be a lasting source of satisfaction and pride.

DIVISION 1.

MANUFACTURED PRODUCTS: MACHINERY.

CLASS NO. 1.—Steam Engines, Boilers and Appliances.

GOLD MEDAL.—For best Automatic Cut-off Steam Engine, not less than 15 horse-power.

SILVER MEDALS.—Best Portable Engine, mounted on wheels, for farm and general use; Steam-burning Engine; Vertical Boiler and Engine, Combined; Upright Engine (small); Hoisting Engine and Boiler Combined; Steam Boiler made in Cal.

BRONZE MEDALS.—Best Traction or Road Engine; Steam Engine (working model); Steam Engine Governor; Boiler Injector; Caloric Engine; Gas Engine.

DIPLOMAS.—Best Low Water Indicator for Steam Boilers; Safety Valve for Steam Boilers; Tallow Lubricator for Steam Cylinders; Piston Packing; Best and Most Improved Grate Bar.

CLASS NO. 2.—Hydraulic Machinery and Steam Pumps.

GOLD MEDAL.—Best Steam Pump, direct and double acting.

SILVER MEDALS.—Best Water Elevator, by the Direct Action of Steam; Double Acting Lift and Force Pump for general purposes; Hydraulic Engine; Centrifugal Pump; Hydraulic Motor for Light Machinery; Hydraulic Hoist.

BRONZE MEDALS.—Best Water Motor; Hydraulic Press; Hydraulic Lifting Jack; Turbine Water Wheel.

DIPLOMA.—Best Hydraulic Ram.

CLASS NO. 3.—Machinists' Tools and Metal-working Machinery.

SILVER MEDALS.—Best General Display of Articles in this Class; Iron Planer, in motion; Power Blower; Hand Belows; Power Punch.

BRONZE MEDALS.—Best Power Shearer and Punching Machine; Engine Lathe; Shaping Machine; Tapers for Furnaces or Forges; Milling Machine; Bolt and Screw Cutter; Power Hammer; Drilling Machine; Emery Wheel Machine; Tire Upsetter.

DIPLOMAS.—Best Portable Forge; Drop Press; Display of Machinists' Small Tools; Vices; Ratchet Drill; Shaft Coupling.

CLASS 4.—Wood-Working Machinery.

GOLD MEDAL.—Best General Display of Saws.

SILVER MEDALS.—Best General Display of Wood-working Machinery; Surfacers and Matching Machine, to plane not less than 24 inches wide; Portable Saw-Mill; Single Machine; Lathe for Irregular Forms, in operation; Dove-tailing Machine; Box Nailing Machine; Circular Saw with inserted teeth; Lath Machine.

BRONZE MEDALS.—Best Band Saw for Lumber; Band Saw for Scroll Work; Reciprocating Saw for Scroll Work; Carving Machine; General Wood-working Machine; Molding Machine for Straight Moldings; Molding Machine for Ornamental Moldings; Circular saw and Table Complete; Wood Lathe; Foot Lathe for General Purposes; Slide Lathe for Taper or Other Forms; General Display of Cutters for Wood-working Machinery; Saw Gunner.

DIPLOMAS.—Best Mortising Machine; Sand-Papering Machine; Tonnaging Machine; Miter Sawing Machine; Foot Power Scroll Saw (in operation).

CLASS NO. 5.—Printing and Miscellaneous Machinery.

GOLD MEDAL.—Best display of Boot and Shoe Machinery.

SILVER MEDALS.—Best Display of Printing Machinery; Type Casting Machine; Paper Ruling Machine; Display of Stereotyped Plates and Work; Windmill; Ice Machine; Gas Machine; Brist Machine.

BRONZE MEDALS.—Best Power Printing Press; Foot Printing Press; Paper Folding Machine; Pulley Blocks; Hand Printing Press; Lifting Jack, other than Hydraulic; Carpet Beater.

DIPLOMAS.—Best Tobacco Cutter; Meat Chopper, (power).

CLASS NO. 6.—Mining Machinery and Appliances.

GOLD MEDAL.—Best General Display of Mining Machinery.

SILVER MEDALS.—Best Stone Breaker and Ore Crusher; Rock Drill (actual test); Air Compressor; Quartz Mill; Amalgamating Pan (running); Concentrator (in operation); Quick-silver Furnace; Furnace for Roasting Ores; Apparatus for Transporting Ores; Perforated Quartz Screens.

BRONZE MEDALS.—Best Ore Feeder; Dump Car or Bucket; Hydraulic Nozzle and Joint.

CLASS NO. 7.—Laundry Machinery.

SILVER MEDAL.—Best Washing Machine.

BRONZE MEDALS.—Best Mangle; Wringer; Centrifugal Clothes Dryer.

DIPLOMAS.—Best Wash Boiler; Crimping Machine.

CLASS NO. 8.—Fire Apparatus and Appliances.

GOLD MEDAL.—Best Steam Fire Engine (actual test).

SILVER MEDALS.—Best Carbonic Gas Engine; Hook and Ladder Truck; Hose Carriage or Truck; Fire Escape.

BRONZE MEDAL.—Best Carbonic Gas Extinguisher.

DIPLOMAS.—Best Hydrant; Hose Coupling.

CLASS NO. 9.—Marine.

SILVER MEDALS.—Best Diving Armor and Appliances; Life Boat; Outrigger Shell Boat (Wood); Outrigger Shell Boat (Paper).

BRONZE MEDALS.—Best Life Preserver; Life Saving Raft; Model of a Sailing Vessel; Model of a Schooner; Captain; Ship's Windlass; Propellers.

DIPLOMA.—Best Disengaging Apparatus for Life Boats.

CLASS NO. 10.—Sewing Machines, Knitting Machines, Braiding Machines, and Looms.

GOLD MEDALS.—Best Over-Seam Bag Machine; Sewing Machine for Manufacturing Purposes; Sewing Machine for Domestic Work.

SILVER MEDALS.—Best Loom for Weaving Carpet (in operation); Loom for Weaving Silk Cloth (in operation); Loom for Weaving Silk Ribbons (in operation); Loom for Weaving Woolens (in operation); Loom for Weaving Wire Cloth; Button-hole Machine.

BRONZE MEDALS.—Best Silk Winding Machine (in operation); Family Knitting Machine; Braiding Machine.

CLASS NO. 11.—Agricultural Machinery.

GOLD MEDAL.—Best General Display of Agricultural Machinery.

SILVER MEDALS.—Best Reaper and Mower, with Self Raker; Self Binding Grain Harvester; Thresher and Separator; Portable Hay Press; Fruit Dryer; Machine for Ditching or Excavating; Steam Plow.

BRONZE MEDALS.—Best Reaper; Mower; Lawn Mower; Broadcast Seeder; Riding Cultivator; Sulky Hay Rake; Harrow; Sulky Plow; Gang Plow; Side Hill Plow; Plow for General Purposes; Horse Power; Cider Mill; Portable Mill for Grinding Grain; Hay and Straw Cutter; Stump Extractor; Artesian Well Boring Tools; Jack Molder; Burr Mill Stones; Seed Drill.

DIPLOMAS.—Best Assortment of Mower and Reaper Knives; Mower Knife Sharpening; Walking Cultivator; Corn Plaster; Potato Digger; Fence for General Use; Bee Hive; Post Hole Digger.

DIVISION 2.

MANUFACTURED PRODUCTS: METALS.

CLASS NO. 12.—Iron, Steel and Lead.

GOLD MEDALS.—Best general display of Iron and Steel; Lead and its Manufactures; Wire and Wire Rope; Car and Carriage Springs.

SILVER MEDALS.—Best general display of Bolts and Nuts; Assortment of Wire Ornamental Goods; Assortment of Iron Castings; Ornamental Wrought Iron Work; Chains and Chain Work; Display of File Cutting, California make; Mattress Springs.

BRONZE MEDALS.—Best general display of Wrought Iron Pipe and Boiler Tubing; Horse Shoes, machine made; Horse Shoes, hand made; Assortment of Malleable Iron and Steel; Axes.

DIPLOMAS.—Best general display of Rivets; Cut Nails.

CLASS NO. 13.—Cooking, Heating and Ventilating.

(By request of exhibitors in this class no premiums offered for these articles): Best Hotel Range; French Portable Family Range; Parlor or Office Stove.

SILVER MEDALS.—Best Gas Cooking and Heating Apparatus; Coal Oil Cooking and Heating Apparatus; best display of Tin Ware; Copper Ware; Japanned Ware; Platinized Ware.

BRONZE MEDAL.—Best Steam Heating Apparatus.

DIPLOMA.—Best Flat-Iron Heater.

CLASS NO. 14.—General Hardware.

GOLD MEDAL.—Best display of general Hardware.

SILVER MEDALS.—Best assortment of Fire-Arms; best Fire Arm, California make.

BRONZE MEDALS.—Best display of Bronze Hardware; best assortment of Fishing Tackle; Harness Ornaments; best Stencil Plates; Metal Signs; Emblematic Signs.

DIPLOMA.—Best Rubber Printing Wheel.

CLASS NO. 15.—Fire and Burglar Proof Safes and Locks.

GOLD MEDAL.—Best Fire and Burglar-proof Safe.

SILVER MEDAL.—Best Burglar-proof Lock; best assortment of Locks, California make.

CLASS NO. 16.—Cutlery and Edge Tools.

GOLD MEDAL.—Best display of general Cutlery.

SILVER MEDALS.—Best Carving Set; assortment of Edge Tools, California make.

CLASS NO. 17.—Grates and Mantels—Marbles, Artificial Stone, Earthenware, Glassware, Etc.

GOLD MEDAL.—Best display of Glass Ware (Cal. make).

SILVER MEDALS.—Best display of Marble Mantels; Marbleized Iron Mantels; best Single Statuary or Carved Marble Mantel; best assortment of Terra Cotta Ware; best Sewer and Drain Pipe; Ornamental Chimney Tops; best display of Cut Glass, Porcelain and Fancy Ware; Monumental Work.

BRONZE MEDALS.—Best display of Marbleized Slate Mantels; best Fire Grates; best specimen Artificial stone; Polished Granite; best Buckingham and Yellow Wares.

DIPLOMAS.—Best specimen of Fire Brick, not less than 10; Pressed Brick, not less than 20.

CLASS NO. 18.—Brass Work—Gas and Lamp Fixtures—Plumbers' Goods, etc.

GOLD MEDAL.—Best assortment of Brass Work.

SILVER MEDALS.—Best assortment of Bells; best display of Gas Fixtures; Lanterns and Reflectors; best Galvanized Iron Work; Copper Work; best sample Galvanizing (done here); Electro-plating (done here); best Water Closet; Sewer Trap.

BRONZE MEDALS.—Best display of Plumbers' Goods; best assortment of Steam Fittings; best display of lamps; best Zinc Ornamental work; best Water Filter.

DIVISION 3.

MANUFACTURED PRODUCTS: WOOD OR WOOD AND IRON.

CLASS NO. 19.—Carpenters', Joiners', Carvers' and Stair Builders' Work—Ornamental Glass, Painting, etc.

GOLD MEDALS.—Best general display of Stained, Ground and Bent Glass for Architectural Work; best Plate-glass Mirror (set in California).

SILVER MEDALS.—Best specimen of Stair Building; best Newell Post, and not less than six Balusters; best specimen of Cut and Embossed Glass; best Wood Graining; Mirror or Picture Frames, design and workmanship; best Parquet; Wooden Mantel, style and finish.

BRONZE MEDALS.—Best Carving in Wood for Building Purposes; best assortment of Church Furniture; set of inside blinds; section of Interior Decorative Wood Work; best assortment of Picture Frame Moldings; best display of Articles made from California Woods; Fancy Brackets and Ornaments; Composition Ornaments; best display of Turned Articles from California Woods; Weather Strips for Doors and Windows.

DIPLOMAS.—Best specimen of Scroll Sawing; Ornamental moldings; best Parquet Flooring, not less than 9x9.

CLASS NO. 20.—Musical Instruments.

GOLD MEDAL.—Best general display of Musical Instruments.

SILVER MEDALS.—Best Brass and Silver Wind Instruments; Stringed or Reed Instruments made in California; best display of Music boxes.

CLASS NO. 21.—Vehicles and their Attachments—Children's Carriages, Hobby Horses, etc.

GOLD MEDAL.—Best general display of Carriages.

SILVER MEDALS.—Best Hack, Cal. make; Hotel Coach; best Double Buggy; Single Top Buggy; Open Buggy; best Stage Coach, all Cal. make; best Platform Spring Double Wagon; Platform Spring Single Wagon; best Buggy Wheel; best Street Railroad Car; best Double or Single Truck; Dump Cart; Butcher Cart; best display of Carriage Goods and Hardware; specimen of Carriage Blacksmithing; Bicycle.

BRONZE MEDALS.—Best Sulky, Cal. make; Farm Wagon; Wagon Wheel; best Child's Carriage; Hobby Horse; best Swing, in operation.

CLASS NO. 22.—Furniture, Upholstery, etc.

GOLD MEDAL.—Best general display of Furniture.

SILVER MEDALS.—Best set of Parlor Furniture; Dining Room Furniture; Bedroom Furniture; Library Furniture; Office Furniture; best Extension Lounge or Sofa Bed; assortment of Chairs; best School Furniture; Office Desk; best specimen of Decorative Wall Hanging; best display Window Shades and Pictures; Curtains, Corbices and Trimmings.

BRONZE MEDALS.—Best Easy Chair; Barber Chair; best Spring Mattress; Metal Spring Bed Bottom; Slat Spring Bed Bottom.

CLASS NO. 23.—Billiard Tables.

GOLD MEDAL.—Best display of Billiard Tables, style and finish.

SILVER MEDALS.—Best Billiard Table; Billiard Tables, parlor use.

BRONZE MEDALS.—Best Billiard Table Cushions; Balls, Cues and Racks.

CLASS NO. 24.—Wooden Ware, Brushes, Wire Goods, Willow Ware, etc.

GOLD MEDAL.—Best display of Woodenware.

SILVER MEDALS.—Best display of Willowware; Wire Goods; Brushes; Feather Dusters and Plumes; best display of Cooperage; California Manufactured Brooms.

BRONZE MEDALS.—Best assortment of Baskets; best assortment of Boxes, Butter Packages, etc.; display of House Furnishing Goods.

DIVISION 4.

MANUFACTURED PRODUCTS: ANIMAL AND VEGETABLE FABRICS.

CLASS NO. 25.—Boots, Shoes, Leather, Rubber Goods, etc.

GOLD MEDALS.—Best general display of Boots and Shoes (Cal. make); best general display of Harness and Saddlery.

SILVER MEDALS.—Best Ladies' and Misses' Hand-made shoes; Men's Hand-made Boots and Shoes; Machine-made Boots and Shoes; best Sole Leather; Fair Leather; Kid Leather; Morocco Leather; Calf Skins; Rawhide Goods; best Leather Hose, 100 feet, all Cal. make; best display of Rubber Goods; best assortment of Laces (Cal. make); best Set of Harness; Saddle and Bridle; best display of Trunks and Travelling Equipage.

BRONZE MEDALS.—Best Leather Belting; Cotton or Linen Hose, not less than 100 feet; best display of Whips; Horse Collar; best Trunk for Travelling.

CLASS NO. 26.—Hemp Cordage, Paper, Furs, Hair, etc.

GOLD MEDALS.—Best general display of Cordage, Cal. manufacture; best general display of Paper, Cal. manufacture.

SILVER MEDALS.—Best Bale of Hemp, raised in Cal.; Bale of Imitation Hair, raised in Cal.; male Kamic Fiber (dressed), not less than 20 lbs.; sample California Cotton, 20 lbs.; best display of Furs; display of Wools of this Coast; best Goat or Sheepskin Mats.

BRONZE MEDALS.—Best Bale of Excelsior; specimen Curled Hair; best general display of Paper Boxes; best display of Carriage Ropes; samples of Furs Cleaned or Colored.

DIPLOMA.—Best general display of Paper Bags.

CLASS NO. 27.—Woolen Dress Goods Carpets, Cotton, etc.

GOLD MEDAL.—General display of Woolen Goods (Home manufactured).

SILVER MEDALS.—Best specimen of Cal. manufactured Dress Silk (25 yards); Ribbons (10 varieties); best samples of Cal. manufactured Silk Thread and Twist; best display of Silk Thread and Twist; Knit Goods (all Cal. make); best All Wool Cassimeres; Blankets; best All Flannel; best display of Carpets; Rag Carpets, style and quality; Mats and Matting (Cal. make); Oil Cloth, Cal. manufacture; Weaving of any of the above fabrics; Articles manufactured in this building from any of the above goods; Tents Awnings and Camp Equipage.

CLASS NO. 28.—Gentlemen's Furnishing Goods, etc.

SILVER MEDAL.—Best display of Gentlemen's Shirts, style and workmanship, Cal. manufacture; best display of Gent's Furnishing Goods; Dress Suit for Gents; Umbrellas and Parasols, Cal. manufacture; display of Hats and Caps; Gloves, Goat or Buckskin (Cal. make) Gloves, Kid.

BRONZE MEDAL.—Best Business Suit for Gents; best display of Boys' Clothing; Military Goods; Regalia; Masquerade Costumes and Masks.

CLASS NO. 29.—Ladies' Furnishing Goods, Dresses, Cloaks, Millinery, etc.

SILVER MEDAL.—Best Ladies' Dress Suits (style and finish); best Ladies' Corsets (Cal. made); best display of Millinery and Straw Goods; of artificial Flowers; East India Goods, Shawls, etc.; Buttons and Fringes (Cal. make); Specimen of Work done at the Pavilion on any sewing Machine during the Exhibition.

BRONZE MEDAL.—Best Ladies' Walking Suite (style and finish); Cloak, style and workmanship; display of Ladies' Underwear; display of Laces and Embroideries; Bonnet, style and workmanship; Ostich Feathers, Plumes, etc.

DIPLOMA.—Skirt or Stocking Supporter.

DIVISION 5.

CHEMICAL AND NATURAL PRODUCTS.

CLASS NO. 30.—Tobacco.

SILVER MEDAL.—Best display of Tobacco, Leaf or manufactured; California manufactured Cigars, not less than 1,000.

BRONZE MEDAL.—California manufactured Cigarritos 6 varieties; Fine Cut Tobacco (Chewing); Fine Cut Tobacco (Smoking), all Cal. make.

CLASS NO. 31.—Chemical and Pharmaceutical Products.

GOLD MEDAL.—Best display and general assortment of Soaps; assortment of Varnishes and Artists' Materials, of California manufacture; display of Paints, California manufacture.

SILVER MEDAL.—Best general display of chemical and Pharmaceutical Preparations; best assortment of Toilet Soaps; assortment of Perfumery; display of Candles (California make); Acids (California manufacture); best Flavoring Extracts and Essences; Glue (California make); Starch; Yeast or Baking Powder; Shoe Blacking (California manufacture); best display of Writing Fluid and Mucilage (Cal. make); display of Matches, quality and variety (Cal. make); prepared Paints for general use; Printing Inks.

BRONZE MEDAL.—Best assortment of Staple Soaps; best display of Disinfectants and Antiseptics; best Flavoring Syrup; Lubricant; Yeast Preparations; best Soda Water Generating Apparatus.

DIPLOMA.—Best Natural Medicinal Water; best Soda Water Draught Apparatus; Soda Water Bottling Apparatus.

CLASS NO. 32.—Geology, Mineralogy, Zoology, Botany, etc.

GOLD MEDAL.—Best Mineralogical display; for the Largest and most Comprehensive Collection of the Natural Products of the Pacific Coast.

SILVER MEDAL.—Best display of Coals of this Pacific Coast; Salt, Rock and Ground; best collection of Ores and Crystals (Scientific); collection of Stuffed and Preserved Animals; Stuffed and Preserved Birds; Native Woods; Relics and Curiosities, gathered in any part of the World, of not less than 200 specimens; best display of Petroleum, Crude and refined, of California.

BRONZE MEDAL.—Best collection of Shells; Dried Fossils, showing their natural forms.

DIPLOMA.—Best collections of Insects and Cocoon; Fossils of this Coast.

DIVISION 6.

FOOD PRODUCTS.

CLASS NO. 33.—Groceries, Meats, Flower, etc.

SILVER MEDAL.—Best display of California Cured Hams, Bacon and Lard; California Refined Sugars; California Butter and Cheese; best assortment of Crackers and Cakes; assortment and quality of Canned Fruits, Meats and Vegetables; Jellies, Jams and Preserves; best general display of Confectionery; display of Chocolate, Cocoa and Bromo; Coffee and Spices; Macaroni and Vermicelli; best Vinegar—Wine or Cider; Vinegar Pickles; Salmon, in cans; Codfish, cured in California.

BRONZE MEDAL.—Best general display of Groceries; Syrups; Wheat Flour; best Corn Meal; Buckwheat Flour; best assortment of Pickles and Sauces; best Fine and Fancy Candles; display of Canned Fruits, home made; collection of Jellies, home made.

DIPLOMA.—Best Plain Candles.

CLASS NO. 34.—Wines.

Best general display of California Wines: Sparkling Wine; Still Wine; Dry Wine; White Wine; Sweet Wine; Port Wine; Claret Wine; Cider Wine.

CLASS NO. 35.—Liquors and Fermented Products.

SILVER MEDAL.—Best Brandy (Cal. Grape) Bitters.

BRONZE MEDAL.—Best Whisky.

CONTINUED ON PAGE 92.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAKS & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

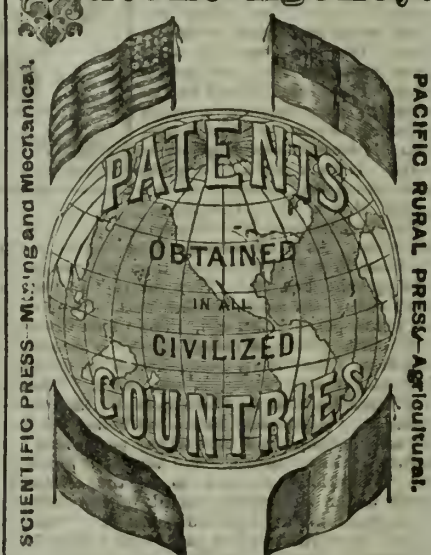
T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

DEWEY & CO'S Scientific Press Patent Agency.



PATENTS obtained promptly; Cases filed expeditiously. Patent re-issues taken out; Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examination of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences Prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Soliciting Business promptly and thoroughly conducted.

Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons, and our success and business are constantly increasing.

The ablest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.

Office—202 Sansome St., N. E. Cor. Pine, S. F.

A. T. DEWRY. W. B. EWER. G. H. STRONG.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:G. W. COLBY, President
JOHN LEWELLING, Vice-President
ALBERT MONTELLIER, Cashier and Manager
FRANK McMULLEN, Secretary**DIRECTORS:**G. W. COLBY, President
JOHN LEWELLING, Vice-President
J. V. WEBSTER, Alameda Co.
URAH WOOD, San Benito Co.
J. C. MERYFIELD, Solano Co.
THOMAS MCCONNELL, Sacramento Co.
I. C. STEELE, San Mateo Co.
SOLOMON JEWETT, Kern Co.
C. J. CRESSEY, Stanislaus Co.
SENECA EWER, Napa Co.
A. D. LOGAN, Colusa Co.

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

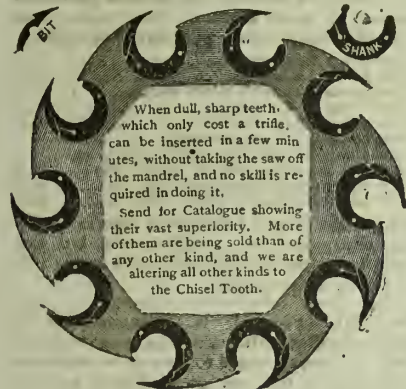
CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.
CERTIFICATES OF DEPOSIT issued for Gold and Silver.
TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,
Cashier and Manager

San Francisco, Oct. 15th, 1879.

Stearns' Mfg Co.'s Unequaled Pacific
SAW MILL MACHINERY.Automatic Slide Valve, Universal Automatic Corliss and
Cheap Hoisting ENGINES and BOILERS.**TATUM & BOWEN,**

329 Market Street, 3 Fremont Street

M. COOKE. R. J. COOKE

PIONEER BOX FACTORY,Corner of Front and M Streets, Sacramento.
ALL KINDS OFFruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

OXYGEN.What is it? Everybody knows it is as essential to life as food itself. Yet when people are ill for the very want of revitalization through respiration, they dose themselves with drugs and bitters to the effect of demoralization! All Invalids should read Drs. STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*, which is sent free to all who may ask for it. The subject is worthy of investigation. References to physicians in San Francisco, who use and prescribe Compound Oxygen in practice. As prepared for home use (conveniently sent to any address) it may be obtained of H. E. MATHEWS, 606 Montgomery street, S. F., upon the same terms as furnished by Drs. Starkey & Palen, Philadelphia, Penn. Complete instructions with each package.**MONEY TO LOAN!****\$500,000**

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1860. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

AND NOT WEAR OUT.
SOLD by Watchmakers. By mail, 30 cts. Circulars FREE. J. S. BIRCH & CO., 38 Dey St., N.Y.

50 Perfumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Dewey & Co. { 202 San- } Patent Ag'ts
some St.**Educational.****ST. MATTHEW'S HALL,**

SAN MATEO, CAL.

**A Classical and Military
SCHOOL FOR BOYS.**

The next term commences

Thursday, July, 22d, 1880.

For information address the Principal,

REV. ALFRED LEE BREWER, M. A.

W. E. CHAMBERLAIN, JR.

THOS. A. ROBINSON

**Life Scholarships, \$70.**

SEND FOR CIRCULAR.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,

Washington Corners, Alameda Co.

KINDERGARTEN SCHOOL.

717 Turk St., S. F.

Children Boarded at Reasonable Terms.

MRS. H. SEMLER,

Principal.

SEND FOR THE**\$1.50****Homœopathic Medicine Case.**Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address
BOERIOKE & TAFEL,
Homœopathic Pharmacy, San Francisco.**Mission Rock Dock and Grain Warehouse.**

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.**Hooper's South End Grain Warehouses,**
Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

SANTA CLARA, CAL., APRIL 13, 1880.
MESSRS DEWEY & CO. Gentlemen:—I received the Letters Patent for my improvement in Paper Bag Machines, together with the extra copies that I ordered on the 20th ult. Also a copy each of your most valuable weeklies, containing a full description of my invention and notice of patent. You will please accept my thanks for the gentlemanly and business-like manner in which you have dealt with me from the beginning of my application, and feel assured that I shall take pleasure in recommending your firm to all who may wish to procure Letters Patent. Very respectfully yours,
ED. O. BENNET.
P. O. Box 246.

Rent paid two and a quarter years buys one.

MASON

AND

HAMLIN**ORGANS**

BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$60, \$64, \$103, to \$500 and upward. Also for easy payments, \$5 a month or \$6.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 48 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

SUNNY SIDE APIARY.Pure Italian Queens and Bees, tested and untested. Young Queens ready April 1st. Also, Wintered-over Queens. Purity and safety guaranteed. Comb foundation, smokers, knives, bee-books, etc. Sample Premium Hive. Address with stamp,
JOS. D. ENAS,
Sunny Side, Napa Co., Cal.**Brown Leghorn Eggs.**BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting.
C. E. NAYLOR,
304 Bartlett St., cor. 24th, bet. Valencia and Mission, S. F.

YOUR NAME PRINTED on Forty Mixed Cards for Tea Cents. STEVENS BROS., Northford, Conn.

Stock Notices.**E. W. WOOLSEY & SON,**

Importers and Breeders of THOROUGHBRED

**SPANISH MERINO SHEEP.**

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY**CALVES FOR SALE.**

From First-Class

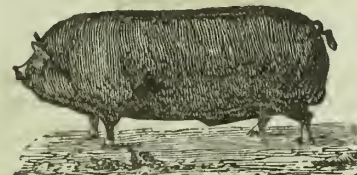
AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

BERKSHIRES A SPECIALTY.

My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in

**Sheep**

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

RAMS FOR SALE.

300 THOROUGHBRED

And Graded

SPANISH MERINO

Rams For Sale.



Bred from the first importation of Spanish Merino Sheep to California, in 1854.

Prices to suit the times. Residence, one mile north of McConnell's Station, Western Pacific Division C. P. R. R.

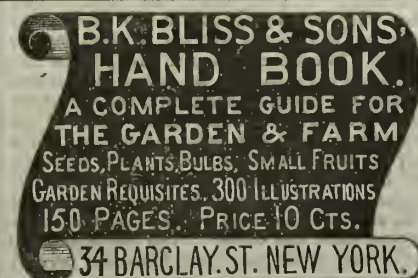
P. O. address, MRS. E. MCCONNELL-WILSON,
Elk Grove, Sacramento Co., Cal.**300 Choice Rams**

FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,

Stockton, Cal.

**BROWN LEGHORN EGGS FOR SALE.**

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

Lands for Sale and to Let.**FRUIT FARM**

FOR SALE

Near San Jose, Cal.

That fine place known as the

"CHENEY FARM,"

Adjoining Lick's Mill, is offered for sale.

Was purchased a Short time ago for \$25,000. Is offered for \$20,000 and will pay a Good Interest on the investment.

There are 118 acres of choice land—40 acres in Strawberries, 7 acres in Blackberries, 700 young Pear Trees, and an Old Orchard. Has several flowing wells, a large house of 10 rooms, marble mantels, etc. The house is completely finished, Brussels carpets on most of the floors; parlor, sitting-room and bed-room furniture all nearly new.

With Stock consisting of Horses, Cattle, Hogs, Farming Implements, etc., sufficient for the place, all for the price above named.

Satisfactory reasons given for selling.

TERMS EASY.

Apply to

J. A. Clayton,

REAL ESTATE AGENT.

San Jose, Cal.

Sheep Range For Sale.

About 3,169 acres of deeded land, four cabins and corals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T 25 and 26 N. R 6 W. M D M; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 26th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch.
J. K. HOUSTON.**VICTORY****THE CALIFORNIA
Spring Tooth Harrow
AND CULTIVATOR**

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING to PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO.,
900 & 902 K St., Sacramento.**\$1,000 REWARD**

FOR ANY WASHING MACHINE that will wash cleaner, quicker, with less labor and wear and tear of clothes, than the ROBBINS FAMILY WASHER AND BLEACHER, patented October 3, 1871. No rubbing required. It is the best in the world, and cannot get out of order. GOOD AGENTS WANTED, BOTH MALE AND FEMALE. Send for descriptive circulars and testimonials. Price, \$4.00, delivered at SAN FRANCISCO, SACRAMENTO, MARYSVILLE or SAN JOSE.

BISSELL MANUFACTURING CO.,
50 Barclay St., New York.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Aug. 4, 1880.
The amount of new Wheat arriving is constantly on the increase, but there is very little sold to shippers, the millers are more active and growers who are shipping on their own account are taking most of the charters. Of the ships thus far taken Dr. Glenn has two, Mr. Timothy Page one and the Farmers' Union of Stockton one. The rates paid range from \$2.17 1/2 to \$3.18, according to destination and character of vessel. Iron ships bring the high figures.

The Liverpool Market.

The latest dispatch by cable to the S. F. Produce Exchange is as follows:

LIVERPOOL, Aug. 4.—Liverpool spot quiet at about 9s 10d@10s 4d for fair to choice California; floating cargoes rather easier; on passage and for shipment, 46s; just shipped, 43s 6d; nearly due, 45s 6d.

The Foreign Review.

LONDON, Aug. 2.—The Mark Lane Express, reviewing the British Grain trade for the past week, says: The weather has been very unsettled, and large tracts of grain all over the Kingdom have been laid and twisted by the rain, and mildew, which has appeared among the wheat, is increasing. Dry, warm weather is much needed to harden grain. The harvest has already begun in Kent, Barley being, as a rule, the earliest crop. Unless the weather becomes settled and fine, farmers' sanguine expectations relative to Barley will hardly be realized, and good English malting descriptions will again be scarce. Oats have suffered less than other cereals. The markets have been generally firmer, and most sorts of wheat have been stiffly held for an advance, and a strong feeling in trade is increasing. Although July arrivals from abroad were over 1,000,000 quarters of wheat and flour, yet English deliveries have been so scanty that the small reserve which existed at the beginning of July must be diminished nearly 400,000 quarters. August arrivals from abroad are likely to be good, but if deliveries of English wheat are practically nil, it will be difficult to meet the wants. Markets are likely to be sensitive for September. The market for forward delivery is of a different character. American Red Winter is offered at about 7s below the price of old gray. England is taking an increased share of American grain shipments. Purchases for the Continent have fallen 100,000 quarters. There are a fair number of cargoes off the coast, but buyers are reserved. Imports into the United Kingdom, during the week ending July 24th, were 1,051,039 cwt of wheat, and 239,079 cwt of flour.

Eastern Grain and Provision Markets.

NEW YORK, July 31.—Holders of most all descriptions of Merchandise are confident, however, and are firm in their views. Breadstuffs are more settled and less active on a light export demand for spot stock, while the movement in options has been very large. Receipts are liberal, and the harvest returns favorable for both the winter and spring crops, and shippers are taking it at current rates, which are regarded as safe for the present, although lower ones are looked for when the new spring and winter crop begin to compete with each other in the early autumn. The requirements from Europe will no doubt keep the markets of this country clear of any material surplus for the month of August, and until their own crops are available. Provisions have not changed materially.

Eastern Wool Markets.

NEW YORK, July 31.—Wool is very quiet; business is confined to parcels for early consumptive wants. Prices are steady, however, and holders confident. Sales include 20 bales and 30,000 lbs. of Spring California at 25@34c.

Boston, July 31.—In Wool there is no material change. The demand is fair and prices are steady and firm, but trade is slow, manufacturers being quite indifferent about future wants, and holders equally indifferent about selling, as most of the Wool in market could not be replaced at the current rate. The demand has again run largely on combing and delaine, Michigan fleeces, Spring California and good lines of super pulled. Fine fleeces move slowly, with very little inquiry. Transactions in combing and delaine fleeces embrace all the desirable lots offering, and in California wool, the total sales this week amount to 719,000 lbs of Spring, and 52,000 lbs of Fall—the largest for several months. Sales include Ohio and Pennsylvania fleeces, XXX and No. 1, at 45@48c; Michigan XX and No. 1, 40@47c; Wisconsin X, 41c; combing and delaine, 44@53c; Kentucky and Indiana combing, 25c; unwashed combing, 35@36c; Lake, 35c; Territory, 29@32c; Texas, 30@36c; unwashed and unmerchantable fleeces, 27@40c; Spring California, 27@38c; Fall California, 18@19c; super and X pulled, 44@54c; scoured, 40@48c; tub washed, 42c; Australian, 43@48c. The total sales for the week were 2,479,886 lbs, of which 1,829,356 were domestic.

PHILADELPHIA, Aug. 3.—Wool is quiet and prices are irregular. The supply is light. Oregon and California wools are not quoted, there being none in the market. New Mexican and Colorado fine, 19@25c; medium, 25@28c; coarse carpet wool, 20@22c.

New York Dried Fruit Markets.

NEW YORK, July 31.—Foreign fruits are quiet; raisins unchanged; prunes irregular at old, 3@4; new, 5@6. Dried apples are quiet and new stock in light supply, with no fixed value.

BAGS.—Prices are still the same as last week, but the combination give notice that they will make another advance this week. It is reported that sales are made out-side of the combination at 10@10 1/2c.

BARLEY.—Both Feed and Brewing Barley is selling quite freely, and some advance has been gained since our last report. We note sales: 300 sks choice Feed, 85c; 500, 350 and 200 sks good old, 82c; 300 sks do, 80c; and 1,000 and 300 sks dark old Coast do at 77c.

BEANS.—There is no change, except in Limas, which are a shade lower. We note a sale of 135 sks Pea Beans at \$1.10.

CORN.—Large White and Yellow Corn is lower, and selling at the rates given in our table.

DAIRY PRODUCE.—Butter has advanced again. The demand is active, and the shorter supplies naturally meet better prices. There have been sales of choice fancy brands as high as 27c, and perhaps a little higher. Fresh firkin and pickle roll are also higher. Pickle roll is now being called out of its hiding places by the advance in fresh. Cheese is firm at an advance of 1@2c 1/2 lb over last week. The best California has sold at 15c 3/4 lb.

EGGS.—The market stands about the same as a week ago. The feeling is strong, and the tendency at this time apparently upward.

FEED.—Hay has advanced another point, and the choicest Wheat Hay is now quotable at \$14 1/2 ton. Ground Feeds are not changed this week. Sales of a cargo of Wheat Hay at \$12.25; 50 tons Oat, \$9.50; and a cargo coarse Barley at \$8.

FRESH MEAT.—There is no change.

FRUIT.—It is more and more apparent that the general character of Fruit prices will be high this year. There is a very brisk demand, and the short crop of some sorts will be compensated for by the higher value. Yellow Peaches are now coming in although some are too green. Full mention of different Fruits and present prices may be found in our list.

HOPS.—There will not be anything new until the new crop comes in. It is said that picking will begin in some yards soon after Aug. 15th, but the last week of August will see more general activity in Hop harvesting. Hops are dull this week in New York.

OATS.—Oats have sold within last week's range. We note sale of 250 sks medium Oregon feed at \$1.40 per cwt.

ONIONS.—White Onions have advanced, \$1.25 per cwt being paid for some. Red Onions are unchanged.

POTATOES.—The supply is large and the demand somewhat demoralized. Some of the best Early Rose are being wholesaled at 35c per cwt, and poorer correspondingly lower.

POULTRY AND GAME.—There is a little better range of prices throughout. Hens, Broilers and Ducks have all advanced about 50c per doz. Geese are a little lower. Turkeys, choice young gobblers, are sometimes sold at 18@20c.

PROVISIONS.—California Hams have advanced 1/2c per lb. Eastern Hams are still up and are becoming scarcer because of the excitement at Eastern packing points.

VEGETABLES.—Supplies are ample, but there is a good demand and but small reductions in value have occurred. Our list gives to-day's prices.

WHEAT.—Prices are unchanged from last week. Our prices in the table all apply to new Wheat, except the \$1.62 for Milling, which is for old Wheat. We note sales: 1,000 tons Shipping, at private rates; 40 tons Sonora, \$1.47 1/2; 1,500 sks fair Shipping, \$1.45; 300 sks Superfine, \$1.45; 300, 225 and 180 sks do, \$1.25; and 35 tons smutty at \$1.20.

WOOL.—The Wool market is quiet, and prices are the same as last week. What trade is accomplished is in Northern California and Oregon Wools. We note sale of 100,000 lbs of these classes at quotations.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Aug. 4, 1880.	
Apples, basket, 40 @ 75	Plums, do, peeled, 9 @ 11
do, box, 75 @ 175	Pitted, 15 @ 5
Apricots, do, 60 @ 70	Prunes, do, 12 @ 13
Bananas, bunch, 25 @ 40	Raisins, do, 1 @ 150
Blackberries, chest, 25 @ 30	do, Halves, 175 @ 200
Cherries, 10 @ 16	do, Quarters, 200 @ 225
Cherry Plums, bx, 30 @ 40	do, Eighths, 225 @ 250
Citrons, Cal, 100 @	do, London's Layer's bx, 2 @ 200
Cocoanuts, 100 @ 70	do, Halves, 225 @ 250
Cash Apples, bx, 50 @ 75	do, Quarters, 250 @ 275
Currants, chest, 50 @ 60	do, Eighths, 275 @ 300
Figs, black, bx, 50 @ 75	Zante Currants, 8 @ 10
Gooseberries, 5 @ 8	

VEGETABLES.

Asparagus, bx, 100 @ 125	Beets, Cal, 100 @ 100
Beans, String, 15 @ 25	do, Stockton, 1 @ 1
do, Lima green, 7 @ 7	do, Lima green, 7 @ 7
do, Fountain, 3 @ 3	do, Wax, 2 @ 2
Cabbage, 100 lbs, 75 @ 75	Cantaloupes, ert 3 @ 3 50
Carrots, 50 @ 50	Carrots, sk, 50 @ 75
Cauliflower, doz, 40 @ 50	Chile Peppers, 8 @ 10
Cucumbers, box, 30 @ 40	Egg Plants, bx, 75 @ 100
Garlic, New, 2 @ 3	Green Corn, doz, 8 @ 20
Green Peas, lb, 3 @ 3 1/2	do, Alameda, 10 @ 11
Lettuce, doz, 10 @ 10	Mushrooms, lb, 1 @ 1
Parsnips, lb, 1 @ 1	Horseradish, 6 @ 8
Rhubarb, bx, 25 @ 30	Squash, Marrow, 10 @ 17 50
fat, bn, 15 @ 15	do, 10 @ 17 50
Summer box, 10 @ 10	Tomato, box, 75 @ 85
Vacaville, 40 @ 50	Sacramento, 100 @ 100
Turnips, cwt, 50 @ 60	White, 50 @ 60
Watermelons dz, 2 1/2 @ 2 50	

DRIED FRUIT.

Apples, sliced, lb, 10 @ 11	Blackberries, 15 @ 18
do, quartered, 8 @ 9	do, 24 @ 24
Apricots, 23 @ 23	do, 24 @ 24
Blackberries, 15 @ 18	do, 24 @ 24
Dates, 9 @ 10	do, 8 @ 8
Figs, pressed, 7 @ 8	do, loose, 4 @ 6
do, loose, 4 @ 6	do, 12 @ 13
Peaches, 12 @ 13	do, pared, 18 @ 20
do, pared, 18 @ 20	Pears, sliced, 9 @ 10

LEATHER.

(WHOLESALE.)

WEDNESDAY, M., Aug. 4, 1880.	
Sole Leather, heavy, lb, 30 @ 32	Light, 25 @ 28
Jodot, 8 to 10 Kil, doz, 36 @ 46 00	11 to 13 Kil, 50 @ 55 00
14 to 16 Kil, 65 @ 72 00	Second Choice, 11 to 16 Kil, 40 @ 65 00
Simon Ulmo, Females, 12 to 13 Kil, 52 @ 56 00	14 to 15 Kil, 61 @ 65 00
16 to 17 Kil, 67 @ 70 00	Simon, 18 Kil, 61 @ 64 00
20 Kil, 70 @ 73 00	24 Kil, 70 @ 73 00
Kips, French, lb, 100 @ 137 1/2	Cal, doz, 48 @ 54 00
French Sheep, all colors, 12 @ 15 00	Eastern Calf for Backs, lb, 100 @ 1 25
Sheep Roans for Topping, all colors, doz, 9 @ 10 00	For Linings, 6 50 @ 10 00
Cal. Russet Sheep Linings, 3 @ 5 50	Good French Calf, pair, 4 @ 4 00
Best Jodot Cal, 475 @ 525	Leather, Harness, lb, 35 @ 40
Fair Bridle, doz, 45 @ 66 00	Skirting, lb, 33 @ 37
Wells, doz, 30 @ 36 00	Buff, ft, 17 @ 20
Wax Side, 19 @ 20	

BAGS AND BAGGING.

(JOBBER PRICES.)

WEDNESDAY M., Aug. 4, 1880.	
Eng Standard Wheat, 102 @ 11	45 inch, 9 @ 10
California Manufacture, 40 inch, 9 @ 10	Hand Sewed, 22x38, 10 @ 10 1/2
22x40, 12 @ 12 1/2	Wool Sacks, 4 lb do, 52 1/2 @ 55
23x40, 13 @ 14	Machine Sewed, 4 lb do, 52 1/2 @ 55
24x40, 14 @ 15	Standard Gunnies, 7 @ 7 1/2
Flour Sacks, halves, 5 @ 6	Peas Bags, 5 @ 6
Quarters, 3 @ 4	Twine, Detrick's A., 4 @ 5
Eighths, 3 @ 4	do, A. A., 4 @ 5
Hessian, 60 inch, 24 @ 24	do, Longdale, Ex., 4 @ 5
Stand, 36 @ 36	

Gold, Legal Tenders, Exchange, Etc.

(Corrected Weekly by SUTRO & Co.)

SILVER, 1	SILVER BARS, 10 @ 18 1/2 cent. 15
GOLD BARS, 890 @ 910	EXCHANGE ON NEW YORK, 12 1/2 on London bankers, 48 @ 49 1/2
Commercial, 50; Paris, five francs 50 dollar; Mexican dollars, 91 @ 91 1/2	LONDON CONSOLS, 98 1/2; Bonds (4%), 112 1/2
QUICKSILVER in S. F., by the case, 42 1/2 @ 45c.	

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., Aug. 4, 1880.	
BEANS & PEAS.	
Mayo, cwt, 95 @ 105	Pecans, 16 @ 17
Butter, 10 @ 15	Peanuts, 8 @ 9
Castor, 3 25 @ 35	Filberts, 17 @ 18
Pea, 1 25 @ 35	ONIONS.
Red, 95 @ 105	Red, 75 @ 85
Pink, 35 @ 45	Silver Skin, 100 @ 125
Sm'l White, 1 05 @ 15	POTATOES.
Lima, 5 00 @ 60	Potatoes, cwt, 1 @ 1
Field Peas, b'k eyel, 25 @ 50	Humboldt, 1 @ 1
do, green, 10 @ 25	" Kidney, 1 @ 1
BROOM CORN.	" Peachblow, 1 @ 1
Southern, 1 1/2 @ 2	Cuffey Cove, 1 @ 1
Northern, 24 @ 34	Early Rose, new, 35 @ 45
CHICORY.	Half M'n Bay, new, 20 @ 20
California, 4 @ 4 1/2	Alvarado, red, 1 @ 1
German, 6 1/2 @ 7	Sweet B., 1 @ 1
DAIRY PRODUCE, ETC.	POULTRY & GAME.
BUTTER.	Hens, doz, 6 00 @ 7 00
Cal Fresh Roll, lb, 22 1/2 @ 25	Broilers, 5 00 @ 7 00
do Fancy Brands, 26 @ 27 1/2	Broilers same, doz, 2 50 @ 4 50
Pickle Roll, 24 @ 26	Mallard, 1 @ 1
Firkin, new, 24 @ 26	Teal, 1 @ 1
Western, 1 @ 1	Widgeon, 1 @ 1
New York, 1 @ 1	Geese, pair, 1 25 @ 1 75
CHEESE.	Wild Gray, doz, 1 @ 1
Cheddar, Cal, lb, 14 @ 15	White do, 1 @ 1
N. Y. State, 1 @ 1	Turkeys, hens, 16 @ 17
Cal fresh, doz, 22 1/2 @ 25	do Gobblers, 18 @ 20
Ducks, 18 @ 20	do, Dressed, 17 @ 18
Oregon, 16 @ 17	Snipe, Eng, 1 @ 1
Eastern, by expr's, 19 @ 22	do, Common, 1 @ 1
Pickled here, 21 @ 22 1/2	Quail, doz, 1 @ 1
Utah, 21 @ 22 1/2	Sprigs, 1 @ 1
FEED.	Hare, 1 @ 1
Bar, ton, 13 00 @ 14 00	Venison, 7 @ 10
Corn Meal, 8 00 @ 10 00	PROVISIONS.
Hay, 8 00 @ 10 00	Cal Bacon, extra, 11 @ 11 1/2
Middlings, 17 @ 17 00	do, Medium, 11 @ 11 1/2
Oil Cake Meal, 30 00 @ 40	do, Light, 10 @ 11 1/2
Straw, bale, 40 @ 47 1/2	FLOR.
Extra, City Mills, 5 25 @ 55	Cal Smoked Beef, 11 1/2 @ 12 1/2
do, Country Mills, 5 00 @ 55	Shoulders, 8 1/2 @ 9
do, Oregon, 4 50 @ 54 75	Hams, Cal, 11 1/2 @ 12
do, Walla Walla, 5 00 @ 54 75	Dupees, 1 @ 1 1/2
Superfine, 3 50 @ 4 00	None Such, 1 @ 1 1/2
FRESH MEAT.	Whittaker, 15 @ 16
Beef, 1st qual, lb, 6 @ 6 1/2	Royal, 15 @ 16
Second, 5 @ 5 1/2	Packard, 15 @ 16
Third, 4 @ 4 1/2	H. Ames & Co., 1 @ 1
Mutton, 3 @ 3 1/2	Armour, 1 @ 1
Spring Lamb, 4 @ 5	SEEDS.
Pork, undressed, 5 1/2 @ 5 1/2	Alfalfa, 10 @ 12
Dressed, 7 1/2 @ 7 1/2	do, Chile, 4 @ 6
Veal, 6 @ 7	Canary, 14 @ 15
Milk Calves, 6 1/2 @ 7 1/2	do, Red, 14 @ 15
do, choice, 7 @ 7 1/2	White, 50 @ 55
GRAIN, ETC.	Cotton, 20 @ 20
Barley, feed, cwt, 75 @ 82 1/2	Flaxseed, 2 1/2 @ 3
do, Brewing, 85 @ 95	Hemp, 1 @ 10
Chevalier, 35 @ 45	Italian Rye Grass, 30 @ 30
do, Coast, 100 @ 25	Perennial, 30 @ 30
Buckwheat, 27 1/2 @ 32 1/2	Millet, German, 10 @ 12
Corn, White, 10 @ 12	do, Common, 7 @ 10
Yellow, 10 @ 12	Mustard, White, 3 @ 5
Small Round, 15 @ 17 1/2	Brown, 1 1/2 @ 2
Oats, 30 @ 30 1/2	Rape, 3 @ 8
Milling, 55 @ 60	Ky Blue Grass, 20 @ 25
Rye, 100 @ 125	2d quality, 16 @ 18
Wheat, No. 1, 52 1/2 @ 55	Sweet Grass, 75 @ 75
do, No. 2, 42 1/2 @ 45	Orchard, 20 @ 25
do, No. 3, 35 @ 38	Red Top, 1 @ 15
Choice Milling, 57 1/2 @ 62 1/2	Hungarian, 8 @ 10
HIDES.	Lawn, 30 @ 50
Hides, dry, 10 @ 18 1/2	Measquit, 10 @ 12
Wet salted, 10 @ 10 1/2	Timothy, 1 @ 10
HONEY, ETC.	TALLOW.
Beeswax, lb, 22 1/2 @ 25	Crude, lb, 5 1/2 @ 5 1/2
Honey in comb, 11 @ 13 1/2	Refined, 7 1/2 @ 7 1/2
do, No. 1, 1 @ 1	WOOL, ETC.
Dark, 6 @ 7 1/2	SPRING.
Extracted, 6 @ 7 1/2	Southern and San Joaquin.
HOPS.	Long, free, 23 @ 24
Oregon, 25 @ 30	Short, free, 21 @ 23
California, new, 35 @ 42 1/2	Seedy, 18 @ 20
Wash. Ter., 25 @ 30	Slightly hurry, 21 @ 23
Old Hops, 6 @ 10	Burry, 19 @ 20
NUTS, Jobbing.	Northern.
Walnuts, Cal, 12 @ 15	Choice, free, 28 @ 33
do, Chile, 8 @ 10	Burry, 25 @ 27
Almonds, h'd sh, 8 @ 10	Oregon, Eastern, 25 @ 28
Soft sh, 16 @ 18	do, fine, heavy, 21 @ 24
Brazil, 14 @ 15	do, Valley, 32 @ 34 1/2

Meteorological Summary for the Month of July, 1880.

Station, San Francisco, Cal.

Date	Mean Daily Barom.	Daily Mean Temp.	Daily Prevailing Wind.	Daily Direction of Rain.
1.	29.887	55.25	83.3	SW
2.	29.859	56.25	81.7	W
3.	29.835	56.25	81.7	W
4.	29.963	55.26	83.3	W
5.	30.006	55.00	84.3	SW
6.	29.958	56.75	82.0	W
7.	30.006	57.25	80.0	SW
8.	30.032	56.50	80.3	W
9.	29.929	56.50	84.0	W
10.	29.853	58.50	70.0	W
11.	29.975	59.50	68.3	W
12.	30.039	63.25	63.7	SW
13.	30.028	61.25	69.3	W
14.	30.055	59.00	79.3	W
15.	29.975	56.25	90.3	W
16.	29.974	57.25	84.0	W
17.	29.923	57.25	86.3	W
18.	29.937	57.75	83.7	SW
19.	29.993	56.75	86.7	SW
20.	30.043	56.00	87.7	SW
21.	30.066	56.50	87.7	SW
22.	30.029	56.50	88.0	W
23.	29.915	58.25	86.3	SW
24.	29.872	58.00	86.3	W
25.	29.943	58.75	85.0	W
26.	29.991	58.50	85.3	W
27.	29.971	59.25	79.7	W
28.	30.010	59.25	81.7	W
29.	30.011	59.50	82.7	W
30.	29.976	58.00	80.7	W
31.	29.988	58.25	79.0	W
Sums.	929.022	1,789.00	2,532.3	
Means.	29.968	57.7	81.7	W

NELSON GOROM, Serg't Signal Corps, U. S. A.

Signal Service Meteorological Report.

SAN FRANCISCO.—Week ending August 3, 1880.

</

O. DITSON & CO. are Sole Agents for the United States for the extensive catalogue of

Novello's Musical Publications.

Among them are more than a thousand Anthems and Choruses, Part-Song and Glee Books, Cantatas, Oratorios, Operas, etc. Send for Catalogue.

We call especial attention to the valuable series of Primers or Easy Instruction Books, of which very popular ones are, **THE FUNDAMENTALS OF MUSIC**, (50 cents by CUMMINS), **THE ART OF PIANO-FORTE PLAYING**, (81), by PATER, **THE ORGAN**, (81), by Dr. STAINER, **SINGING**, (81), by HANDBOOK, **MUSICAL FORMS**, (81), by PATER, **HARMONY**, (81), by Dr. STAINER, **INSTRUMENTATION**, (81), by PROUT, and **THE VIOLIN**, (81), by TORRA.

Send for Gen. Garfield's Grand March (40 cts.), and Hancock's Campaign March (40 cts.). Fine Music and elegant portraits of the Presidential candidates.

TEACHERS WILL NOT FAIL to examine, during the summer, the books needed for their winter's work. We mention **THE TEMPLE** (81), and the **VOICE OF WORSHIP** (81), for Singing Schools and Choirs; and for the latter, **THE AMERICAN ANTHEM BOOK** (81.25), and **EMERSON'S ANTHEM BOOK** (81.25). For High Schools, **THE WELCOME CHORUS** (81); for Common Schools, **SONG BELL** (50 cts.), nearly ready; for Sunday Schools, **WHITE ROBES** (30 cts.); and for Temperance work, **TEMPERANCE JEWELS**, (35 cts.) and **TEMPERANCE LIGHT** (12 cts.). All are FIRST-CLASS books. Don't fail to examine.

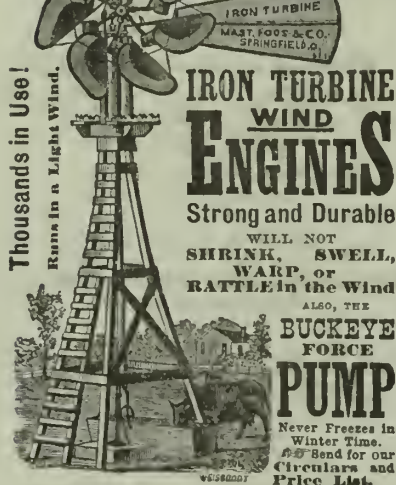
OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES
Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE **BUCKEYE FORCE PUMP**

Never Freezes in Winter Time. Send for our Circulars and Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.



Windmills! HORSE POWERS! TANKS AND PUMPS

Built and repaired at No. 51 Beale Street, S. F.

Send for circulars. F. W. KROGH & CO (Successors to W. I. TUSTIN.)



IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

COPP'S

AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township and Section Corners; How to Homestead and Pre-empt land; How to Enter land under Timber Culture, Desert, Townsite and other Laws. Sent by mail postpaid for 50 cents. DEWEY & CO., 202 Sansome St., S. F.

SADDLES, HARNESS, WHIPS, LEATHER.

W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

A. AITKEN.

F. N. FISH

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., Bet. Sixth and Seventh. - SACRAMENTO, CAL.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Nathaniel Curry & Bro.,

113 Sansome Street, San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

DEWEY & CO'S

Scientific Press Patent Agency.

[ESTABLISHED 1860.]

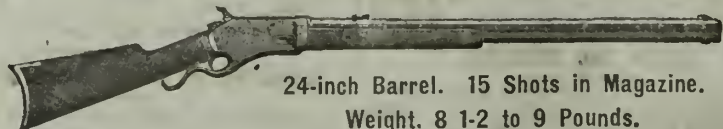
Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight. 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

Pumping Engine For Sale.

NEW UPRIGHT WILCOX ENGINE.

14-Inch Cylinder, 6-Inch Stroke. About 8-Horse Power. Will raise 3,000 gallons per hour. Was used to dig the well at Chronicle office. Never used otherwise, and is in perfect order.

PRICE, \$300.

Mr. Wilcox sold similar engines at \$300 each. I have taken this engine as an attorney fee, and will sell it for this price and WARRANT it. Address

MANUEL EYRE,

Law Office, No. 636 Clay St., room 25, S. F.

PACIFIC WATER CURE

— AND —

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,

Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.
CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, **DEWEY & CO.,**

Office MINING AND SCIENTIFIC PRESS AND PACIFIC RURAL PRESS, 202 Sansome Street, S. F.—1879.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100, Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.

San Francisco, Cal.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langeloth's Honey Bee, \$1.50;—Rauhall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address **DEWEY & CO., Publishers, 202 Sansome St., S. F.**

Calvert's Carbolic SHEEP WASH,
\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apia, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

SAN FRANCISCO, May 25, 1880.

MESSES. DEWEY & CO.—GENTLEMEN:—In acknowledging receipt of my two patents, I desire to express my thanks for the prompt attention which my business has received. The successful manner in which you have conducted the same shows a marked ability as Patent Agents, and I shall take pleasure in recommending your firm to all who desire to obtain patents. I have received copies of the MINING AND SCIENTIFIC PRESS containing descriptions of my inventions. With the best of wishes, I remain, Yours truly, **LOUIS BROWN.**

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought-iron crank shaft with
double bearings for the crank
to work in, all turned an
run in babbitted boxes.
Positively self regulating
with no coiled spring or springs
of any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Take the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knolls without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of superi-
ority, and can be relied upon as the best and most desirable
Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day.
Combining strength and durability. Easily moved. Will
be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.

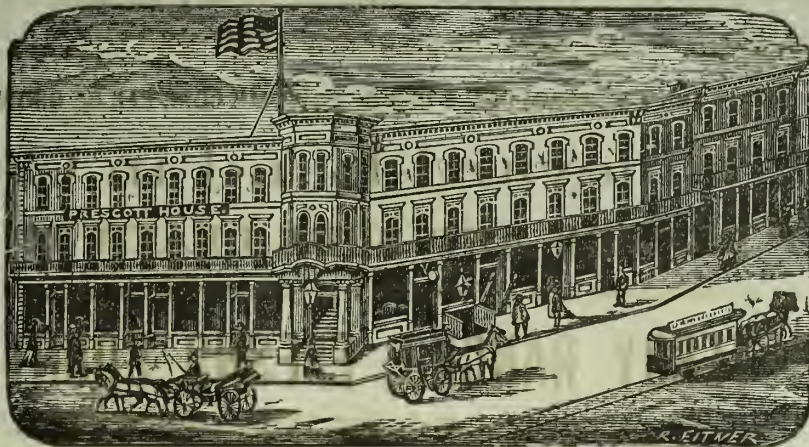
TRADE MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.60 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

50 Per/used, gilt edge & chrome Cards, elegant case, name
in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

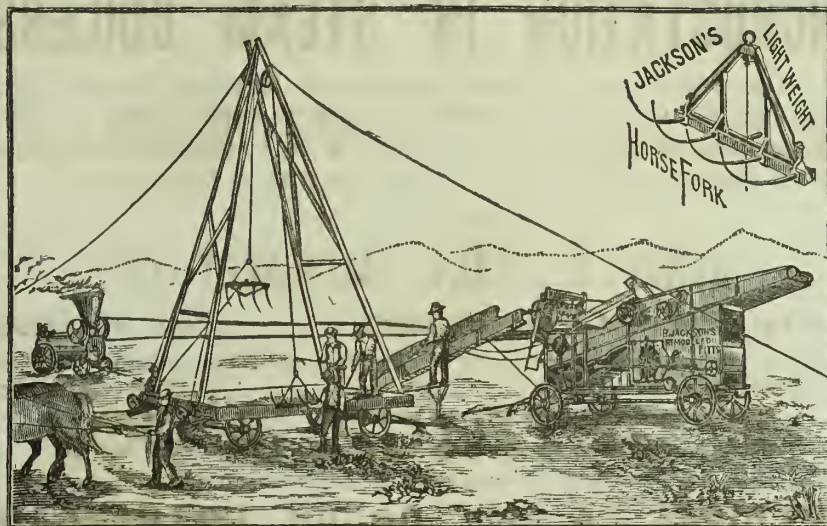
O. F. BECKER, Proprietor.

Free Coach to the House.

JACKSON'S AGRICULTURAL MACHINE WORKS,

Established at Woodland, 1872, moved to San Francisco, 1879.

HARVESTING MACHINERY A SPECIALTY.



BAYLEY'S PATENT SPREADER. for Elevators or Feeders, spreads the grain more evenly than men will. Ab-
solutely preventing large bunches from going into the cylinder, thereby saving labor, grain, damage to the machinery and
increasing its capacity. Sold on trial. Price, \$60.
Manufacture **WINDMILLS** at popular prices. They are noiseless, anti-friction, SELF-REGULATING, durable an-
ornamental, have less number of parts and greater power than any other mill. Be sure and see it before purchasing else
where
THE JACKSON LIGHT-WEIGHT FORK excels any Fork yet invented for either headings or hay. The
heavy Forks were thrown away in the field last season because of the superior strength and lightness of the Light-weight.
Orders solicited for Foundry Castings, Pattern Work and all kinds of Machinery. Special attention to the
Headley Straw Burner and Engine Governor.
Buy and sell second-hand Threshers and Engines. See them before purchasing new. Prices and terms to suit
the customer. Address BYRON JACKSON, 6th and Bluxome Sts., San Francisco.

In consequence of spurious imitations of LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosbie and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

RECORD OF SUPERIORITY.

1878-AWARDED
J. H. STROBRIDGE,
First Premiums:
Pen 5-Breeding Ewes.....\$22 50
Pen 5-Yearling Ewes..... 22 50
Pen 5-Ewe Lambs..... 22 50
Pen 3-Ram Lambs..... 22 50
Yearling Ram (1st and 2d)..... 38 50
Two-year-old Ram..... 22 50
Ram and five of his Lambs..... 30 00

Sweepstakes:
For best Ram of any age or breed,
and five of his Lambs..... 75 00



THOROUGH-BRED SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and
50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY
SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish
Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from
Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda, Co., Cal.
E. W. PEET, Agent.

The Excelsior Animal Trap



Is Guaranteed to be the Best
GOPHER TRAP
Ever invented. The Gopher
raises the light trigger with
his head or dirt without the
least alarm. Ask your dealer
for it. Agents wanted. Sent
by mail for \$1. By express,
C. O. D., for \$2 per doz. Ad-
dress, G. W. JOLLY, Paradise
Springs, Cal. Pat. apld for

DO

NOT FAIL to send
for our Price List for
1880. Pass to any
address upon ap-
plication. Contains
descriptions of every-
thing required for
personal or family use,
with over 1,300 Illustrations. We sell all
goods at wholesale prices in quantities to suit
the purchaser. The only institution in America
who make this their special business. Address,
MONTGOMERY WARD & CO.,
527 & 529 Wabash Ave., Chicago, Ill.

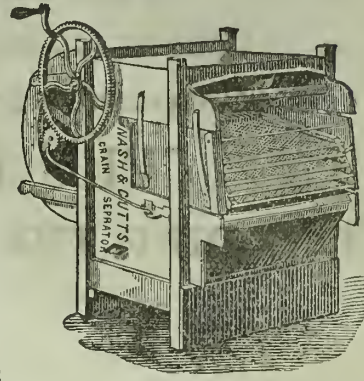
GENERAL Purchasing Agent, James B. Sheat, 416 and
418 Davis St., S. F.

52 Gold, Crystal, Lace, Perfumed & Chrome Cards, name
in gold and jet, 10c. Clinton Bros., Clintonville, Ct.

STILL AHEAD!

Trade
Mark.

"The Improved
Nash & Cutts Grain Cleaner."



Three sizes-warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fairs
from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, chest, barley, oats
cracked wheat, etc., in a satisfactory manner, but is alike
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTER and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our
Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.
2d. Being located here we know what is wanted much
better than Eastern manufacturers.
3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.
Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO., Sacramento, Cal."
We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.
Prices at Factory-No. 1, \$35; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,
906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.
We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.

M. W. DUNHAM Just Imported 36 Head

FOR HIS OAKLAWN STUD OF

Percheron-Norman Horses.

ANOTHER IMPORTATION

Arrived April. 1, 1880.



Largest and Most Complete Establishment
of the Kind in the World.

More than 200 Stallions and Mares

Imported from Best Stud Stables of France.

Winners of First Prizes in Europe and America, awarded
First Prizes and Gold Medals at the Universal Exposition
at Paris, 1878, over all. First Prizes and Grand Medals at
Centennial Exhibition, 1876.

The public appreciation of its merits is indicated by the
great demand for stock from every part of the country.
During the past twelve months, the provinces of New
Brunswick, Canada, and the States of New York, Penn-
sylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin,
Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana,
Colorado, Nevada, California and Oregon, and Utah,
Washington and Idaho Territories have drawn supplies
from its Stables.

100-page Catalogue—finest thing of the kind ever issued;
25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,

Wayne, DuPage County, Illinois.

N. B.—All Imported and Pure Native
Bred Animals Recorded in Percheron-Nor-
man Stud Book.

REMOVAL.

John F. Ceary, M. D.

For the last 18 years at 632 Howard street, San Francisco,
has

REMOVED TO OAKLAND.

Consulting rooms, Erie House, 1113 Broadway.
Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.

Diseases of women and children a specialty for 25 years.

50 New Style Cards. Lithographed in bright colors, 10c.
50 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager**, 12 Montgomery St. (up stairs), S. F.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED

FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speed of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to **EDWARD FRISBIE**, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—**Joseph H. Dorety**, 527 Commercial St., S. F.

RICKARD & DURDEN'S Anti-Scale Compound.

FOR THE PREVENTION AND REMOVAL OF

INGRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having demonstrated the value of this invention, and its applicability to different qualities of waters, we now offer it to Engineers and Steam Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

BERRY & PLACE MACHINERY CO.

Market Street, Corner Fremont, - - San Francisco.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUMMIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

SECURE PATENTS



Through Dewey & Co.'s Scientific Press Patent Agency.

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. McCORMICK.

827 Market St., between Fourth and Fifth.

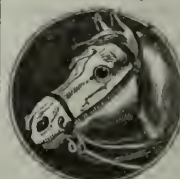
Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

A NEW BOOK.

A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.



It is printed on fine paper and has nearly 100 pages, 7 1/2 inches. Price only 25 cents, or \$5 for \$1, on receipt of which we will send by mail to any address.

DEWEY & CO.,
202 Sansome St., S. F.

FIREMANS FUND

Insurance Company.

JUNE 30th, 1880.

ASSETS:

CASH on hand and in Bank.....	\$40,029.27
U. S. BONDS, registered.....	195,875.00
OAKLAND CITY BONDS.....	29,500.00
OAKLAND GASLIGHT BONDS.....	17,500.00
FIRST NATIONAL GOLD BANK STOCK.....	10,980.00
LOANS on BOND and MORTGAGE.....	163,100.00
BILLS RECEIVABLE, secured by collateral.....	20,050.00
REAL ESTATE.....	209,218.38
MARINE PREMIUM NOTES.....	27,733.20
PREMIUMS in course of collection.....	57,000.18
INTEREST due and accrued.....	8,525.41
ADVANCES on Mort'd property, etc.....	2,795.73

ADDITIONAL CASH CAPITAL now being called in..... \$50,000.00

Will Make Total Assets, \$1,117,307.17

THE

FIREMANS FUND

Insurance Company

Based its CLAIMS TO THE BEST PATRONAGE upon its sound financial condition, reinforced by its ACCESSION OF CAPITAL, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair and clearly expressed contracts, and prompt and equitable adjustment and settlement of legitimate losses.

For SEVENTEEN YEARS it has been favorably known as a conservative Underwriter, and during that time has paid over

\$4,000,000 in Losses,

Passing triumphantly through the heaviest conflagrations known to modern history.

Agents

IN ALL THE PRINCIPAL LOCALITIES IN THE U. S. Insurance of Grain and Growing Crops in California a Specialty.

Home Office:

401 California St., San Francisco.

WILLIAM SEXTON, } Supervising Agents.

E. W. CARPENTER, }

D. J. STAPLES, President.

GEO. D. DORNIN, Secretary.

ALPHEUS BULL, Vice President.

WM. J. DUTTON, Asst Secretary.

MME. ZEITSKA'S

FRENCH, GERMAN AND ENGLISH

INSTITUTE FOR YOUNG LADIES

Number of Boarding Pupils Limited.

For Circulars address MME. B. ZEITSKA,

922 Post St., San Francisco.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wheat. Apply to

A. SCHULLER,

209 Sansome St., S. F.

Our **WELL AUGER** is the cheapest, bores the fastest. We are the oldest and largest firm in America. Send for our pictorial catalogue. UNITED STATES MFG CO., Chicago, Ill.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.



Volume XX.]

SAN FRANCISCO, SATURDAY, AUGUST 14, 1880.

Number 7

Tea Culture in the United States.

By the efforts of Gen. Le Duc, Commissioner of Agriculture, tea culture in this country is coming upon a more promising commercial basis than ever before. The distribution of tea-plants from Washington has proceeded for a number of years and small samples of tea have been made in California and in some of the Southern States. There has been so much talk about tea and so little sewing-circle timber really produced that tea culture as an industry for this country has been looked upon by many as a sort of an industrial chimera. Since Gen. Le Duc has taken the subject in hand it must be acknowledged that tea growing has assumed more features of practicality.

We have just received from the East reports of an interview between a newspaper writer and the Commissioner of Agriculture upon the return of the latter from a visit to the tea plantations in the Southern States; and to illustrate the interesting statements which we have to make, we give an engraving of a young plant, leaf, stem and roots. This is somewhat different from the drawing of a tea plant which we gave in the RURAL of June 16, 1877. That represented a twig from a plant in full bloom. This gives the young plant, as propagators from the seed may expect to see it.

In his review of the history of tea growing in this country, Gen. Le Duc said that probably the largest number of plants collected by any one person are those collected by a Dr. Jones in Liberty county, Georgia, near Savannah, who some time before the rebellion undertook to raise a number of plants with a view of making tea. His plantation was practically abandoned, and after the war his daughter, Mrs. Scraven, prepared tea in a rude way from leaves picked from the old trees, of which there were at the beginning of this year 300 or 400 growing wild in the edge of a forest, the seeds falling from which, scattered through the brush, had grown into quite an extended thicket, from which Mrs. Scraven was in the habit of selling plants and seed to those persons who wished to purchase. When, as Commissioner of Agriculture, I wished to promote the cultivation and manufacture of tea in this country, with a view of supplying our people with home-raised tea, and thus decreasing the importation of the article, I purchased from Mrs. Scraven plants and seeds for distribution, and I scattered these throughout the South, and we are now reaping the reward of this effort by learning from the growth and condition of these plants the soils and climates best fitted for the production of this necessary article. It is unnecessary to go into details at this time, and I will simply say that by great good fortune a Mr. John Jackson, who had for 15 years been cultivating tea in Assam, India, traveling in this country last spring, had his attention drawn to my efforts tending to encourage the cultivation of tea, and entered into correspondence with the department and visited me at Washington. The result was that Mr. Jackson took a trip through the South, visiting the various localities in which the tea-plant was growing, and was so entirely satisfied with the prospect of successful and profitable cultivation that he purchased the plantation of Mrs. Scraven, and commenced to establish a tea garden with the assurance that the department would aid him by all proper means. Mr. Jackson employed a large force of negro labor, put up some necessary houses, and has already 160,000 plants growing in 50 acres, which he proposes to increase to several hundred acres as rapidly as he can obtain proper seeds or plants. After some earnest solicitation, and with the untiring effort of Hon. D. Wyatt Aiken, member of the House for South Carolina, a small appropriation was obtained from Congress in aid of this industry. I have but a short time since returned from an examination, assisted by Mr. Jackson, of a large area of South Carolina, in which are found many locations in which the soil and climate were pronounced by Mr. Jackson as exceedingly favorable for the production of the tea plant. This preliminary examination showed more land suitable for tea culture in the belt of country about 40 or 50 miles back from the

coast, the best land being mostly situated in that portion which is regarded unhealthy for white people during the summer months, but not particularly unhealthy for the negro, who seems to live and thrive unharmed by the malarial atmosphere of the rich lands of that section. Mr. Jackson assures me that there is no better soil for the plant in those parts of India with which he is familiar, and which has proved so great a source of profit to the English and Scotch tea companies.

For a number of years persons throughout

Jones plantation. These teas are undistinguishable from the finest qualities of Indian teas on the market, and have been pronounced by the best tea-experts in this country and in London to be of superior quality and flavor. The prices offered for them are eminently satisfactory to the producer. There would seem to be nothing wanting now to secure a fair start toward the accomplishment of the object I have had in view, namely, the production of our own tea, but the continuation of well-directed efforts on the part of our Government to show our people a model



TEA PLANT ONE YEAR FROM SEED, AS GROWN IN JAPAN.

the South owning one or more tea plants have made tea as best they knew how, but in a very crude fashion, bruising the leaves and drying them in a Dutch oven or even in the sun, and storing them away as a family supply of the fragrant herb, which they pronounced better than any they could purchase at the stores. Notably, this has been done in the last two years, or since the publication and circulation by the department of a little treatise upon tea culture and manufacture. But no tea has been made of a commercial character until Mr. Jackson this spring commenced to manufacture tea in proper form, and sent it to the department as an evidence of what could be done, even with the old and neglected plants he had purchased with the

tea-farm and to offer such encouragement as the Government can properly give by the distribution of seeds and plants to capitalists who are willing to undertake this new industry.

The cost of producing tea in the South, according to the testimony of Mr. Jackson, will be from 15 to 20 cents per lb., and the wholesale price offered in New York is 40 to 50 cents, and in London from 50 to 70 cents per lb. The teas heretofore manufactured and submitted to New York and London houses to ascertain their value were of the English breakfast sort, which are not so much used in this country as in London, where they are largely used for mixing with inferior teas to raise the grade. Mr. Jackson assures me that one negro in the South is worth

more than two of the best coolies in India. When you reflect that the Indian laborer uses only the hoe for cultivating the ground, and that in America the work is quicker and better done by the improved machinery everywhere in use with us, it can be readily understood that we have but little to fear when we come into competition with the cheap labor of Asia or any other country.

Cranberry Growing.

We had a pleasant talk the other day with H. Nyland, of Bouldin island, San Joaquin county, who is known to many of our readers as a grower of small fruits and plants thereof. Our especial interest lay in Mr. Nyland's cranberry experiments on the tule lands of Bouldin island, to which we have referred from time to time. Mr. Nyland has been identified with cranberry growth in this country from its beginning as a cultivated crop. In 1845 he selected a small piece of land near Newark, N. J., and intended to go into market gardening, but he noticed the natural growth of the wild cranberry, and its sale in the market for \$5 per barrel of fruit, and thought the plant worthy of cultivation. He set his land in cranberries, and his neighbors, seeing his results, put in cranberries, also, many of the plantations being made under Mr. Nyland's supervision. Since that time the cranberry plantations have increased, until an immense area of ground and amount of capital have been enlisted. Great fortunes have been made at cranberry growing, for it was found that the demand increased faster than the supply; and the price is now more than twice as high as it was when the few barrels of wild berries were marketed 35 years ago.

Mr. Nyland came to California about seven years ago. For the last few years he has made it a part of his business to test the growth of the cranberry on the tule lands. He has now plants in bearing, and his experience with their growth leads him to the firm belief that this fruit will prove a success when grown on proper locations in this State. He gave us several reasons for regarding the conditions here better adapted to the growth of the cranberry than at the East. The season is longer here, and this will cause the berries to ripen evenly and assume a rich dark color. At the East the berries must be gathered before the frosts come, and often there is but one side of the berry colored. Fully colored fruit sells better than the "Dolly Varden" style. Other favors to growers in this State are that there are no stumps to root out, and the expensive sanding of the ground is not necessary. At the East the plantation has to be grubbed out, and covered with a coating of sand three or four inches thick, and sometimes tramways and cars are used to bring on this vast amount of sand. The minimum cost of sanding is probably about \$200 per acre. As we have here no hard freezing of the ground, there is no throwing out of the plants by the action of frost on the soil, and consequently the mulch of sand is not essential. Another evil is avoided by having no sand. It has been found that the reflection of the sun-heat by the flint sand sometimes burns the berries. In addition to this and other minor points, Mr. Nyland finds that the berries grow larger in this State, which fact may ere long enable us to compete with the East in their own markets.

Cranberries are a most durable fruit. If kept in water, they last almost indefinitely in a good condition, as the acid defies decay. Mr. Nyland tells of a dealer in New Jersey who emptied the cranberries as he bought them into a cistern, and dipped them out as needed to fill orders. He carried on this process for 20 years, never completely emptying his cistern, but adding more with each year's crop. He never had any trouble from the fruit spoiling—the oldest seemed as good as the last. With such a durable fruit as this the grower can wait for a demand, or send his fruit around the world to find a market.

Although Mr. Nyland believes his tule location, and other similar lands, well adapted to cranberries, he would caution all against planting in unfavorable locations. It is folly to attempt the culture on any land that cracks—that is, anything of an adobe nature.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eps

Snowflake Wheat.

EDITORS PRESS:—Having read several articles and notices of choice wheat in the recent issues of your valuable paper, I send you herewith specimens of our crop of what is known as "Snowflake," feeling well assured that it is deserving of a place beside the best of them, and also append a history thereof so far as it comes within my knowledge.

In the fall of 1878, while in the office of Starr & Co., in San Francisco, Mr. Starr showed me a sample of what he stated to be from a carload received from the neighborhood of Hollister, and as he was very enthusiastic in its praise, I concluded to try planting, and purchased two tons at a pretty round price. After getting it home we had it thoroughly cleaned, taking therefrom about 800 lbs. of foul seed, dirt and cracked grain, the bulk of it, however, being cracked kernels. The remaining 3,200 lbs. was sown upon about 40 acres of well-prepared summer-fallow ground, it having been twice plowed and thoroughly harrowed down fine and mellow. From these 40 acres we harvested 549 sacks, of an average weight of 142 lbs., of excellent grain, a sack of which was placed in our district fair last fall and took the first premium. The most of this crop, after reserving what we required for our own use, was disposed of for seedling purposes. Some of it went into Suisun valley, some into Contra Costa county, and some even penetrating into Yolo county—the Vallejo Land and Improvement Association, the Good Templars' Orphans' Home Society, Mr. S. S. Drako of "Sunny Side Farm," and others in this vicinity being purchasers. From all these parties we get the most encouraging accounts. The Snowflake yields well. The Orphans' Home, having threshed theirs, report 2,250 lbs. to the acre. It is of good quality, and does not shell so badly as many other varieties. I was informed by Mr. Starr that it makes an excellent quality of very white flour, and for the above reasons we deem it very desirable for propagation.

The specimens sent herewith we do not, of course, claim to be an average of the entire crop. It is not selected, however, and does fairly represent spots of one or more acres in extent, of which there are many. The bunch we send you was cut in a body from an area of not over a square yard in extent. Nevertheless, the quality, when threshed, will, I have no doubt, fully come up to this sample.

JOHN F. DEMING.

Glen Cove Rancho, near Vallejo.

[The grain is handsome, of vigorous growth, and yields good-sized and plump kernels. We shall put the sample with the other cereals shown at the Mechanics' fair so that all may see it.—EDS. PRESS.]

Fruit-Preserving Preparation.

EDITORS PRESS:—I have inadvertently omitted to communicate sooner the result of the examination of the preserving fluid and powder sent for the purpose by Mr. H. K. Swett of Santa Rosa. The fluid is a solution of bi-sulphite of soda. It has been in use to some extent for many years, and, so far as I am aware, no specially injurious effects have been reported as following its use. The objection I personally have found to lie against it, is that I detect the taste of burning sulphur in any preserve containing enough of it for the prevention of fermentation. I do not like it, of course; and on general principles would not favor the daily use of any substance so surely preventive of microscopic life in such small quantities. I would about as soon take a small daily dose of chloride of lime. But that may fairly be considered a matter for personal choice, so far as our present experience goes.

The solid preserving powder is simply boracic acid. As it imparts no taste to the preserve, and so far as at present known, its use exerts no injurious influence on health, it may be preferable to the other preparation. It has even been recommended instead of salt for the preservation of butter. Experience with it as a condiment is perhaps too short to state positively whether human kind can consume with impunity, day after day, a substance that is never found as a constituent of the animal frame, and which certainly acts as a powerful antiseptic. In so far as digestion in the bowels below the stomach has been conclusively shown to partake largely of the nature of incipient putrefaction, it would seem probable that a continuous use of such a substance would interfere with the normal character of the digestive processes.

For my own part, therefore, I should eschew the use, for the preservation of food, of any chemical agents foreign to natural foods. Salt, sugar, the vegetable acids, boiling and exclusion of air and cold, can each be made thoroughly effective in appropriate cases, and introduce into the body nothing of a doubtful nature. A good cook, in my view, will ever be found a safer guide to healthful nourishment than the best chemist.

E. W. HILGARD.

University of California.

HORTICULTURE.

Fruit Growing.—No. 1.

EDITORS PRESS:—Will fruit growing pay? and if it will, what kinds and varieties will pay best? These are questions which I have been called upon to answer a good many times, orally and by letter, and which I will endeavor to answer through the PRESS.

In answering the first question, there are several conditions to be considered; the first two and most important ones are, is your location suitable for growing fruit, and have you a good market for it when grown. Now to illustrate these points I will speak of these conditions in Santa Cruz, Santa Clara and portions of Monterey counties, where I am best acquainted in California, and if your conditions are similar, then the suggestions will apply to your case. In the greater part of these counties the soil and climate are peculiarly adapted to the growth of a great variety of choice fruits, which find a ready market at paying prices; and our climate is so mild and regular, that we never have a total failure in the fruit crop, although we may have a partial failure occasionally with some kinds and some varieties, as we have this year in most of the different varieties of peaches and pears, but not all. Some varieties of peaches, such as Briggs' May and some unnamed seedlings I have found through the country, are bearing well, and in many instances the Early Crawford is doing well. I mention these facts in order to draw your attention to them, so we may be better able to determine what varieties to cultivate so we may not be disappointed in a crop.

Fruits Popular in the Market.

Now we will note the most popular fruits in market in San Francisco, and in San Jose where there is a vast amount canned, dried and shipped green overland to the Atlantic cities, at paying rates to both producer and shipper or canner. The first on the list with the canning and packing companies is the apricot. And the favorite varieties, are the Royal and Hemskirk. So far as my observation extends, these varieties will do well where any other variety will grow. So if you are satisfied that apricots of any kind will do well with you, you can rely on the Hemskirk for a crop, and a market.

The next fruit is the Bartlett pear for canning and shipping, if the size and color is good. In the greater part of Santa Clara county the Bartlett pear grows to perfection, and is a pretty sure crop. This year it has failed. But in Santa Cruz county it is inferior, compared with the Winter Nelis. Next is the Yellow Egg plum, which is also a sure crop, and grows to perfection over a great scope of country about here. It ranks high for canning, and is good for shipping overland. All the above named fruits, if well grown, with good color, and carefully packed, will also find a ready sale in San Francisco and many local markets; so if we are sure that our locations are suitable for growing any or all of the fruits named above to a good degree of perfection, we need not fear a profitable market.

Next for canning and the San Francisco market is the cherry, and this grows to great perfection in this region, and is a sure crop, but in some places, and some seasons, the birds trouble them very much, which lessens their profit. Next as a market fruit, for drying, canning and shipping overland, the Fellenberg prune ranks high, on account of its size, richness and firmness for shipping. But as a drying fruit the Petite Prune d'Agen will rank No. 1 for its many good qualities, and some persons are planting whole orchards of them and ignoring everything else.

I will not neglect the peach among the "popular fruits," for it is a favorite with the canneries and in almost every household; but it is a tender fruit, and subject to troubles, and we must be sure that our location is good for its growth before we go strong on it. This season has been rather a "set back" on the peach, but it affords a good opportunity for studying the relative merits of different varieties and suitable locations for growing them, and let us improve the opportunities offered.

So far I have only mentioned summer fruits, and but a few of the leading kinds solely as market fruit for the San Francisco, San Jose, and overland trade. But what I have to say about growing and marketing fruit here, will apply to all locations similarly situated, and, as we proceed, we will notice the leading winter fruits also. In due time we will consider their relative merits, by giving statistics and facts on the various subjects connected with the growing and marketing of the different kinds and varieties of the popular market fruits. But before leaving the subject, let me advise you to visit your neighbors' orchards, examine them closely and profit by their successes or mistakes, as the case may be. In this you will frequently learn more about your neighbors' orchard in a little while than he ever knew about it himself, and by comparing soils, locations and cultivations, you can determine what will do best with you.

M. P. OWEN.

Soquel, Cal.

Morello and Kentish Cherries.

EDITORS PRESS:—It has been said by nurserymen that the English Morello cherry would not do well in this country. The samples I send you would prove that they have not been submitted to a fair test. There were a few stunted trees (or rather bushes) in my orchard when I took it four years ago, which the former owner told me I might as well dig up, as they would not do anything in this country, as they had been planted then some five or six years. They stood not more than four ft. high, with wide, spreading tops, resembling a gooseberry bush more than a cherry tree; the top was a thick mat of limbs and leaves lying flat on the ground, but apparently healthy, with trunks not much larger than a good sized walking stick. I thought I could make something out of them. The tops had been allowed to form about two ft. from the ground. I cut all the top off except one or two limbs, which I staked up. In this position I kept them for two years, pruning and cutting back to give them strength. The severe cutting went rather hard with them and killed three or four of them, but the remaining five or six began to show signs of reviving the second year and bore a little fruit of so fair a quality that I was encouraged to persevere. The third year they made a fine growth, and bore more and better fruit. The fourth year (the present) they hold their heads up proudly with a splendid crop of fruit, of which the specimens sent is a fair average. Like a horse who has found a new and better master, they bear their burden proudly. There is not a tree in my orchard that shows a more vigorous and healthy growth, nor one had so prolific a crop, which was picked and marketed to-day.

I also send you a sample box of a new seedling cherry growing in my orchard, which I have named the Sweet Kentish. The fruit is essentially Kentish in its form and habits of growing, sweet, juicy and pleasant, with a slight bark flavor and very pleasant moderate acid, which I think will make it a favorite with those who do not like the Kentish or Morello, on account of their extreme acid properties, for pies and cooking generally. The tree seems to belong to the class of upright growers, resembling in habit and foliage the Napoleon Bigarreau, a strong, upright grower.

WILLIAM H. JESSUP.

Haywards, Cal.

[This piece of experience is very interesting. The samples of Morello were exceedingly handsome, large and fleshy. The new Kentish fruit brought forward by Mr. Jessup is also interesting, and the samples bore out well the description he gives of it. Some twigs of Morello, with fruit attached, were indisputable evidence of the prolific character of the trees under Mr. Jessup's treatment.—EDS. PRESS.]

Success with Small Fruits.

Our growers of small fruits, who may find themselves with a little money to spare, should not fail to purchase a handsome volume lately published by Dodd, Mead & Co., New York, entitled "Success with Small Fruits." It is written by E. P. Roe, a practical fruit grower, as well as a distinguished literateur, and is embellished with fruit pictures and scenes on fruit farms, which are indisputably the best yet produced by artist and engraver. Col. Wilder, the veteran pomologist, says of Mr. Roe's book:

"It is a contribution to American pomology we may all be proud of." "Success with Small Fruits" is a volume that combines elegance with utility in an unusual degree. Although the author's enthusiasm leads him to indulge in much by-play of gay and vivacious talk, and in frequently-recurring aesthetic, gossiping, anecdotal, or picturesque digressions, he never loses sight of his main object, which is a thoroughly practical one. Mr. Roe confines his attention to the cultivation of strawberries, raspberries, blackberries, currants and gooseberries in the fruit garden, or on a larger scale on farms; and his observations and deductions are derived from his own experience, acquired in the face of obstacles that certainly were grave, and to many would have seemed insuperable. All his directions proceed from strict business methods. The great point is to produce them so that they "will pay their way." With this dominating practical end in view, Mr. Roe enters upon the subject systematically and exhaustively. He describes the different species of each berry; designates those that are the best for practical purposes; gives clear and, as far as possible, explicit directions as to the choice of soil and location, and the methods of preparing, enriching, irrigating and draining the soil; prescribes methods of setting out, forcing, propagating, pruning, mulching and staking plants, and of originating varieties; and closes with valuable suggestions as to picking, packing and marketing. As a manual, Mr. Roe's book is a model of practical common sense. Although owing to difference in climate, all the author's suggestions cannot be literally applied to this State, they can be easily modified to meet our local conditions. The book will be found an ornament and a treasury of useful facts.

The Shal-lae.

EDITORS PRESS:—"And what's a shal-lae?" I imagine I hear the reader ask. I answer: It is a fruit destined to become well known in the future of our State, and we call it shal-lae, because that is its name—the same reason for which the German called his boy "Yacob." These are being spoken of and written about under the name of Japanese pears. Why? They do not belong to Japan any more than they do to China, Eastern India, or a hundred isles of the Pacific and Indian oceans. I obtained some cuttings three years ago from the Island of Formosa, only one lived. It is now a tree 20 ft. high. I could not call it a Japanese pear, for I did not know that it was identical with anything ever seen in Japan. But I knew it to be a shal-lae. I ordered them under that name. A score of years ago, in the wandering life that I was then leading, I had eaten of the fruit under the same name.

This year seven fruits set on my 24-year-old tree. They would have weighed about a half pound each when I left to attend the Pacific Grove meeting of the C. L. S. C. On my return ne'er a one was left. The beauty of the tree, with its large glossy leaves, and the large, showy, yellowish-green fruit, were too great a temptation to some embryo thief. Money cannot reimburse one for such a loss. This would have been the first fruit of the kind grown in our State. I had intended one for the State Horticultural Society, one for the RURAL PRESS and one for our New York friends, who, to myself at least, must still be counted the "Wise Men of the East" on fruit matters. Now the whole matter will have to go over until another year's fruiting, with a possibility of a repetition of the same result.

My opinion is, that the tree is only a Shal-lae Daimyo, trees of which are now obtainable under the name of "Japanese pears." The fruit of this is described as "very large. Ripens in October." There is this difference, however: The fruit of the Daimyo is described as being of poor flavor and very "choky," while my remembrance of the shal-lae is, that the fruit was melting, juicy, of sweetish, pleasant flavor, and only very slightly "choky, and that but closely about the core.

A Misnomer.

I never see the name "Egyptian corn" without a regretful feeling for the part I took in establishing this as the name by which this valuable grain shall be known to the people of our country. I began five years ago to write about "Egyptian corn." Those articles were republished all over our country, and even as far away as Australia and southern Africa. Now comes up a distant *navan* (doubtless a *navan* because he "savvies" so much) who claims that the people of California have revived the old dhoura under a new name. While another man sends me from southern Illinois a specimen of yellow dent corn (Zea maize) and says that he has lived in Egypt (Ill.) 40 years, and that is the genuine Egyptian corn, and that anybody who sells anything else as Egyptian corn is a cheat and a fraud. I did not call it dhoura five years ago for the reason that I had fears that it was not identical with what had been known as dhoura elsewhere. I called it Egyptian corn for the reason that it certainly was a "corn," and I obtained the seed of two varieties of it from the land of the Pharaohs. But I also obtained another variety from China, so there was no sufficient reason why it should be called Egyptian corn rather than China corn. Evidently it should have been called, by all of us who wrote about it, by the name dhoura, the name by which it was already known to most of the civilized world.

And Yet Another.

Now a class of new fruits is being introduced. They are neither pear nor quince in character, but partake of the qualities of both. The trees grow most perfectly from cuttings. They are very showy, of large size, rapid growth, and ornamental and beautiful, and are destined to become grown extensively in all of the warmer parts of our country. Varieties of these will come to us from Japan, China, India and the Philippine and other islands. Shall we call them "Japanese pears," or shall we call them shal-lae, a name by which they are widely known in the lands where they are grown? What does our Horticultural Society say? I had intended to ask this question on presenting to them a specimen of the fruit. I have to ask it now without, because a year's time—the same used during that year's time—will establish the name. Like "alfalfa," the California name of the same old lucerne cultivated for centuries in England, or "Egyptian corn," the dhoura known to dry, tropical regions for thousands of years, we are now about to establish "Japanese pears" as a name to fruits cultivated in Eastern Asia for thousands of years—a fruit of which, I am certain, other countries than Japan will furnish us a greater variety and the best quality.

W. A. SANDERS.

Sanders, Cal.

ARTIFICIAL INDIGO.—It is reported that Prof. Baeyer, whose researches in the direction of the artificial production of indigo have made him famous, has discovered a method of obtaining artificial indigo on the commercial scale. The process is reported to have been patented, and the patent has been assigned to the Baden Aniline Co. The indigo is obtained from isatine chloride which in turn is produced from benzole.

THE DAIRY.

The Curing of Cheese.

In what does the curing process in cheese consist? This is a question which has vexed the students of the sciences underlying dairy practice considerably. A demonstration has not yet been secured. There is, however, in the first annual report of the Cornell University Experiment Station, New York State, an article by Prof. S. M. Babcock, giving experiments in regard to curing cheese. It opens by saying: "A new cheese, when taken from the press, is composed, essentially, of the same constituents as the milk from which it was made, the chief difference being that the cheese contains less water; of course, the more soluble parts of the milk, as the sugar and albumen, are largely removed with the water. The small amount of milk sugar retained by the curd is usually at this time converted into lactic acid. The casein is now tough and insoluble, and the cheese has no marked flavor or odor. This, however, is not long the case. Changes commence immediately, and under favorable circumstances the casein loses, in a few weeks, its hardness, becomes soft and waxy when pressed between the fingers, and acquires the flavor and odor peculiar to a ripe cheese. During this time, the casein has been largely converted into soluble albuminoids (peptones), but there are also formed small quantities of leucin, tyrosin, ammonia and often butyric and other fatty acids." Then follows a brief review of the theories of rennet action. The fermentation theory is not demonstrated, and the digestive one appears to be but imperfectly sustained. It has been supposed, and is still believed by some, that fat is in some way generated by the process of curing, but the evidence thus far is not sufficient to sustain the supposition, which is based on loose reasoning rather than on facts. The percentage of soluble albuminoids is regularly and materially increased. But, says Prof. Babcock, "nothing has thus far been done to show the action of the atmosphere, or even of rennet, when other agents have been excluded, after its work of coagulating the milk is completed. It has been attempted, in the experiments described in the following pages, to determine some of the effects which these produce on the fat and casein of cheese." For this purpose, cheese was placed in air-tight receivers and the air analyzed from time to time. In every case, the oxygen rapidly disappeared, even when an excess of oxygen was added, while large quantities of carbonic acid gas were set free. "To test," says the Professor "whether oxygen is an essential element in the curing process, portions of curd were prepared, some of which were freely exposed to its action, while others were entirely excluded from it."

The results of the experiments go to show that little or no flavor is developed in the absence of oxygen. Many cases were found in which the casein was well broken down without having any flavor. "It was never developed where oxygen was excluded." On the contrary, "cheese of good flavor is often found in which the casein is hard and insoluble." In conclusion, Prof. Babcock says: "The high flavors peculiar to the best factory cheese are only developed in a warm, airy place. A curing-room should not, however, be kept so dry that the cheese will lose its water very rapidly, as in this case, although a high flavor may be obtained, the casein will not be thoroughly broken down, and the cheese will be hard and indigestible. The breaking down of the casein appears to be caused by some agent contained in the rennet, which in many particulars resembles an organized ferment, that acts very slowly when the amount of water present in the cheese is less than the casein, and stops its action entirely when the casein is in large excess. A good illustration of the fact that cheese will not cure when deprived of a large part of its water is furnished by the formation of the rind, this being composed of a thin layer of casein which has partially dried before the curing has made much progress. A rind will not form on a cheese kept in a moist atmosphere, nor on the cut surface of a cured cheese. I believe that lack of water is the chief reason why cheese made from skimmed milk is so difficult to cure. Analyses show that, although the percentage of water is usually high in such cheese, the ratio of water to casein is much less than in cheese made from whole milk."

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE will hold its 29th annual meeting for this year in Boston, commencing on Wednesday, August 25th. It is expected that this will be the largest and most important meeting of this body hitherto held. Persons desirous of becoming members and taking part in its exercises, with all the privileges of membership, can do so by forwarding the fee of \$8, in advance, to the Secretary of the Association. To all such members tickets will be sent. Any person may become a member of the Association upon recommendation in writing by two members or fellows, nomination by the Standing Committee, and election by a majority of the members and fellows present in general session. Blank forms for recommendation to membership will be furnished on application by letter or otherwise to the permanent Secretary, F. W. Putman, Esq., Boston.

THE SWINE YARD.

Swine Industry.

The following article on swine, from the *Prairie Farmer*, contains some valuable facts: The proportions which the swine industry has reached within the past five or six years are indeed marvelous. We have hitherto published the figures showing the rapid increase which has marked the history of this branch of business, and need not produce them now; but to indicate its present proportions we may say, in passing, that the estimate of Hon. J. R. Dodge, the eminent statistician, places the number of swine required for the hog products exported from this country in 1879 at 6,000,000. The money value of these products, exported by the U. S. during the last fiscal year was \$79,438,936. The value of the hams which went to make up the aggregate was \$51,074,433; of lard, \$22,856,673; of pork, \$4,867,568; of live hogs, \$700,262. Our meats find their way to all portions of Europe, and although it sometimes happens that they meet with a prejudice, born, doubtless, of jealousy and close competition, still they are sought for more and more every year. From these figures an approximate idea may be had of the enormous number of swine required to supply the home and foreign trade, and of the important position which swine raising occupies among our great rural industries.

Our purpose in referring to this matter is to call attention again to the importance of rearing improved stock. It is true that farmers quite generally recognize the fact that "land pikes" and "razor-backs" are a poor investment, and that Berkshires, Poland-Chinas, Suffolks and Essex give far greater returns for the food they consume than ordinary or average hogs of mixed breeds, or no breed at all. The butcher, or the "expert" who buys for the packing houses, discerns at a glance the quality of the hogs which come under his eye. He selects, without difficulty, such as he desires for a particular purpose. He knows that the best hogs of improved breeds give extra choice hams and shoulders for smoking, and that in all respects and for all purposes these breeds fulfill the requirements of the trade far better than animals indiscriminately bred.

In raising hogs, as in other departments of live stock husbandry, the interest of the farmer is to get the most money for his care, labor and feed. It has been shown repeatedly by experiments that well-bred Berkshires and Poland-China swine will, under favorable circumstances, produce 12 lbs. of pork for a bushel of corn. These instances may not be very numerous, but they show what can be done, and done without much difficulty. From a list of experiments in feeding swine made in several States, the lowest average was five and three-quarter lbs. of pork to a bushel of corn fed on the ground, and the highest an average of 20 lbs. made by feeding a pair of pigs green corn in the ear. From 13 experiments made, the average of every bushel of corn was 10 lbs. of pork. With a good breed of swine properly cared for, five and six-tenths lbs. of corn ought to produce one lb. of pork, or one bushel of corn 10 lbs. of pork. This is a better average than is generally obtained, but it is both possible and practicable. Instead of six lbs. to the bushel—which is a fair estimate with inferior animals to consume the grain—the farmer ought not to be content with less than 10 lbs.

It is not difficult to calculate what one is doing in feeding corn to hogs in the way of returns. If one bushel of corn represents 10 lbs. of pork, and the price of pork is \$3 per hundred, the farmer is receiving 30 cents per bushel for his corn, and if pork is \$4 per hundred, he is getting 40 cents for corn.

These facts are significant in breeding and rearing swine. They indicate the conditions that are required in or to secure the best results—to obtain the most satisfactory returns. To make the most money in this branch of farming, the first requirement is good stock of improved breeds, which can now be had at reasonable prices. It should not be expected that animals of superior quality which possess the desired characters that are found in the improved breeds can be purchased for the same price that is asked for an animal of inferior breeding or no breeding at all. It has taken many years of study and judicious care to develop and "fix" the characteristics which constitute the especial value of improved swine. It is eminently proper that those who have put time and money into this enterprise should receive the benefit of good prices for their stock. And that it pays to buy such stock at good prices has been demonstrated by thousands of farmers from one end of the country to the other.

FLOODING THE SAHARA.—The prospects of the several projects for *flooding the Sahara* are gradually proving small and heartily less, and at present may be said to have been shelved to make way for railway projects from Algiers and elsewhere into Soudan. As there is no question respecting the feasibility of these last named schemes, there is some probability that they may ultimately be executed.

THE STOCK YARD.

The Standing of Jersey Cattle in England.

Our breeders of Jerseys will be interested in a sketch of the history and standing of Jersey cattle in England which we find in the *London Farmer*. It is said that the cattle are increasing in popularity. If not the most useful breed for the average stock-owner, the town dairyman, or the country dairy farmer, they have their special merits. They give hountifully the richest of milk, are the gentlest of animals, and in numbers form one of the most picturesque of herds. They are pets in the parks belonging to stately mansions, and are just the stock for the few acres of grass attached to suburban villas, the glebes of parsonages, and the small fields of amateurs playing at farming on a small scale. Where only a few cows are kept, just sufficient to supply milk for the nursery and butter for the household, they are held in deservedly high esteem. The breed is multiplying daily, on account of its peculiar and distinctive merits. It is, therefore, necessary it should be kept in purity, so as to ensure perpetuating all its valuable characteristics. For this purpose a herd book is absolutely necessary. A herd book for cattle bred in the Island of Jersey has been in existence since 1866. But there still remained a want of a herd book for the registration of the hundreds of Jersey cattle in English herds. Such a want has now been supplied, for Mr. John Thornton, the eminent auctioneer, has just issued the first volume of "The English Herd Book of Jersey Cattle," published by a "Committee of Jersey Breeders of Great Britain."

The increasing popularity of the breed is shown in the increasing numbers exported to all parts of the world from the Island of Jersey. The annual export at the commencement of this century was about 400 head, while in 1878 it reached 2,000. Furthermore, when the Royal Agricultural Society of England, in 1844, held its show at such a convenient spot as Southampton, the entries of "Channel islands or crumpled horn cattle," of all kinds, numbered 22, while the entries of Jerseys alone at the Royal Show at Kilburn last year numbered 253, the largest number of entries of any other breed of cattle being 179 Short Horns. Breeders in the Island of Jersey have for generations prided themselves on keeping their cattle pure. It is a little more than 100 years ago since the passing of an act prohibiting the landing of cattle from France on the island, and the prohibition continues to the present day, except in the case of animals for slaughter or for immediate reshipment under carefully-conceived regulations. But although Jersey farmers had developed the milking properties of their cattle to a great extent, no one thought of improving the breed by any system or fixed rule until the Jersey Agricultural Society was founded in 1833. Soon after rapid progress was made. Scales of points were drawn up, reports written, cattle shows held, and prizes awarded for the most perfect animals. The result of all these incentives to careful scientific breeding was manifest in a few years. By 1840, according to Mr. Thornton, "seven years' attention to breeding had almost caused the ancient characteristic defect, the drooping hind quarter, to disappear, besides several minor defects, and it only remained to give squareness to the hind quarter and roundness to the harrel to render it a most beautiful animal." Ever since 1811 the Fowlers of Little Bushey had been importing and distributing Channel islands cattle throughout this country. Jerseys became increasingly popular after the character of the breed was improved. In 1866 a fresh impetus was given to them by the formation of the Island Herd Book. In 1868 several Americans visited the island and bought the first prize yearling bull for £45, and other animals, paying much attention to pedigree stock and registered cattle. In 1871 Mr. C. P. Le Cornu sold Blue Bell, a two-year-old heifer, to go to New York, for 100 gs., the highest price up to that time realized on the island. The climax may be said to have been reached at Hargrave park sale, when the Duke of Bedford gave 255 gs. for one of Mr. Walter Gilbey's three-year-old cows, and an in-calf heifer brought the same sum. Six cows realized 1,010 gs., and the 18 averaged £90 16s. 6d. each.

MAN ON THE AMERICAN CONTINENT.—In a recent lecture by Prof. Flower, before the Royal College of Surgeons in London, the question of the origin of man on the American continent was discussed at some length. The statement was made that, "taking all circumstances into consideration, it is quite as likely that Asiatic man may have been derived from America as the reverse; or both may have had their source in a common center, in some region of the earth now covered by the sea."

RAILROAD PATENTS.—Of 279 patents issued during the week ending July 6th, 22 were inventions especially intended for railway use. The number of railway patents issued each week ranges from 10 to 30, a fact which must leave no room for fear that progress in that direction is not keeping pace with other material interests. A large majority of these, however, possess little or no real value.

THE VINEYARD.

The Muscatel Grape.

And now, at last, let us arrive at California, and examine the Muscatel of this young wine State. Did you see, reader, the Muscat of Alexandria grape grown in California? If you have not had an opportunity of seeing it in all its beauty of color, shape and robustness, inspiring a refreshing sensation, inviting to revel in its generous juice, making you by its aspect foretaste its satisfying, generous, honeyed flavor, you may see its image portrayed to perfection in that grand work of art, which is an honor to American chromography, Edward Bosqui's splendid hook on California grapes. If you then taste the Muscat wine of this State, you may imagine the taste of its grape.

The writer has seen and eaten Muscat grapes in many a country, has tasted their wine of a good many varieties, has practically made and handled them for many a year, and, after now knowing what the Muscatels are that grow on the Pacific coast, he is enabled honestly to express his decided opinion that the material for Muscatel wines in California is such that it may rival the best European of analogous nature, and after a more intelligent way of making the best of the juice shall have been adopted, a matter of not many years, the California Muscatels will rank with the highest classes of that wine. Nothing is wanting in this State to produce the mildest and most elegant dry Muscatel wines, scented by the nourishment drawn from the soil of the Napa or Sonoma regions, or the types of similar varieties, as the Roussillon Muscats from San Jose, Santa Cruz, and other districts, as well as the halmey, generous, luscious kinds of Muscatel Malmseys, such as Greece, Sicily and Mediterranean Spain have supplied to the world for centuries. These sweet Muscats, which can be produced both in the San Joaquin valley and in the southern regions of California, and notably at Los Angeles, will one day become a source of wealth to those producers who will make of the grape what ought to be made of it. But, I may as well observe, it will not be sufficient to make good wine. Another requirement, and not the simplest one, is its development, its nursing and keeping for years. It is a foremost condition that it should be aged.

What value the Muscatel grapes of California have in the shape of raisins, both driers and grocers will testify. From what I learn, the grape has paid, and the raisin not less so. The size and shape of the bunches ought to secure a good-sized raisin; as to its sweetness, if preserved by the drying process, it is of great percentage, being fully as great as that of very sweet Southern European grapes.

One of the finest Rosoligos sold on the shores of the Adriatic and Ionian sea is made of distilled Muscatel wine, husks and lees. The indestructible aroma of the Muscatel juice does not leave it after it has passed the test of fire and water in the still; the delicate taste peculiar to the grape, the fresh juice and the old wine from the Muscatel vine, ennobles the liquor and makes it highly valuable.

Brandy made here from Muscatel wine finds favor with many; but for the present, and as long as the production of wines in California is not doubled or trebled, it would be a waste of the noble liquid to distil it in lieu of age in surplus quantities in order to possess in future years what cannot be had later without preserving it now.—F. P., in *Bonfort's Circular*.

THE OUTLOOK.—The *American Wine and Grape Grower* of New York has the following: There is a good deal of uncertainty prevailing as yet in the minds of the dealers in New York as to whether present prices are going to be maintained. The break-neck rush of the manufacturers in California to contract for the crops of the growers and to pick up all the small lots of wine in the interior towns has caused uneasiness here, lest there be a reaction when it is known to what extent the market may be supplied by Eastern makers. The growers are showing good sense in contracting for their crops at fairly profitable rates, and show a disposition more in accord with the situation than they did earlier in the season. It looks, at this writing, as if present prices would be maintained with a steady demand, somewhat in excess of last season, and, if there should be considerable call for export trade, which is not unlikely in view of our last reports from Europe, demand may be very largely increased, but not at high prices. Our latest advices from California indicate that manufacturers may secure all the grapes they need at the following prices, viz.: Mission grapes, \$18 to \$20 per ton, and the asking price for foreign seems to be \$30 to \$35, though dealers are as yet a little shy of these prices. In Virginia and North Carolina prices rule from 2½ cents to 3½ cents per lb., Delaware and Catawbas bringing as high as 4½ to 5 cents. In Hammondsport the crops are below those of last year and prices rule from 1½ to 3 cents per lb. In Ohio the crops are abundant and prices rule about the same as at Hammondsport, though the grapes are not yet safe from rot, and may be reduced one-half in quantity before the vintage season comes on.

IVORY that has been spotted, or has grown yellow, can be made as clear and fresh as new by rubbing with fine sand paper, and then polishing with finely powdered pumice stone.

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

California Farmers' Mutual Insurance Association.

EDITORS PRESS:—In the RURAL PRESS of July 24th, appears a publication from I. G. Gardner in reference to the above association. He wished "that the truth may be seen and fair play had." For the same purpose I wish to state some facts to which Mr. Gardner has not referred. On the 19th of May, 1876, F. L. Jackson, an agent for the company, induced me to insure in the above association. I was very particular to enquire of the agent whether I could be held responsible to the company for anything more than the \$34 that I agreed to pay at the time I insured. He said with the exception of a fee of \$5, to which he was then entitled, I was not. He showed me the certificate that was to be filled out for the amount paid as deposit on my policy, to be held subject to be drawn upon for the purpose of meeting assessments for losses and expenses, in accordance with the rules and regulations of said association. This he said formed a limit, beyond which I could not be held to pay. With this assurance, I paid the agent \$17 and gave my note for \$17, payable in 12 months. Though there was no interest specified in the note, they charged 1%, which I paid. When the note became due, the Secretary wrote me that they wished me to pay the interest and said: "We are hopeful that the interest on outstanding notes and money deposited will defray current expenses and losses, and that you will not be called upon to pay the note."

On March 15, 1878, I received a circular from the Secretary with the following: "Herewith we beg leave to hand you a copy of the statement showing the condition and affairs of this company for the year ending Dec. 31, 1877, with the request that you examine the same. The assets of the company are unobjectionable, and although the losses paid during the past year amount to \$72,907.58, yet it offers a net surplus, as regards policy holders, of \$204,685.54, and gross assets of \$335,244.29."

On the 29th of May, 1878, I received a letter from J. W. Ford, in which he states that "on the 20th of May I was appointed business manager of this corporation, and in view of the ruling of the Insurance Commissioner, refusing to consider premium notes as valid assets, I am constrained to call upon you for the amount of your premium note." I paid the note, which, according to my contract, was the end of all obligations, on my part, to the association.

On April 16, 1879, I received the following notice from I. G. Gardner: "As the holder of a policy of insurance upon the mutual plan of this corporation, it is proper that you should know the result of the attempt made to restrain by injunction the collection of the 1% assessment. The scheme has failed, and the purpose of this card is to inform you of that fact. The deposit money is exhausted, and the company has ceased doing business. The directors, therefore, earnestly advise all to pay up that assessment promptly and cancel their several contracts. No other way is apparent of ending this experiment of mutual insurance. The amount of your assessment is \$17."

On the 14th of May following, I notified Secretary Rule that I wanted him to cancel my policy, as I wished to withdraw from the association, as provided in the third section of the by-laws, which say that "if it shall ever so happen that the deposit money of any person insured should be insufficient to pay the proportion of losses and expenses of the association for the time insured, the Secretary shall notify such person, and he, she, or they can withdraw, or deposit such an amount of money as the Board of Directors may deem sufficient to pay the proportion of losses and expenses for the unexpired term of the insurance."

On May the 20th, I received an answer from the Secretary, in which he says: "We cannot cancel your contract with the company until you have paid all indebtedness to the mutual association." Thus it appears that when any person receives the above notice that he cannot withdraw or deposit the amount, but must make the deposit before they are allowed to withdraw. Again, it makes a very material difference as to whose policy or contract is to be canceled. In the case of Mary Hill, who insured in this association on April 11, 1877, and paid a fee of \$5 and a deposit of \$6 cash, and gave a promissory note of \$6, payable in 12 months. She received an insolent dun for the payment of her note in less than two months after the note was given. After notifying her to pay, here is what is said:

"SAN FRANCISCO, June —, 1877.

"Mary Hill:—I would respectfully call your attention to the enclosed notice, and, according to strict business regulations, inform you that if the same is not attended to at once, your policy will be canceled, and you will be charged short rates for the time your policy has been in force. By order of directors.—FRD. K. RULE."

The next notice was dated Dec. 19, 1879:

"Mary Hill:—You will please take notice that we have this day canceled your policy, No. 3,094, expiring April 11, 1882, for non-payment of note in accordance with the by-laws of this association. You will please return the policy and certificate to this office by return mail."

Jonathan Ringer received the same notice at the same time that his policy had been canceled for the same cause. Yet they afterward sued him for the amount of his note, and as the amount was small, Ringer, like many others, thought that it was cheaper to pay it than to stand a suit. He, therefore, sent them the money with the request that they send him his note. But these men seem to have taken a death-grip on every thing that promises money, and therefore they do not relinquish their hold on this note, though the policy for which it was given was canceled in December, and the note had been paid. Yet Gardner says: "There could be no profit to the company on the so-called mutual plan of insurance; there never has been any attempt whatever to make any profit out of it in any way." In Mr. Rule's letter to me of May 20th, in which he refuses to allow me to withdraw from the company, he says: "If more losses occur among outstanding policies, we may have to levy another assessment, in which case you will have two assessments to pay." And in speaking of my letter of May 14th he says: "What you refer to of March 15, 1878, was a statement of the company, as made to the Insurance Commissioner, and which combined the assets of the mutual and stock branch, and the \$200,000 referred to, was really the capital of the stock plan." This net surplus to policy holders of \$204,685.54, according to Zell, "is that which is left when use is satisfied; excess beyond what is prescribed or wanted, as a surplus of profit." And the gross assets of \$335,244.29 "is enough, sufficient; signifying originally the property of a deceased person, which is sufficient in the hands of his executor and heir for the payment of his debts and legacies; all the stock in trade, cash and all available property belonging to a merchant or company."

It is evident that this circular was intended to deceive either the commissioner or the policy holder, and as the latter was to be bled for money, it is not difficult to understand for whom it was intended. It was only a little more than two months after this circular was sent out until they had their fingers extended after every dollar there was in each policy holder's note.

Mr. Gardner says: "The directors of the company made a call on the contract for 1% more as an additional deposit thereon; and also demanded payment of all the deposit notes." It lacked only two weeks of 12 months from the time the policy holders were called upon to pay their notes when this assessment was made, though the assessment is represented as coming first. Again, he says: "To persons unlearned in insurance, there is no difficulty in being deceived into a belief that a condition of great success is being attained, when such is not the case." This is not strange when the business managers of such companies take it upon themselves to thrust one of the above circulars into the hands of each policy holder, pointing out the flourishing condition of the company.

On May 18, 1880, I received the following notice from Secretary Rule: "Whereas, you were notified Jan. 15th (should be April 16th), that the deposit made by you on account of policy No. 1,748, to pay your proportion of losses and expenses of the same, upon the plan under which your policy was issued, had been entirely exhausted, and you failed to withdraw in the manner set forth in the by-laws, as printed on your policy; therefore, in accordance with a resolution of the Board of Directors, made Feb. 11, 1880, pursuant to the last clause of section three under the head of deposit money, etc., you are directed to remit to this office immediately the sum of \$55.25, this being the amount the Board of Directors deem sufficient to carry your policy for the unexpired term thereof."

This is pretty well laid out for men who had ceased to do business. I know of nothing being paid for losses or expenses since April 16, 1879, except in the infamous scheme of trying to wring from policy holders this 1% assessment, which, in every case, they have no more right to than they have to the property insured. These are some of the acts of the men Mr. Gardner has so carefully pointed out with a view that truth may be seen and fair play had. He says: "Carefully I have stated their names and places of residence." Then, with an air of triumph, he says: "Now, I ask their several neighbors if they can say they believe them guilty of wrong doing or think him a thief or a liar." Though he has strained every nerve, as it were, to establish the innocence of himself and associates, yet he must utterly fail in the point aimed at, which was to leave the impression that the character of these men, like that of Caesar's wife, was not only unspotted, but above suspicion.

SILAS TUBBS.

Ione City, Aug. 7, 1880.

Resolutions of Respect.

TEMESCAL GRANGE, No. 35, Oakland, has adopted resolutions of true sympathy with Bro. Crissman and Sister Crouch at their loss of a kind wife and loving mother, to whom death's summons "was no stern command from the King of Terrors, but a loving invitation to enter through the Gates of Morning into perfect day." Also resolutions expressing earnest sympathy with Bro. and Sister Collins (W. M. and Flora) in their bereavement by the death of their beloved child.—(Committee: Sisters N. G. Babcock and Sarah H. Dewey, Bro. W. G. Klee.

Two hundred Cherokees are assembled at Fort Gibson ready to attack the Creeks unless the latter surrender 13 Creek negroes who attacked a party of Cherokees and killed two of their number.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

A FINE YIELD.—Chico Record, Aug. 7th: Mr. John Ball, of Dayton township, who has been ranching on the Pratt grant, has harvested 5,640 sacks from 320 acres, giving a yield of 40 bushels per acre. Eighty acres of this land was sown in Pride of Butte, which gave a yield of 1,852 sacks; the average weight of the sacks was 132 lbs, making 3,741 bushels, or 47 bushels per acre.

COLUSA.

WAREHOUSE BURNED.—Sun, Aug. 7: At about 11 o'clock, on Friday evening of last week, a fire broke out in Howell Davis' warehouse, at Sycamore, which entirely destroyed the building, which cost \$9,000. It was insured for \$5,000 in the Commercial Union. The following persons had wheat in the warehouse, and some of the wheat was saved after the fire, but of course, will be more or less damaged: J. O. Banks, 265 sacks, saved, about 100 sacks; R. S. Browning, 171 sacks, saved, about one-half; Geo. Browning, 925 sacks, saved, 400 or 500 sacks; J. C. Staff, 97 sacks, saved, about one-half; Wm. Tolson, 250 sacks, saved, about one-half; J. Farnsworth, 360 sacks, saved, about 100 sacks; Mrs. Baker, 571 sacks, saved, about 300 sacks; Gosliner, 400 sacks, saved, about one-half; Howell Davis, 1,445 sacks, saved, about 800 sacks; L. Davis, 476 sacks, insured. No insurance on grain except on L. Davis' wheat. Don't know how the fire originated.

ODESSA WHEAT.—Late last spring, we gave to Capt. Thos. Eddy, of Grand Island, about half a pound of Odessa wheat, and he sowed it in his yard on the first of May. He now brings us 10 lbs. of tolerably fair wheat as the result. Capt. Eddy does not think this wheat adapted to this country. It has very heavy, stiff beards, and the grain protrudes from the chaff so that it is very easily shelled out. The beards being long and stiff and spreading out a great deal, when the wind blows they make so much friction, moving against each other, as to promote very greatly the shelling process. It is a hardy wheat. At one time when the long-continued norther was blowing he thought it dead. Persons who have land sheltered from the wind might experiment further with it. We might remark here that the Danish wheat, heretofore mentioned, has the same objection urged by Capt. Eddy, against the Odessa. These experiments are praiseworthy, however, as they give information of vital importance.

HUMBOLDT.

NINTH DISTRICT FAIR.—The premium list and speed programme of the Ninth District fair, to be held at Rhonerville, Humboldt county, from the 5th to the 8th of October, inclusive, is before us. Over \$900 are offered in premiums. This is very liberal, and should stimulate a very handsome exhibition of the industries and resources of Humboldt county. An aggregate of over \$800 is allotted to purses for speed contests.

LAKE.

AGRICULTURAL SOCIETY.—Bee Aug. 7: On motion of A. E. Noel, the propositions for fair ground location were read. Three were presented and read by the Secretary—hid from Lakeport, Kelseyville and Lower Lake. On motion of A. E. Noel, it was decided to accept the three propositions and settle the location by ballot. Twenty-two ballots were had, resulting in the selection of Lower Lake, that place having a majority of all the votes cast, as the place for the location of our fair grounds. A. E. Noel moved that an executive committee of five be appointed, three of whom shall reside at Lower Lake, to take the necessary steps under the control of the directors, in preparing for a County fair the coming fall. Carried. On motion, Messrs. Moore, Nichols, Gruwell, Simmons and Merritt were appointed such committee. Moved and carried that we hold a County fair on the 13th, 14th and 15th days of October next.—D. L. MILLER, Sec'y.

LOS ANGELES.

SUGAR EXPERIMENTS.—Anaheim Gazette, Aug. 7: We have indulged in great expectations of the beet sugar industry, and we confess to some anxiety as to the outcome of the very thorough test which will be given this year. Everything is favorable so far. The beets grew well and have already reached maturity—indeed, we are told even now the drying of the tuber has commenced. The factory building at Florence is about completed and the machinery is said to be ready to put in place. It appears, then, that we will not have long to wait to learn whether sugar beet culture is to be one of the paying agricultural industries of the county. Still another experiment of great moment will be made in this vicinity. The production of sugar from sorghum will undergo a thorough test. There are a great many acres of sorghum now growing, and the stalks look uniformly fine. No apprehension has ever been felt in regard to growing the crop (everything will grow in Los Angeles county), but it remains to be seen whether the syrup will granulate sufficiently to make the sugar of commerce. Three grinding mills, of the latest pattern, have been purchased by farmers in this part of the county, and the fast-ripening crop will be converted into syrup without any unnecessary delay. It is proposed, we believe, to ship the syrup to the refinery in

San Francisco, there to be converted into sugar. Of course, this procedure will not be long followed if the syrup will yield a heavy percentage of sugar; in that case the manufacture of sugar will be gone into here.

ALDEN DRIER.—The big Alden fruit drier, at Los Angeles, is now in operation, and the Express is of the opinion that it is this time upon a permanent foundation. It, upon a large scale, with the numerous small driers and canneries in the several towns in the county, should enable our people to preserve all their fruits for market.

HYDROGRAPHY.—Herald, Aug. 7: Assistant State Engineer Schuyler, with a corps of engineers, went out to the San Gabriel canyon yesterday evening for the purpose of making a hydrographic survey and ascertaining the capacity of the natural reservoirs of the canyon for the storage of water for irrigating purposes.

WHEAT.—Herald: Mr. D. Freeman informs us that the Australian wheat sown on the Centinela rancho has in every instance resulted in a splendid crop, the grain being unsurpassed in quality. The Odessa and Sonora varieties were partial failures. Farmers near the coast would do well to make a note of this experience and act accordingly.

MENDOCINO.

OUR HOPS.—Ukiah Press: From conversation with hop growers here, and from Potter and Hopland, we are enabled to give some figures as to the probable yield of the season and the acreage. All agree that the vines are in the most promising condition, but differ in opinion as to the average yield. Some confidently look for 1,500 lbs. per acre on old hops, and half that on this season's setting; while D. P. Cowsett asserts that 900 lbs. will be the average of all kinds per acre. At this latter figure, with 20 cents for a price, 242 acres of hops will bring \$43,560. Let the average yield come up to 1,000 lbs., as many think it will, and the price 25 cents, as is possible, and the crop will bring us \$60,500. The best figures we can obtain as to acreage are as follows: D. P. Cowsett, 5; W. D. White, 4½; A. Burke, 7; J. H. Burke, 12; T. J. Faught, 12; Chas. Yates, 3; T. F. Beattie, 7; McPeak, 10; I. C. Tindall, 3; L. M. Ruddick, 7; Bartlett Bros., 24; J. B. McClure, 25; J. T. Berryhill, 12; G. W. Neece, 5; Wm. Ford, 7; C. H. English, 12; E. H. Duncan, 10; G. W. Grant, 8; Orrin Howell, 17; Wright McPherson, 16; John Mewhinney, 18; L. F. Long, 12. Total, 242 acres.

NAPA.

BERRYESSA VALLEY.—Yolo Democrat, Aug. 2: Five threshing machines are at present at work in Berryessa valley. Wheat there is averaging about 30 bushels per acre—a better yield than has ever been harvested by farmers who have lived in the valley for the past 6 or 8 years. As in other portions of the county, the grain is very clean. Threshing will be in progress for two weeks longer. Teams will commence hauling the grain to Napa week after next. It is understood that a much larger quantity will be brought over the grade this fall than for two or three years past. The roads are in good order, the grade having been watered daily for a month past.

GRAPE PRICES.—St. Helena Star, Aug. 6: At the meeting of the Vinicultural Club the subject of the price of grapes was broached, and a suggestion made that a committee be appointed to consult with grape growers on the subject. No action was, however, taken on the proposition. Krug proposed the following as prices that he was willing to give per ton: Rieslings, Johannesberg or Franklin, \$30; Zinfandel and Chasselas, \$25; all other foreign, except Rose of Pern, \$22; Missions, \$20; hill grapes, a little more—say \$1 or \$2 a ton. Llewelling being consulted, admitted the scale of prices to be more liberal than he had expected. He had already sold his crop for \$22 all round—less than what Krug had offered. Wheeler was satisfied, and would accept Mr. Krug's proposition. Scheffler endorsed Mr. Wheeler's idea. York thought it was a fair offer, and was satisfied. Schulze thought the price should be \$25 all around. Allyn was not posted as to prices. Inquired as to time of payment. Some thought terms should be cash, others that some time should be given. Krug had been buying payable 1st of March. Thought if payment was made by New Year's it would be fair.

VINEYARD NOTES.—W. A. Field in St. Helena Star: In my opinion the "black knot" or fungus growth comes from the vine from which the cutting is taken. I put out some cuttings two years ago from vines that were bad with the black knot, from a neighbor's vineyard that was bad with the disease, not thinking it made any difference with the cuttings. I find that that part of my vineyard where these vines are, seem to be covered to some extent with this fungus growth. I find some healthy suckers coming from under the ground entirely encircled with the knot. It seems to be on rich ground equal to poor ground. I believe the vine inherits it, as diseases in families or dumb brutes. I have some experience in late setting. Last year I had a wet piece of land, about an acre. I had the cuttings ready and could not get on the ground until after the 20th of May. I was told that I might as well throw the cuttings in the ditch. I tried the experiment, finishing on the 5th day of June. I saved about two-thirds of the vines, and I took the trouble to count 15 vines yesterday, and find on one vine 18 full-formed clusters or bunches, 2 of 20, 2 of 21, 2 of 23, 2 of 24, 2 of 25, 1 of 26, 1 of 27, 1 of 28, 1 of 29; and I will venture to say some bunches will weigh over a pound.

PLACER.

FRUIT NOTES.—Auhurn *Argus*, Aug. 7: While the blackberry crop this year has been much larger than usual, the peaches, apricots, and plums have not done as well as was expected, owing to the late heavy rains. Still, prices have ruled so much higher than for years past that the fruit-growers of Newcastle and vicinity have realized as much—perhaps even more—than in average seasons. Strawberries, particularly, have done well in respect of enhanced prices. Last year they were as low as 60 cents per case—15 boxes. This year the lowest price reached has been 90 cents. All the fruit has found a ready market. C. M. Silva, President of the Fruit-Growers' Association, and W. G. Wilson, who are the principal fruit-growers of Newcastle, have had no surplus fruit whatever on hand.

SAN BERNARDINO.

ORANGE FIELD.—Riverside *Press*, Aug. 7: The yield of oranges in this settlement this year will be larger than was anticipated. It will reach nearly 500,000, which at \$45 a 1,000—the average price received last season—will give us \$22,500. The balance of this county will yield 200,000 more oranges.

RAISIN NOTES.—At the August meeting of the Riverside Fruit Growers Association, the committee appointed to estimate the number of boxes of raisins that would be manufactured in the settlement, reported as follows: North of the arroyo, 7,150 boxes; between the arroyo and Arlington, 9,100 boxes; in Arlington 1,250; total 17,500 boxes. Many vineyards will produce a box of raisins—20 lbs.—to every two vines. Dr. Jarvis, from the board of Trustees, reported that the board had had the subject of a packing house under consideration; Mr. Keith had tendered the use of his box factory at Brockton Square for the use of the association as a packing house. The board recommended that a packing house be established; that Mr. Keith's offer be accepted, and that each member of the association be compelled to pack at least 20 boxes at the packing house before he should be allowed to have his raisins branded by the association. This report was adopted, and H. A. Westhrook, R. H. Henderson, D. C. Twogood, G. D. Carleton and E. G. Brown were appointed a committee to carry the report into effect.

NECTARINES.—G. D. Compton, of Compton, Los Angeles county sends us some mammoth nectarines, seven of which weigh 2½ ounces and four of which weigh a pound. They are very fine and said to be heavy hearers. He also sends four Hardwick nectarines which weigh half a pound.

SAN DIEGO.

HONEY.—Union, Aug. 5: The honey shipments by the steamer last evening were the largest of the season, comprising over 34,000 pounds of strained honey in barrels, and 325 cases in comb. Of the comb honey, Messrs. Harbison & Dowling sent forward 299 cases, weighing 20,000 pounds—their first shipment of the present season. The amount is just a full car-load, and goes direct by rail from San Francisco to Chicago.

PESTS.—Spring Valley *Cor. News*: This is a wonderful season for pests of all kinds, squirrels, gophers, rabbits, rats, quails, doves and an infinite number of other birds and things. The squirrels began eating our peaches before the latter were half grown, so I began on the "ladrones," with poisoned raisins and pieces of watermelon, till I checked that operation. Doves by the hundred, and quails by the thousand, infest our vineyards, and as I have heard doves do not damage fruit, I examined the craw of one, which died close to the vineyard, and found it full of grape seed. If they will eat green-sour grapes, what will they not eat? The foolish game law prohibits the destruction of quails and doves during the season they do most mischief, but if they eat poison put out for squirrels and rabbits and kill themselves, who is to blame?

SANTA CRUZ.

HONEY YIELD.—R. J. Adcock, of San Miguel, visiting Santa Cruz last week, informed the editor of the *Sentinel* that he has 340 hives of bees, from which he has taken eight tons of comb honey since Christmas. He expects to take at least two tons more before the close of the year.

SAN JOAQUIN.

WHEAT OF CHOICE QUALITY.—Independent, Aug. 7: Harvesting work throughout that section of the county between the Mokelumne Hill road and the Calaveras river is nearly completed, and the farmers are well satisfied with the result. The yield in many places is not more than in former years, but the quality of grain has seldom been equalled, and, as a general thing, never surpassed. The grain is full, plump, clean, and in the best possible condition. Not only in that section, but throughout the whole county, the quality of the wheat is excellent. Similar accounts come from other counties south. There was an exhibition yesterday at the office of I. S. Bostwick, a sample of S. E. Reddle's crop, at Hanford, which was greatly admired for its uniformity of size and excellence. No better wheat has ever been produced in the State, and there is a large amount of that kind of grain in San Joaquin valley this year.

HARVESTING ON ROBERTS' ISLAND.—Stockton *Herald*: The wheat crop on the upper division of Roberts' island is a sight to see. The most of it has fallen down, and is very difficult to harvest. Headers can cut it going only one way,

and the machines average from 5 to 10 acres a day each, which is an exceedingly small area to get over. Even then not more than four-fifths of the grain is gathered, and in many cases even a smaller percentage. Notwithstanding this, the grain yields from 30 to 60 bushels to the acre. At the rate harvesting is progressing on Roberts' island, the season will last 6 weeks or 2 months yet. The wheat stacks are rising up very close together there now, and the work of gathering the grain is being pushed as fast as men and teams can get to push it.

LARGE YIELDS.—Independent: D. J. McKee, from Roberts' island, was in town yesterday. He has 70 acres of wheat which he believes will go 60 bushels to the acre. On the same ranch he had 54 acres in barley that averaged 81 bushels to the acre.

HARVESTING.—Lodi *Review*, Aug. 6: Our grain crop is turning out splendidly. On winter-sown land where the farmer had hoped to harvest 17 bushels to the acre, near Acampo, the yield is from 25 to 30 bushels. Not near all of the grain is headed yet, but the threshers are at work, and several car-loads of new wheat are being shipped daily from the several railroad stations in our valley. The peach crop is almost an utter failure, though pears and apples are more than half an average yield. The green corn is not troubled with being "worm-eaten," as last year. The watermelon season has opened with much activity. There are several thousand acres of melons in this valley, and car-loads are being daily shipped, to say nothing of meeting every small boy with a watermelon in his arms or on his shoulder, making good time for home from the melon patch.

ADVANTAGES OF THOROUGH TILLAGE.—Mr. Strahle, a farmer who resides near Ripon, has this season harvested 600 acres of wheat, and has obtained, on an average, about 16 bushels per acre more than he anticipated. He attributes his success to deep plowing and thorough pulverization of the soil. The crop at no time suffered in the slightest degree from the lack of moisture, yet not a drop of water was artificially supplied.

SONOMA.

CORK OAK.—Santa Rosa *Republican*, Aug. 6: They have a tree of cork oak at Santa Barbara, which has been noticed far and near by the press. Mr. Lawson Ross, of Green valley, near this city, has five trees, planted about 20 years ago. The seed was from Spain, and distributed by the Patent Office. The bark is one and a half inches thick, and, being young, is porous. He will strip one of the trees as they do in Spain, and we shall watch the experiment, predicting for the next formation of bark more perfect texture.

GOOD CROPS.—Democrat, Aug. 7: W. C. Percival, of Bloomfield, informs us that the grain in that vicinity is excellent and will yield splendidly. He thinks it will average fully 40 bushels to the acre. We learn from other sources that the acreage planted in potatoes is not nearly as large as usual, but they are free from blight of any description. The variety mostly planted is the "Bodega Red." From other parts of the county comes the same encouraging news. The early grain on the adobe is yielding on an average, 22 bushels to the acre, while the late grain will be much greater. In the Sonoma valley and Guilcoas valley the harvest is excellent. On Mark West, the crop is the best for many years. Benjamin Forsythe says that much of his wheat has six grains to the mash, all well filled out. In fruit—plums and apples are in abundance, other kinds generally light. The grape crop promises to be the best in 15 years.

EIGHTY-ONE BUSHELS TO THE ACRE.—F. M. Straney, has always had the reputation of being one of the best farmers in this county. Works rather than words are the proof. This year he harvested on the Gibb place, near the reservoir, 20 acres of barley, which yielded 1,616 bushels. The land was seeded in April.

RUSSIAN RIVER.—Flag, Aug. 6: Threshing is more than half done, the weather was never more auspicious and the yield is abundant. Hops are rapidly ripening, and could not be better thus far. Corn is coming forward admirably. Aaron Huffman and crew halted in town over Tuesday night, on their way to the valleys between Santa Rosa and Sonoma, with the big machine. In our valley, at Ferguson's, they threshed 1,050 bushels (467 sacks, 130 lbs. to the sack) between 6 and 11½ A. M. The grain went about 47½ bushels to the acre.

SUTTER.

DEERIS DAMS.—Banner, Aug. 6: On Monday next the Board of Directors of Drainage District No. 1 will meet at their office in Sacramento to open bids for the construction of two dams across the Yuba river—one at De Guerre Point, about ten miles above Marysville, and one about two miles below said point; also one dam across the Bear river, at a point marked with stakes and flags. As the contract requires that this work must be finished in 60 days from the time of signing the same, under a bond of 50% of the contract price, we can look for a settlement of the vexed question as to whether the dams will be a remedy or not, by not later than the 20th of October. So much has been said both in favor of and against the idea, that the settlement of the question will be anxiously awaited.

CHANCE FOR WORK.—Appearances now are that there will be a splendid opportunity for laborers in this region during the coming fall. Dams are to be built on the Yuba and Bear rivers; levees on the Yuba, Feather and Bear, and other places in the district, are to be constructed,

raised and strengthened; and Levee District No. 9 will have an embankment to build. As these are all public works, and no Chinese can be employed upon them, a chance is offered for a large number of white laborers. Besides the work named, Levee District No. 1 will have considerable work to do.

TEHAMA.

EDITORS PRESS:—Agriculturally our county is going ahead famously, since my last. Threshing goes bravely on, wheat is steadily pouring in, and is generally stored, though some small crops are taken by F. J. Mayhew, our efficient miller here. Teams arrive in long processions from the ranches in Antelope valley, and our warehouse men, Messrs. Cone & Kimball, Clark & Mayhew, Crocker & Co. and F. J. Mayhew, are receiving a splendid lot of grain in their respective grain warehouses. The farmers north and northeast are busy threshing, but separators are scarce and threshing will be very late with small farmers who live in the foothills and sparsely settled portions of the county. On Thursday the writer visited the fine ranch of J. A. Long on Inks creek and found Joe had finished cutting a splendid crop of Australian White wheat, and is waiting for H. G. Hall of Battle Creek to come and thresh the crop. Green Hall has his hands full for the rest of the summer, for besides his own fine crop he has engaged to thresh Ad Dennison's, A. Jelly's, George Gordan's, Dr. Winsell's, Mr. Wilcox's, Dick Owens and A. & M. Nunes and J. A. Long's, a job which will take some time with a horse power. Mr. Long has a splendid farm, Inks creek running nearly through it; he has 500 acres of good bottom land and a large grazing country for sheep. Mrs. Long takes great pride in her poultry, she has a splendid flock of geese over 50 birds, they are large, feathery, and healthy, she picks them and makes quite a revenue out of the feathers. She picks her ducks also. The farm is beautifully situated for the raising of ducks and geese owing to the living stream of water. Feather raising is an industry that more of our ranchers could engage in profitably no doubt. Slowly but surely new ventures will be introduced by our farmers instead of the everlasting wheat! wheat!—FELIX, Red Bluff, Cal.

TULARE.

CHEESE CURING.—Delta, Aug. 6: Every day the agricultural resources of Tulare county are being developed. On Saturday, we were favored with a sample of cheese manufactured by H. C. Townsend, who lives in the foothills on the old mill road. We were not aware that this climate permitted the manufacture of an article having so excellent a flavor and quality, but we were assured that cheese may be made here during the heat of summer, provided suitable care be taken to season and cure at the proper time and in the best way. Mr. Townsend cures his cheese by a new process which promises good results. [We should like to know what Mr. Townsend's process consists in?—EDITORS RANCH.]

ONE-MAN RANCH.—Joseph Stewart, who lives near Hanford, is said to have raised 1,014 sacks of wheat on 70 acres this season. The grain averaged 140 lbs. to the sack, and was sold to Oppenheimer & Co. at \$1.25 per 100. He plowed all the ground himself, and with a single plow; and he didn't wait until everybody else was through plowing before he began, either.

TUOLUMNE.

EDITORS PRESS:—It is now in order to put on record a few items from this county. The extreme heat has given place to a cool and pleasant atmosphere, making harvesting possible. Wheat sold within a few days at Sonora for \$1.75 per cbl., the quality being good. This is from 10 to 25 cents below former figures. An advance on the above will be more likely to occur than a reduction. Farmers generally are able to hold on to the present crop, for higher figures, while the millers are actually without stock. "Poor wheat" cannot be said of foothill grain. The quality is excellent and will compare favorably with former years. The spring being favorable, farmers summer fallowed much more than usual, so that a large crop may be expected for 1881.—JOHN TAYLOR.

YUBA.

THE CROPS.—Appeal, Aug. 6: County Clerk Sherwood has prepared the following report of the crops of Yuba county for the Commissioner of Agriculture at Washington, 100 being used as the standard: "Average condition of corn, August 1st, 102; barley, 92; Irish potatoes, 100; product of alfalfa compared with last year, 102; with its average quality as compared with last year, 100; average condition of pasture, 101; apples, 95; peaches, 90; grapes, 100. The wheat crop is now sufficiently harvested and threshed to make a very correct calculation of the amount produced. There was grown in this county this year about 21,000 acres, which will average fully 20 bushels per acre, or a total of 420,000 bushels, being a larger average per acre than in any year since the organization of the county, and the quality will average fair." In addition to this Mr. Sherwood states that the acreage of barley is less than usual, and is being reduced because the wheat crop is more profitable, but that the acreage of wheat is 1,000 acres greater than heretofore, and the number of bushels of wheat nearly 100,000 more than at any time heretofore.

A PLUMAS hunter shot nine deer during the past month, one of them weighing 170 pounds.

News in Brief.

OVER 400,000 Texas cattle have been driven into Kansas this season.

THE President will leave Washington for California about Sept. 1st.

THE French Jesuits announce the reopening of their colleges after the vacation.

BERMUDA grass is valuable to bind ditch banks and levees against the force of a current.

IN the English census the champion name is "Hostiliana Ophigenia Maria Hyphile Wage."

ABOUT 600 men are at work in the woods near Truckee, at salaries varying from \$40 to \$125.

ON a recent trip of one of the White Star steamers \$400 were collected for the Sailors' Orphan Home.

WILD strawberries, sweet, luscious and plentiful, cover many acres of the meadows near Donner lake.

RUSSIA has ordered the construction of ten clippers, five of which are to be built in the United States.

THE couple arrested as the notorious Benders are pronounced by the people of Kansas to be frauds and beats.

ONE of the features of a voyage on the French steamers is the gratuitous distribution of very good table claret.

WHEN a school of black fish appears off a Cape Cod village, all rush to the capture, even though at church.

NEW YORK is treated to a greater variety of offensive smells than any other settlement on the face of the globe.

BERLIN has now a club composed of the English and American residents of the city. It is said to be successful.

MR. FROUDE was among those who strongly opposed the Westminster monument to Louis Napoleon from the first.

MANY of the so-called club-houses at the fashionable summer resorts are no more and no less than gambling-houses.

BY a railroad accident near Waverly, O., August 7th, David Dungan was killed and 15 persons were injured.

OF the eight steamers now in the service of the American line of Philadelphia, four are English built and named.

THE hogs in the vicinity of Angels, Calaveras county, are attacked by a throat disease, which is proving very fatal.

MORE British troops are ordered to Ireland, in view of possible disturbances growing out of the enforcement of the land laws.

REV. W. H. H. (ADRIONDACK) MURRAY is reported to be engaged in a large and profitable commission business in Liverpool.

BOSTON Methodist preachers have petitioned the municipal authorities to abandon free concerts in the public parks on Sunday.

J. McDONALD GARDENER, a Connecticut teacher, is going to Japan as professor of English literature in a high school at Tokio.

THE British have 40,000 troops in Afghanistan. The recent battle between Burrows and Ayoob Khan was fought near Hyderabad.

ONE result of the elections in Mexico is that not a deputy who voted to delay the passage of railroad bills has been returned to his seat.

A STANISLAUS county thresher recently threshed 9,016 bushels of wheat in three days and three hours, with the usual stoppages.

THE increase of alleged French flats in New York is remarkable. Several dozen are now being erected in the upper part of the city.

THE family of Phelim Toole, the fireman who was recently killed in St. Louis, have received over \$7,000 by subscription of the citizens.

THE first woman ever ordained to the Christian ministry in Europe is Caroline A. Soule, who is a Universalist preacher in Scotland.

MR. BRETE HARTE, our Consul at Glasgow, has become a regular contributor to the *St. James Gazette*, the new London newspaper.

NATURAL caverns of large size, one, at least, being 600 ft. long, have been discovered at West Harptree, near Wells, Somersetshire, England.

A CUBAN family at one of the Saratoga hotels has a weekly board bill of \$450. This is for 6 adults, 3 children, 2 maids, coachman and valet.

A PETITION was recently presented to Parliament from the British Medical Association, signed by 7,000 medical men, against vaccination.

THE British have received another good drubbing in Afghanistan, losing ten men and the greater part of their baggage, animals and treasure.

IT is told of a monkey who had suffered from a toothache for several days that he tied a string to the offending tooth and pulled it out with a jerk.

A GERMAN newspaper claims to have discovered that Goethe was descended from a Bavarian family, bearing the name of Gotze, and living in 1449 at Henstron.

THE manufacture of paper bricks is said to be carried on extensively in the West. The quality of the bricks render them well adapted for building purposes.

THE American and English Bible Revision Committee are said to agree in 99 cases out of 100. Work on the New Testament will be finished in September.

LEWISTON has \$590,070 invested in 78 factories, outside of cotton and woolen, which pay 1,256 persons \$296,277 a year for making \$1,263,968 of products.

A BRAKEMAN on an Indiana freight train, who permitted a man to ride with him on the top of a car, undertook to collect fare, and shot the passenger for refusing to pay.



The Golden Grain.

The grain! the grain! the beautiful grain!
How it laughs to the breeze with a glad refrain,
Blessing the famishing earth in her pain,
Making her smile with glee.

Lifting in praise each bright golden crown,
As it drinks the dew the Father sends down,
Courting the sun's warm lover-like frown,
Returning it smilingly.

The grain! the grain! the beautiful sheaves!
A song of joy their rustling weaves,
For the gracious gift that the earth receives,
Given most royally.

From every hillside, every plain,
Comes the farmer's song as he reaps the grain;
And the summer breeze wafts on the strain,
In wildest harmony.

He pours o'er the earth his brimming horn,
That the valleys may laugh and sing with corn,
While hope, with her death trance, rises new born,
The brighter days to see.

Our Father we thank Thee! the beautiful grain
Brings a blessing like that, when the soft summer rain
Comes down on the parched earth, nor bids it in vain,
Rejoice and hope ever in Thee.

Hope ever, and trust! Thy thoughts, not like ours;
Thou sendest the drouth, then bringest the flowers,
Withholdeth the grain, then, with magical showers,
A glorious harvest we see.

And so for the grain! the beautiful grain!
The golden, the laughing, the glad refrain,
Blessing the famishing earth in her pain—
We offer our worship to Thee.

Mrs. Gaston's "Day."

Mrs. Gaston was one of the cheeriest, liveliest, most hopeful little women that ever lived. But on this particular morning her brow was shaded by something that resembled a frown, her voice had lost its cheerful ring, and there was a morbidness about her movements that did not agree with her usual briskness. To tell the truth, Mrs. Gaston had an attack of the blues.

As soon as her daughter Mand, a bright girl of 12, had given her a good-bye kiss and started to school, and Mr. Gaston and their son were safely out of the way, Mrs. Gaston sat down on the edge of the bed, drew a letter from her pocket, and began to read. But the shade on her brow deepened, and the lines about the pleasant mouth increased, as her eye ran over the page. Then she folded the letter and said aloud: "It's too bad, anyway. I'm not envious, but it is hard to think that Ellen can have everything, while I must drudge and drudge, and have nothing after all. If we had only stayed in Boston, I believe we might have been well off to-day. Just to think of her presents on New Year's—a diamond ring and a silver tea set, and a piano for Mary! I don't want a silver set nor a diamond ring, but I do care for the children. What will they ever be, brought up in the society about here? And as for myself, I am just rusting out."

She sat for a long time with her hands folded in her lap and her countenance the picture of discontent, until, glancing at the clock, she saw it was time to prepare dinner. Getting up in a listless sort of way, she put the room in order and went to work at the dinner, all the while contrasting her humble three-roomed house, with its humble furniture, to her sister's stately mansion in Boston. True, that mansion stood on a very poor foundation, for Henry Graham, her sister's husband, was a wholesale liquor dealer, and by no means an abstainer himself. A very different man from John Gaston, for he was "almost a fanatic about temperance," the neighbors said.

Then, as she thought of the diamond ring, she glanced down at her own hard, stumpy, brown hands, and thought of Ellen's soft, white ones, and sighed again. But her eyes caught sight of the gold band on her finger. It was worn thin, but it was as bright as on the day when John had slipped it there and called her his queen. It was just like John—plain, and honest, and pure; and the sight of it led her back to the days when she and John were first wed.

He was then a book-keeper in the same store where Harry Graham was clerk. But the confinement of his position was wearing on his health. The doctor had said that a change must be made or he would soon be a consumptive. She remembered distinctly how she had urged him to sell out their stock of worldly goods and seek a home on the free wild prairie. John had objected at first to going. He knew what it meant to be a farmer in a new country, and was loth to take her away from kindred and society to bear the toils and privations of a poor farmer's wife. But the subject of his health was dearest to her heart, and she overruled every objection, and hopefully, bravely urged the change.

But somehow even this failed to comfort her

this morning, and time after time she found herself sighing and wishing they were back in Boston.

A loud knock at the door startled her. She opened it quickly, and saw her nearest neighbor.

"Good morning, Mrs. Gaston."

"Good morning, Mr. Thomas. Walk in."

"I can't; I reckon my feet's too muddy," he replied, glancing down at his number tens in a questioning way. "I come over, Mrs. Gaston, to git ye to come over to our house a spell this afternoon."

"Is Mrs. Thomas or the children sick?" inquired Mrs. Gaston.

"Waal, no. You see the ole woman's kind o' down in the mouth.—Got discouraged like, and wants cheeriu' up a bit; and you're just the one can do it," and a wan smile lit up the man's face as he glanced at Mrs. Gaston, whose heart palpitated faster as she thought what a poor condition of mind was hers to think of cheering up any one.

But she answered: "Well, I'll come over a while after dinner, Mr. Thomas."

"All right. Thankee. Pears like she's got unsatisfied or sumthin'."

"Oh, no, she hasn't," said Mrs. Gaston, cheerily. "She just wants to talk to some woman. We'll have a good chat. I'll go over as soon as I can, after dinner."

"That's the blessedest little body that ever got into this yer country," soliloquized Mr. Thomas, as he trotted his angular nag over the smooth prairie road. "She never gits down in the mouth, I know she don't, 'cause there's never a wrinkle in her face, and her hair is never tumbled lookin', and she's allers got a collar on, and John Gaston allers looks like a 'squire instead of a farmer. Mighty high folks fur this country."

Somehow the idea of cheering up poor Mrs. Thomas, and the pleasant intercourse of the family while at dinner, went much towards restoring Mrs. Gaston's spirits, and setting things to rights again.

It was not the first time she had gone to Mrs. Thomas on a similar errand. They had been neighbors for some years, and to Mrs. Gaston's friendly counsel and helping hands they owed many of their comforts. Formerly, they had had no ambition beyond bare floors and dusty windows. Mrs. Gaston had suggested rag carpet, and even helped to make one. Then they had taken pattern from her own nest home, and had put forth an effort to make their own more attractive. Hanging baskets, winter bouquets and rustic frames, had found their way to these rude homes, and now adorned the once dingy, cobwebby walls.

It was like a gleam of sunshine crossing the threshold when Mrs. Gaston appeared before Mrs. Thomas that day. The sad look vanished as she said: "I'd rather see you comin' in than my mother. The sight of your face always does me good."

"Then I am glad I came. How nice your curtains look!" said Mrs. Gaston, glancing at the windows.

"Yes. I took your plan, and made them out of old sheets and things.—They look a heap better'n paper ones; but I reckon they'll need washin' 'bout every week," replied the woman, a flash of gratification lighting up her eyes.

"Oh, they're very little trouble to do up," said Mrs. Gaston. "Then they always look as nice as new when they're clean."

Then sitting down, Mrs. Gaston drew her knitting out of her pocket and commenced knitting away vigorously while she told Mrs. Thomas about the temperance society the young folks and old folks, too, were talking about forming. Then of Mrs. Tucker's new baby; and when everything else was exhausted, she told her about her sister's letter. Told in a way that made her listener think how wonderfully Mrs. Gaston was blessed in receiving such pleasant letters.

"You have given me a world of comfort," said Mrs. Thomas, as her visitor at length rose to go. "Somehow I always feel stronger after having talked with you."

"Do you? Well then we'll have many a good chat, won't we?"

As she walked briskly homeward, she wondered why her heart felt so full of joy, and how even the sunset clouds, which had grown purple and dark in the short twilight, were seemingly tinged with a soft beauty.

"It must be because spring is so near," she said half aloud, as she glanced over the wide prairie, which was already covered with greenish gray, a token that vegetation was beginning to spring up under the warm March sun.

That evening, as the family were all gathered around the cheerful fire, Mr. Gaston said:

"Mother, what do you think I heard neighbor Stines say to-day?"

"What was it?" asked Mrs. Gaston, while the children looked up from their books in questioning surprise.

"He said John Gaston's wife was the bravest, cheeriest, helpfulest woman in the neighborhood. That his wife would have been discouraged and gone back East long ago only for her. She was always on the bright side and never got the blues."

"We all knew that before, didn't we, mother?" said Maude, laying her head in her mother's lap.

But Mrs. Gaston did not reply. She was thinking of her "spell" of the morning, so she only stroked the bright young head and inwardly rejoiced that she had not betrayed herself to them.

"I believe mother's secret lies in this, she is

always counting her blessings," said Mr. Gaston, smilingly.

But that night, in the quiet of their own room, Mrs. Gaston told her husband her experience of the morning.

"I was wishing myself back, John. I was envious of my sister's comforts, and in cherishing my envy, lost sight of you, of myself and God. I could not see any Providence in our being out here, deprived of society and friends. But I see now, and am satisfied to fill my appointed place, and God will see to it that our children fill theirs also."

Industrial Training for Girls.

[Written for the RURAL PRESS by DORA DARMOORE.]

A few days since an incident came under my notice which revived again the idea which I have for years entertained, viz: that our school system is deficient in at least one particular, and that is, in a department for the Industrial Training of Girls.

For if our schools paid more attention to fitting their pupils, not only intellectually but industrially, for life, and more especially those for the education of girls, there would not be so many incidents like that which I am about to relate. A gentleman approached me with a pitiful story of a lady for whom he said he had been endeavoring to procure employment for many months, but unsuccessfully. He said she was in very destitute circumstances, was a lady of refinement, highly accomplished and intelligent, but unfortunately had been brought up in ignorance of any useful labor. I knew at that moment of a home where a woman of intelligence and refinement, who was also a good housekeeper, was being eagerly looked for. I spoke of this fact to the gentleman, but he sadly shook his head. "Alas! this woman was never taught how to cook or to oversee a household—or, in fact, to do anything useful. She has no trade or profession, and is cast helpless upon the world," was his reply. And there are hundreds in our midst that are in similar circumstances. When I see how unwisely the mothers of this generation are acting regarding the education of their daughters, I shudder at the consequences to these same daughters, if such a false and pernicious system of education is persisted in. Not one in ten of the mothers to-day, no matter what their circumstances may be, teach their daughters how to cook, or to attend to household affairs. Even the daughters of our farmers know, as a rule, far more concerning music and embroidery than they do about the mysteries of bread making, or the concoction of puddings, or the brewing of a cup of fragrant coffee.

This is not true in all cases, but in far too many. Occasionally we find sensible mothers, who see to it that their daughters receive not only the fullest education and accomplishments taught in our schools, but the more essential ones of household education. Girls thus educated are fitted for every emergency in life, and it does not, in the eyes of any sensible man, detract from the worth of a woman to know that she can "see to the ways of her household" as well as preside with ease and grace in the drawing-room.

But there is another phase of this industrial training for girls which I would like to see agitated until a move to accomplish is made in the right direction. That is, a department added to our schools, especially those for girls, for their instruction in industrial pursuits. I would have competent teachers employed to instruct them a certain portion of time every day in some useful trade or profession for which they might evince a talent. Thus, hand in hand with the development of their mental faculties, I would have an education in some industrial pursuit that would fit them for future usefulness.

In the exigencies of life no woman is assured that she may not some time be cast upon the world to take care of herself, and perhaps have other weak and helpless beings dependent upon her. I would, therefore, place in her hands at the start at least one weapon with which to fight the battle of life. If she is never called upon to use it, it will do her no harm, but rather add to her true womanliness by making her self-reliant. The "vine and oak" idea of women and men is very well in poetry and sentimental stories, but in real life a man who has a wife who partakes too much of this "vine" nature may find her somewhat of an encumbrance, and inclined to impede his own movements sometimes. Let us by all means have our girls fitted to stand alone, by a proper industrial training.

A NEW PHASE OF DECORATIVE ART.—Some of the semi-scientific idlers at Nahant, says the Springfield Republican, have taken to cherishing families of decorated crabs. The plan is to treat the newly captured crab to a hard scouring with a nail brush until his shell is perfectly clean; when he is placed in a jar with a quantity of sea-weed. As soon the bewildered crab recovers his senses, he seizes a bit of weed, bites it off, covers it with some sticky substance from his mouth, and presses the end upon the shell on his back; and there it sticks and grows. The idea of the poor crustacea is to hide himself from the sharks and rays that like to make a dinner off of him, and he keeps up the process until he looks like a moss-covered rock.

Country Housewives.

Our women on the farms often have entirely more to endure than their strength can bear. In her willingness to perform her whole duty as a housewife, woman frequently has no conception of the wear and tear of her strength and health until both are wrecked. Her work is never done, and from morning until night she labors with a steadiness and patience that make her unconscious of the flight of the moments, or of weariness, until she almost sinks from pure exhaustion. Of course there are duties and irksome duties, that must be performed, but a little thought and consideration upon the part of fathers, husbands, sons and brothers, will often make woman's work much lighter, and her heart more cheerful. Men are too apt to prove a positive nuisance about the house. They are thoughtless about little things. They increase the labors of the women without thinking that they are doing it, in a thousand ways and in things which are trivial in themselves, but which make a considerable aggregate.

Men are very liable, too, to neglect to speak words of encouragement to the women of their household. Even a horse loves to be encouraged. Men do better under praise and appreciation than under direct or indirect censure, and there is nothing that a woman loves better than to be told that her faithful efforts to please are successful. Some men seem to regard it as a weakness to speak kind words—to say that the dinner is excellent, that the wife looks nicely in her new dress, that her home is very neat, and that she is the best wife in all the world. But it is not weakness—it is one of the noblest virtues of manhood, and an analysis of the cause of the failure to do so will very likely demonstrate that the presumptuous man is silently, and perhaps unknown to himself, harboring the barbarous thought that the woman is his inferior.—Western Rural.

Inattention.

The foe of married happiness is inattention. The real wrong to the wife, the real failure to the husband is when he becomes unconscious of what she is doing for him, and what she is in herself. A man should every day see in his wife the woman she is. Whatever purity, sweetness, womanliness he once saw in her, and thrilled at the sight of; whatever fuller and richer growth the years have brought—these things he should see in her continually. Not a mere part of the domestic machine should she be to him; not even a mere comfort and convenience and pleasure to himself—her soul, in its full stature should come home to his constant thought. Whatever charm of face or manner, whatever womanly grace, whatever quickness of thought or delicate sympathy, would strike a stranger's notice, ought far better to be seen and prized by him, her husband. It is little to say that her face ought to be as beautiful each day to his eyes as if they looked upon it for the first time; it should be far more beautiful, because he has learned to see through its windows the soul within. And in the same way the wife should look upon her husband. It is this true yet tender regard which makes the right atmosphere for the soul to ripen in. Few things touch us so deeply as to be understood. But to be understood and loved; to have the best that is in us made full account of; to know that our faults, too, are open to that sweet and gentle gaze; so long to be worthy of a love so pure and high that only our highest and ideal self can deserve it—what other influence can so strongly draw us toward all our noblest possibilities? This is the work of true marriage; to reveal two souls to each other in their ideal beauty, and then to bring that ideal to realization.—Unity.

THE HUMAN FIGURE.—The proportions of the human figure are six times the length of the feet, whether the form is slender or plump, the rule holds good, any deviation from it is a department from the highest beauty in proportion. The Greeks make all their statues according to this rule. The face, from the highest point of the forehead, where the hair begins, to the chin is one-tenth of the whole stature. The hand, from the wrist to the middle finger is the same. From the top of the chest to the highest point of the forehead, is a seventh. If the face, from the roots of the chin, be divided into three equal parts, the first division determines the place where the eye-brows meet, and the second the nostrils. The height, from the feet to the top of the head, is the distance from the extremity of the fingers when the arms are extended.

THE RIGHT SORT.—Opposition incites the ambitious man to new efforts. Large birds rise against the wind, not with it. A fine ship makes little progress in a dead calm. A stiff breeze purifies the atmosphere, supplying life-giving principles. Man never shows his latent force until opposition faces his darling schemes. Hardship is the native soil of manhood and self-reliance. He who cannot abide the storm without flinching, or fight for the right against the legions in opposition, is not made of the stuff that commands success. Fair weather men (those who prosper only in the sunshine and under a cloudless sky) must resign the leadership to those of sterner qualities, whom opposition strengthens, and whom the sight of the foe only nerves to brave and heroic deeds.

Chaff.

"DOCTOR" said a despairing patient to his physician, "I am in a dreadful condition. I can neither lay nor set. What shall I do?" "I think you had better roost," was the reply.

"Do, do keep away from that window," said he. "But I'm not afraid of the lightning," replied she. "Ah! dear," continued the youth frantically, "little do you realize how attractive you are." And having made this appeal, he was able to conduct 'er away.

SCHOOL teacher to little boy whose father is a grocer—"Now Johnny, if your father has a barrel of whisky containing 40 gallons and $\frac{1}{2}$ of it leaks out, how many gallons does he lose?" Johnny—"He don't lose none. He fills it up again right off."

"ONE was killed and the other had his head severed from his body," says an Arkansas paper in speaking of an accident. That's better than saying that two men were killed.

"SIR," said an astonished landlady to a traveler who had sent his cup forward for the seventh time, "you must be very fond of coffee." "Yes madam, I am," he replied, "or I should never have drank so much water to get a little."

AFTER several years of reflection I have come to the conclusion that the three most difficult things in life are—1st. Carryin' an arm-ful of live eels up a steep hill without spillin' an eel; 2d. Actin as a referee at a dog fight without gettin' mad; 3d. Editin a newspaper.—*Josh Billings.*

A DARTMOUTH sophomore called on a "medic" the other day to ask his advice about a bad eye from which he was suffering. The "medic" examined it and predicted that he would lose it, but wrote a prescription for it. At this point the sophomore rolled out his glass eye and the scene closed.

A LADY once requested Rowland Hill to examine her son as a candidate for the ministry, remarking, "I am sure he has a talent, but it is hid in a napkin." At the close of the interview with the young man, Mr. Hill said, "Well, madam, I have shaken the napkin, and I cannot find the talent."

"GOODS at half price," said the sign. "How much is that teapot?" asked the old lady who had been attracted by the announcement. "Fifty cents, mum." "I guess I'll take it then," she said, throwing down a quarter. The dealer let her have the teapot, but took in his sign before another customer could come in.

A YOUNG man with an extremely powerful voice was in doubt what branch of musical art to adopt. He went to the composer Cherubini for advice. "Suppose you sing me a few bars," said the master. The young fellow sang so loud that the walls fairly shook. "Now," said he, "what do you think I am best fitted for?" "Auctioneer," drily replied Cherubini.

He came into our sanctum with a large roll of manuscript under his arm, and said very politely: "I have a trifle here about the beautiful sunset yesterday, which was dashed off by a friend of mine which I would like inserted if you have room." "Plenty of room. Just insert it yourself," replied the editor, gently pushing the waste basket toward him.

It is so seldom that matrimonial alliances are entered upon where the business interests of the contracting parties are mutually beneficial, that we must call attention to the case of a couple in Nebraska, who combine business with affection in a most pleasing and profitable manner. The wife is a lady doctor, while the husband attends to the undertaking department.

A TRAMP TRAP.—It is a well-known fact that freight cars are a great resort for tramps. These cars afford them traveling conveyance, sleeping apartments, and everything which conduces to make the life of a tramp pleasant and comfortable. To hunt them out or to capture them while in these cars has been one of the great studies of railroad men. One of the most prominent citizens of Colorado Springs has invented what he calls a "tramp trap." It consists of an ordinary freight car, in which is a movable bed resting on spiral springs, something like a spring mattress. To this bed is attached a clutch, which acts on an elliptic spring connected with the doors. The movable bed is adjusted so as not to move until a required weight is upon it—say 1,500 pounds, the average weight of 10 tramps. In this car are placed several boxes of crackers, baskets of wine, boxes of cheese, bundles of cigars, and the doors are left wide open. These articles are soon discovered by the tramps, and they begin to swarm around the car and to enter one by one. When the required weight is in the car the bottom suddenly flies up, throws out the clutch, and the doors close quick as a flash and fasten with a spring lock. The tramps are thus secured until the proper officers come and kill the tramps. We understand the inventor has made application for a patent, and the right to use the same will be placed at a very low figure, as he wants to benefit mankind, and not to make money.—*Railway Age.*

ODOR OF DINNER.—Most people do not care to inhale the odor of the vegetables which are being boiled for dinner; but in confined city houses it is not easy to prevent the evil. But now a scientific writer authoritatively says that a piece of bread about the size of a French billiard ball tied up in a linen bag and inserted in the pot with the greens will absorb all those gases which disseminate such insufferable odors.

Young Folks' Column.

Little Lame Jimmy.

"All the children can soon be earning money enough for themselves but poor, little lame Jimmy," said the widow Wickly, wiping the tears from her eyes with the corner of her apron, as she sat talking to a neighbor, some three weeks after the funeral of her poor husband, who was killed by falling from a building on which he was working one hot day. "Every one of them are strong but Jimmy, but he'll never be able to help himself."

Jimmy was sitting outside of his window, feeding his big black billy-goat.

"Mammy is mistaken there," he said to himself. "You won't catch me sitting down idle because one of my legs is shorter than the other. I'll show them. I'll make as much money as any of them before I'm done. 'Where there's a will there's a way,' poor daddy used to say, and I've got the will."

And Jimmy set his little brains to work without saying a word to any one.

Tom was apprenticed to a carpenter. Sam went to learn the hatter's trade. Benny was taken into Mr. G——'s office to mind the fires, run of errands, and clean the windows. And when they were all settled, little Jimmy went poking about the house and cellar, hunting up all sorts of old pots and kettles, and soon surprised his mother by asking her to give him the big silver half-dollar that she had saved up for him ever since it was given to him a year before.

"It's not for nothing, mammy," he said. "Indeed it isn't. I'm going into business with it."

And, indeed, half an hour from that time, Jimmy, with a tin kettle in his little goat-cart, was going from door to door, not selling, but buying something. And what do you think that something was? A very queer thing, you will say. Fat!

"Fat!" he kept calling. "Soap fat! soap fat!"

People looked out of their basement windows and said to themselves, "What a little soap-fat boy!" and Jimmy was very careful to give a good price for what they sold him. He had watched the old soap-fat man, and knew what he ought to pay. And when his little kettle was full he went home, stopping at the drug-gist's to buy some potash with the money he had left. Jimmy, as you may suppose, was going to make soft soap. He had seen it done, and knew how very well.

And now he went to work in the yard at the back of the house, and certainly the smell that arose was not pleasant, and soap-making is dirty work. But at last Jimmy crowed with joy, for there was a great kettle full of the nicest soft soap you ever saw in your life. He gave some to his mother, who said it was "splendid."

On the next day out came the little goat-cart again, and what the little fellow cried this time was "Soft soap." Everybody bought of him. He sold his soap very soon, and he made a little profit on it. It wasn't much, but it encouraged him. Day after day he made his soap and sold it, and after a while he tried some hard soap. By this time his mother had begun to think her lame Jimmy the smartest boy she had; and the children in the neighborhood were all interested in his work, and he had plenty of help with his kettles, if he wanted it.

The hard soap was a success—there could be no doubt of that—and more profitable than the soft soap, and it was not long before he really made \$2 every week, which was not bad for a little lame boy only 12 years old.

For six months Jimmy kept at his hard work, and was all the better for his long walk every day, and at the end of this time a great piece of good luck happened to him. A nice old lady, who had often watched him from the window, called him in and asked him all about his work, and when he had told her who he was and all about himself, she patted him on the head, and said that her son was a large manufacturer of soap, candles and perfumes, and that he should teach him how to do everything in that line.

"My son does whatever I ask him," said the old lady. "He was a good boy to me, as you are to your mother, and we are rich enough to do a kindness."

The next day a stout, middle-aged gentleman came to the poor widow's cabin and talked to her. He promised to teach Jimmy his trade, and said he would be useful enough from the first to earn \$3 a week; and you may imagine that the widow was pleased. Jimmy was delighted. He went regularly to the factory, and learnt his trade very fast. Before long he made good wages, and at 18 he began business for himself on a larger scale than before, and prospered so well that to-day he is one of the richest men in his town.

Old Mrs. Wickly is not obliged to work for her own living now. She dresses as well as any one, and is mistress of a fine, substantial house, and she often says to her friends when they call to see her:

"My boys are all good boys, and have all prospered, but none has been so smart, or got along so well, as little lame Jimmy, that I never thought would be able to earn a penny for himself in all his life."

Good Health.

Heart Affections.

There is not a pin's point surface of the external portion of the body which does not give instantaneous warning of the slightest invasion from without: It is our guard against external dangers. But the more important internal organs are so well protected by the casings which surround them, that they do not require such sensitiveness; hence it is not thrown away upon them. For example: It is generally supposed that if the heart is touched we would die instantly. So far from this being true, hayonets and bullets have been driven into the heart of men and animals without causing death. The hullet which caused the death of William Poole was found imbedded in the solid substance of the heart, and yet he lived 11 days after he was shot.

The great Harvey brought Charles II. to a British nobleman who had an opening in his chest, through which the heart could be seen and felt. The king touched it with his finger, but the nobleman was not aware of it, unless he saw the fingers in the cavity. And yet this same heart responds to every emotion of joy, or grief, or passion, or alarm.

Persons often trouble themselves uselessly, about having disease of the heart or lungs, because they have pain thereabouts. These are good signs, generally, as showing that the pains are external to these organs, for there can be no pain where there are no nerves. The fact is, the most certainly fatal affections of these organs give no note of warning by pain, until within the last brief hours of life. The very substance of the lungs and heart are often eaten through, eaten away, without a remote suspicion on the part of the patient that such was the case. The celebrated clerical orator, John Newland Maffitt, died of a literally broken heart—not an emotional breaking, but a structural rupture; it had slowly decayed, rotted away, until so near through that its functions could not be performed, when pains came on, and he died in a few hours; on examination, it was found that this destruction of parts had been going on for months, most probably.

But another result follows the closing of the pores of the skin, and more immediately dangerous. A main outlet for the waste of the body is closed, it remingles with the blood, which in a few hours becomes impure, and begins to generate disease in every fiber of the system. The whole machinery of the man becomes at once disordered, and he expresses himself as "feeling miserable." The terrible effects of checked perspiration on a dog, who sweats only by his tongue, is evinced by his becoming "mad." The water runs in streams from a dog's mouth in summer, if exercising freely. If it ceases to run, that is hydrophobia. It has been asserted by a French physician that if a person suffering under hydrophobia can be only made to perspire freely he is cured at once. It is familiar to the commonest observer that in all ordinary forms of disease the patient begins to get better the moment he begins to perspire, simply because the internal heat is passing off, and there is an outlet for the waste of the system. Thus it is that one of the most important means for curing all sickness is bodily cleanliness, which is simply removing from the mouths of these little pores that gum, and dust, and oil which clog them up. Thus it is, also, that personal cleanliness is one of the main elements of health—thus it is that filth and disease habitate together the world over.

The great practical lesson which we wish to impress upon the mind of the reader is this: When you are perspiring freely, keep in motion until you get to a good fire, or to some place where you are perfectly sheltered from any draft of air whatever.—*Hall's Journal of Health.*

METALS IN THE BODY.—The human body, which seems made up of flesh and blood, really contains several metals and gases, and other substances which perform important offices in the world of science. Nitrogen and carbon and hydrogen are its chief constituents, but it holds, besides, about two pounds of phosphorus, which is essential to the health of the bones and vigor of the brain. This phosphorus, if extracted and put to use, would make up about 4,000 packages of friction matches. Besides phosphorus, it contains a few ounces of sodium, and a half ounce of potassium, which school-boys know as a curious metal, that burns brilliantly on the surface of water or when touched by an icicle. The quantity of such in the body would be sufficient for many experiments in a large school. In addition to sodium and potassium, there are a few grains of magnesium, enough to make the "silver rain" for a family's stock of rockets on a Fourth of July evening, or to create a brilliant light visible twenty miles away. Who knows but some reckless chemist may undertake to drive a profitable business by extracting these materials from dead bodies?

VASELINE.—Vaseline, or petroleum jelly, is one of the most useful substances for external use ever brought to the attention of the medical profession. Being neutral, bland and unchangeable, as a mere lubricant, or as a basis in the preparation of ointments and liniments, it deserves to supplant all animal fats and oils. And for the toilet, whether alone or in combination with aromatics, for the choicest pomades and soaps, it excels all other substances in elegance and exemption from injurious properties.—*Sanitarian.*

Domestic Economy.

Useful Recipes.

To Clean Marble.—Marble, soiled from ordinary use, can be nicely cleaned in the following manner: Pulverize a little bluestone, and mix with four ounces of whiting; add to these four ounces of soft soap and one ounce of soda dissolved in a very little water. Boil this preparation over a slow fire 15 minutes, stirring all the time. Lay it on the marble while hot, with a clean brush. Let it remain half an hour; then wash off in clean suds, wipe dry and polish by quick rubbing. Marble which has become soiled from smoke may be cleaned as follows: Moisten powdered quicklime with a strong solution of washing soda in hot water; brush this over the stone and let it dry. Brush off, wash with plenty of water, and polish with a little tripoli.

OIL MARKS on wall paper, or the marks where inconsiderate people rest their heads, are a sore grief to good housekeepers, but they can be removed without much trouble. Take pipe-clay or fuller's earth, and make it into a paste, about as thick as rich cream, with cold water; lay it on the satin gently, without rubbing it in; leave it on all night. It will be dry by morning, when it can be brushed off, and unless an old stain, the grease spots will have disappeared. If old, renew the application.

GREASE on a carpet, if of not too long standing, can be readily disposed of by washing the spot with hot soap-suds and borax—half an ounce borax to gallon of water. Use a clean cloth to wash it with, rinse in warm water and wipe dry.

To Take Out Ink from Woolens.—If ink is spilled on a carpet or woolen article it should be attended to at once while still wet, if possible, and then is very easily removed. Take clean blotting paper or cotton batting and gently sop up all the ink that has not soaked in. Then pour a little sweet milk on the spot and soak it up from the carpet with fresh cotton batting. It will need to be renewed two or three times, fresh milk and cotton being used each time, and the spot will disappear. Then wash the spot with clean soap suds and rub dry with a clean cloth. If the ink has been allowed to dry in, the milk must remain longer and be repeated many times.

A CAKE CHEST.—A correspondent of the *Rural New Yorker* says: I had long used jars, but found them inconvenient, because crumbs from one loaf would adhere to another, and if frosted it would surely be crumbled off on the edges. I could find only small chests in the tin shops, and I wanted one large enough to contain a batch of cookies and several loaves of cake; so I took an old boiler to my tinner and had him make a tray with a strong handle at each end. This is placed far enough from the top to admit cakes as thick as I ever bake, and leaves the lower portion just right for two heaping pans of cookies or fried cakes. He added hinges to the cover. I painted it outside and inside except the tray. It cost only 80 cents and is entirely satisfactory.

CANE AND GRAPE SUGAR.—Prof. Kedzie gives us the following valuable bit of domestic information: Cane sugar is two and one-half times as sweet as grape sugar, closely allied to it, and differs so little from it that some persons cannot distinguish it. By cooking, the cane sugar may be changed to grape sugar, and thus lose its sweetening power. Some women put the sugar in with a mass of acid fruit to be cooked, and keep cooking and adding sugar while it keeps on growing sourer, until at last they use two and one-half times as much sugar as they need to secure the desired result. The cane sugar has been changed to grape sugar. Now if the sugar had been added after the fruit was cooked, much less would have been required, and the result would have been more satisfactory.

CALF'S HEAD CHEESE.—Boil a calf's head in cold water enough to cover it, after you have let it lie in clean hot water to soak for an hour. Add salt, this will send the scum to the top of the water, which must be taken off as fast as it rises. Let it boil gently until done, or until the meat leaves the bone, when take it up, dividing the meat from the bone. Season with salt, pepper and sweet herbs, and a little grated nutmeg if liked. Place in a deep dish or basin, putting a plate and a gentle weight over the top of it. When cold it will be nice sliced for supper or sandwiches.

TOMATO CATSUP.—An old Connecticut recipe is as follows: One bushel ripe tomatoes, $\frac{1}{2}$ lb. cloves (ground), $\frac{1}{2}$ lb. black pepper (ground), $\frac{1}{2}$ lb. cinnamon (ground), $\frac{1}{2}$ ounce cayenne pepper, 2 ounces nutmeg, salt to your taste. Wash your tomatoes and cut up and boil two hours, strain through sieve, rubbing until seed and skins only remain in sieve; put into porcelain kettle and add spices, etc., boil down to proper thickness, and after cooling add one quart of good cider vinegar. Bottle or jug when cool.

LEMON JELLY CAKE.—Two cups sugar, half-cup butter, $3\frac{1}{2}$ cups flour, 3 eggs, 1 cup sweet milk, 1 teaspoonful baking powder sifted with flour; bake in layers. For the jelly, use the juice and grated rind of two lemons and two tablespoonfuls of cold water, two cups of sugar and two eggs. Warm the lemon water gradually, add the eggs well-beaten when scalding hot; cook slowly as it burns easily.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$ 5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch..... .2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

Our latest forms go to press Wednesday evening.

SAN FRANCISCO:

Saturday, August 14, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Tea Culture in the United States; Crauberry Growing, 97. The Week; Reducing Trade Friction, 104. James B. Eads; Action of the Viticulture Commission, 105. Notices of Recent Patents; Soda Bay, Clear Lake; Academy of Sciences, 108.

ILLUSTRATIONS.—Tea Plant from Seed, 97. James B. Eads, California Consulting Engineer, 105.

QUERIES AND REPLIES.—Destroying Fruit Pests; Dying of Fruit Trees, 104.

ENTOMOLOGICAL.—Grapevine Leaf-Hopper; The Winged Phylloxera; Phylloxera, 104.

CORRESPONDENCE.—Snowflake Wheat; Fruit-Preserving Preparation, 98.

HORTICULTURE.—Fruit Growing—No. 1; Morello and Kentish Cherries; Success with Small Fruits; The Shalade, 93.

THE DAIRY.—The Curing of Cheese, 99.

THE SWINE YARD.—Swine Industry, 99.

THE STOCK YARD.—The Standing of Jersey Cattle in England, 99.

THE VINEYARD.—The Muscatel Grape; The Outlook, 99.

PATRONS OF HUSBANDRY.—California Farmers' Mutual Insurance Association; Resolutions of Respect, 100.

AGRICULTURAL NOTES from the various counties of California, 100-101.

NEWS IN BRIEF, on page 101 and other pages.

HOME CIRCLE.—The Golden Grain (poetry); Mrs. Gaston's "Day"; Industrial Training for Girls; Country Housewives; Inattention; Chaff; A Trap Trap, 103.

YOUNG FOLKS' COLUMN.—Little Lame Jimmy, 103.

GOOD HEALTH.—Heart Affections; Metals in the Body; Yaseline, 103.

DOMESTIC ECONOMY.—Useful Recipes; A Cake Chest; Cane and Grape Sugar; Calf's Head Cheese; Tomato Catsup; Lemon Jelly Cake, 103.

MISCELLANEOUS.—Melbourne Industrial Exhibition; The Nicaragua Inter-oceanic Canal; Cash and Credit, 106.

Business Announcements.

New Model Parker Shot Gun—E. T. Allen, S. F.
Seigler Springs Hotel—John Spaulding, Lake County, Cal.
Commission Merchants—Shoobert & Beale, S. F.
Poland China Swine—T. C. Starr, San Bernardino, Cal.

The Week.

The Mechanics' fair in the grand pavilion in this city was opened to the public on Tuesday evening. On Tuesday afternoon the usual preliminary exercises were held in the Grand Opera House, and addresses were delivered by Hon. P. B. Cornwall President of the Institute, and by Hon. A. A. Sargent. They were able and timely, and we expect to give them to our readers in a future issue. The fair which is now well begun will remain open until September 11th, and all visits to the city should be timed to occur before that date if possible. The fair shows that which is most unique and interesting in mechanism, from the microscopic measurements of the mathematical instrument to the giant whirl and plunge of ponderous machinery. It has departments rich in art, from the flight of the ideal creation to the quaint conceits of the decorative artist. It has mountains of merchandise, which show how the wide-awake merchant and manufacturer chain the aesthetic and the artistic to their chariot wheels. It has a garden, musical with the sounds of falling waters, fragrant with the perfume of rare plants, and beautiful with living colors. In this garden there is now the finest public exhibition of flowering and foliage plants, palms and ferns which has been displayed for many years in this city. The fairs of the Mechanics' Institute have wide fame throughout the Pacific Coast, and that of 1880 will no doubt possess new charms and excellences.

We have a word to say to those who are disposed to do something for the horticultural exhibit. The season is unusually late, and many who would like to show fine fruit find none yet in condition. We trust those in the earlier regions of the State will, therefore, send their exhibits at once, that the department may not lack. Afterward the later exhibits may come in, and before the fair closes we expect there will be a display of California fruit which will be truly representative of our great pomological achievements. Whenever a good fruit attains a safe degree of ripeness, let it be sent at once.

Reducing Trade Friction.

This year's experience in getting grain from field aboard ship promises to show that several wearing points which have hitherto existed may be dispensed with, and the friction of trade consequently proportionately reduced. One good point to which we have already alluded at some length, is the upbuilding of interior warehouses and the loaning of money on property stored in them at a much less rate than money could be obtained on such security hitherto. The good effects of this well-placed accommodation is already evident. The grain growers have obtained the money they needed for present uses and are still masters of the situation; and the prospect is that they will realize all that the grain will bring instead of being forced to close out at the buyer's figure in order to get money enough to pay pressing debts, as has often been the case in former years. By this recognition of growers' rights, exorbitant interest has been curbed and forced sales avoided. These two rough surfaces have for a long time rubbed away much of the legitimate reward of producers.

Another important change which seems to have set in this year is the loading of ships nearer to the fields than usual, and the consequent escape of some tribute which was laid upon the grain by the authorities in this city. It is true that the disposition to load ships in Carquinez straits is looked upon with alarm by those who regard the upbuilding of San Francisco as the chief aim of California's existence. So far as that special feature of the issue goes, we have no particular interest in the question except as we shall notice farther on. The main point is that San Francisco has been exacting tribute from grain on a short-sighted policy of enrichment, and those who deal in grain find they can escape this exaction by not coming to San Francisco. Thus the city finds itself left out in the cold, as many an individual or municipal Shylock has found himself or itself, in the history of trade. The *Commercial Herald* sounds the alarm cry in these words:

What will San Francisco do to protect her wheat trade? At the present time the Central Pacific railroad is bringing wheat to Port Costa at 50 cents per ton less than to Oakland or San Francisco; and as there are no tolls or wharfage, a large bulk of the interior grain will go to Port Costa, Benicia and Vallejo, thereby building up all the interior points, while San Francisco has all the facilities and should place them before the shippers at such a rate as not to drive the business away. The Harbor Commission have intended to give a place for grain on the bulkhead when ready, but unfortunately it has no connection with any railroad, and can only take principally what grain may pass by Port Costa, Vallejo and Benicia; when, if some arrangement could have been made for a receiving place for the Southern Pacific railroad at the south end of the city, it would have assisted the southern coast counties very much; but with no deep water depot, we expect to hear of the railroad offering inducements to store at Monterey and export from there. The management of the waterfront, in being so peremptory in ordering grain to warehouse in 48 hours after discharged, or in about 24 hours after the consignee knew that it had arrived, has made the shippers seek more advantageous points. At Oakland wharf no wharfage on ships or tolls on wheat are charged, nor any storage on grain to shippers, only labor for piling up and delivery. San Francisco should act promptly and be liberal to wheat exporters in order to retain the large share of the trade she is entitled to. Storage at Port Costa is offered at \$1 per ton, and money advanced at 7%. Mission Rock is storing at \$1 per ton and 7% for money, which makes it pretty hard for San Francisco warehouses to pay city expenses and wharfage and tolls, and compete with them. The farmers, therefore, cannot complain of the liberal terms offered them for the handling of the present large crop. There is another point to be considered in this wheat-handling business. If the State claims and charges toll and wharfage in this city, why should not the State exact the same at either of the interior points named? At present a very considerable portion of the new crop wheat comes consigned direct to Mission Rock, where ships can proceed to load the same without charge of drayage, etc. This, of course, operates against the Eureka, North Point, Hooper and other warehouses where heretofore all the grain was stored. Now all is changed. What we now need is a railroad all along the water front connecting all this with the Southern Pacific railroad. Without this, business along our wharves is doomed.

Whether San Francisco will pursue the old course and force her own merchants to take their money and build up other loading points, is a question which the city must decide for itself. The result upon the grain is what we would especially approve, and that is its liberation from unnecessary expenses in getting upon the ocean, and this liberation will in the end increase the value of material in the producer's hands.

Concerning the upbuilding of interior points at the expense of San Francisco, we have only to say that whenever San Francisco does not properly serve the State she must expect to suffer. It would doubtless be to the advantage of the commonwealth to have her different districts built up evenly, and all natural advantages in each fully realized. There is no advantage in making one part of the State tributary to another part. We should like to see every suitable outlet for produce developed in order that expensive transportation may be avoided as far as possible. There is no sense in hauling grain from all the ends of the State that it may reach deep water in the center. There should be flourishing ports built up just as near the productive fields as the conditions of coast and wave permit. The new railroads now projected will doubtless tend to develop the southern harbors of the State. When there are many shipping points, each will do its best to facilitate the passage of produce from field to shipboard in order to secure the incidental trade. This will reduce the friction, and by giving to producers all that the material is worth will tend to build up the general prosperity of the State and cause all true friends of industrial progress to rejoice.

ENTOMOLOGICAL.

Grapevine Leaf-Hopper.

There has been much injury done to grapevines by a small insect infesting the leaves. The pest has been called a thrip, but it appears from specimens lately examined that it is not a thrip, but a species of leaf-hopper which has long been known for its destructive work on vines at the East. Various efforts have been made to subdue the pest. One grape grower in Yolo county now plans to turn sheep into his vineyard as soon as the crop is gathered, and allow them to eat the leaves and trample the litter on the ground, in the hope that this will destroy the insect by breaking up its winter habitations.

Mr. C. H. Dwinelle, of the College of Agriculture, lately received some specimens from the editor of the *Russian River Flag*, and writes concerning them as follows: Most of the insects are in an immature condition, so that it would hardly be possible as yet to determine their species with certainty. From the most advanced specimen found, I think it pretty safe to say that, if not a true vine-hopper, it is a close relative. Its length is about one-sixteenth of an inch from the front of its head to the end of the wings when closed, and the breadth about one-fourth as great. The body and wings have very little color, being more of a greenish white than anything else, with some yellowish marks across the body, as seen through a good glass. The wings are in the main transparent, but each one has three small black dots on it, one on the outer edge, half way back, one at the tip of the wing, and one on the inner edge, at about one-fourth of its length from the tips. Most of the specimens sent have only rudiments of wings as yet.

Vine-hoppers belong to the order of insects called *Hemiptera*, the true "bugs," and are close relatives to the "scale insects" and the phylloxera. They are, however, much more lively in their motions, and the winged insects have a peculiar hop when disturbed, which has given them their popular name. Dr. Harris, in his work on "Insects Injurious to Vegetation," describes a vine-hopper under the name of *Tettigoma vitis*, which was so mischievous as to cause growers in parts of the Atlantic States to abandon their vines. It is one-tenth of an inch long, and in color pale yellow, with scarlet and black mountings. A brief extract of its life-history may be of service as a guide in studying and fighting our California pest: "The vine-hoppers inhabit the under surface of the leaves during the greater part of summer. They make their appearance in June, and are not provided with wings, being in the larva state. During most of the time they remain quiet, with their beaks thrust into the leaves, from which they derive their nourishment by suction. If disturbed they leap with great agility. As they increase in size they frequently change their skins, and empty skins of a white color will be found adhering to the leaves. At maturity they make use of their delicate wings, as well as their legs, in their motions from place to place. The infested leaves become yellow and prematurely dry, and give the vine the aspect it naturally assumes on the approach of winter. The plant languishes, the canes do not ripen well, the fruit is stunted and mildews, and, if the evil goes on unchecked, in a few years the vine becomes worthless. In the autumn the vine-hoppers retire for shelter beneath fallen leaves, and among tufts and roots of grass, till the following spring, when they deposit their eggs upon the leaves of the vine, and then perish."

These insects can be easily destroyed by fumigation with tobacco smoke, and the smoke can be applied under a movable tent, but this would be tedious in a large vineyard. Some more expeditious method must be devised; and much can no doubt be done by destroying all trash around the vines late in the fall, for this will reduce the insects capable of reproducing in the spring. If any of our readers have experience with the insect described, we would like to hear from them.

The Winged Phylloxera.

EDITORS PRESS:—In the report of my remarks on the winged phylloxera found by Dr. Hyde, in your last issue, I am made to say that, of the eight winged insects sent me by Dr. Hyde, five are of the infertile kind. This would seem to imply that the other three were fertile. As a matter of fact, Dr. Hyde sent me five out of the eight found by him, and, as I learn since, forwarded the other three to Mr. Riley, from whom we may expect a report as to their character. So far we do not know with certainty that any fertile-winged insects are produced in California; albeit in a late letter to me Dr. Hyde says that he thinks he has found some of the latter kind, which he has also forwarded to Prof. Riley. I hope for another invoice from him before long.—E. W. HILGARD, College of Agriculture, Berkeley, August 7th.

Phylloxera.

EDITORS PRESS:—I have become somewhat interested of late in the phylloxera—the grape pest. Is there any book giving the history and habits of the insect? Or is all the information to be obtained in the papers? It really does appear to me that the vast army of "miners and sappers" might be out-flanked and destroyed.—W. Visalla, Cal.

We know of no book in English especially devoted to this insect. The fullest accounts are in Prof. Riley's reports as State Entomologist of Missouri. The reports of the Department of Agriculture also contain quite full descriptions, etc. The *RURAL PRESS* of March 29, 1879, has engravings of different forms of the insect with a sketch of its life history.

QUERIES AND REPLIES.

Destroying Orchard Pests.

EDITORS PRESS:—Morse brothers, San Bernardino, Cal., in the last *PRESS*, ask how to exterminate rabbits and birds by the wholesale. "I like to explain," and what I write is my own experience and not heresy.

Birds.—Take inch boards, about six inches square, tack these strips on the sides so as to make it about an inch deep nail them about your orchard on the fence or posts where the birds congregate; then take ripe grapes and pull them from the stem, and prick in the last quantity of strychnine where the stem is broken. The acid of the grape will soon dissolve the strychnine. Place them in your wooden dishes, and the next day "go and bury the dead." I told my boy how to do it, and in one day he buried over 70. Some birds, like magpies, will become so alarmed that after a short council of war and a few bitter "kerracks" they will vote that place an unhealthy one for birds and leave with a "big diagst." It will astonish any one to see the dead and dying under the trees. It kills in a few moments. If you have not ripe grapes, use dry ones.

If you wish to kill the skunks and polecats, leave the birds on the top of the ground a few nights and you will soon have an enjoyable place—one that will be noticed and remarked about by every passerby. Some think the perfume will deaden malaria and keep off the chills. I do not vouch for that.

Rabbits.—Take apples (sweet ones are best), cut in little pieces, prick in strychnine with a sharp stick; split out from inch boards strips about a foot in length, sharpen the ends, place a bit of the poisoned fruit on one end and stick them in Mr. Rabbit's path, and your "Jack Rabbers" (as my boy used to call them) and the "cottontails" will grow "beautifully less" very fast. If you have not apples, use sweet potatoes or carrots.

Pulverize the strychnine by grinding with the head of a nail while in the bottle. You must have care in keeping the poison from other animals, and not let children go about the tempting grapes.—W., Visalla, Cal.

Dying of Fruit Trees.

EDITORS PRESS:—Mrs. E. J. Squires, Calistoga, wishes to know why her fruit trees are dying. It may be from one of two causes, sowing alfalfa among the trees or excessive irrigating in hot weather. Sometimes trees will die on very wet land.—W., Visalla, Cal.

CALIFORNIA AND THE CENSUS.—A Washington dispatch to the *Chicago Tribune* of the 17th says: The idea that California's wealth consists mainly in its gold and silver mines may be dispensed with. A forthcoming statement to be issued by the Census Office will attest that part by showing a difference of several million dollars in the amount of real estate taxable over personal property, the city of San Francisco alone paying nearly one-half. The Census Office is now engaged in preparing tabulated statements showing the value of personal property and real estate of each State and Territory, and the amount of tax paid annually by each. The figures from which these tables are prepared are compiled from the official returns from the State officials, and the work, which necessitates a vast amount of labor and care, when completed will prove of the utmost value. Up to this time California is the only State completely tabulated and it makes a showing which will be read with interest and give rise to some discussion as to what that great undeveloped section will be valued at ten years hence. The statement is as follows: The State has 52 counties, containing 24,641,091 acres. Value of real estate \$466,273,585; value of personal property, \$118,304,451; total, \$584,578,036. On this there is a funded indebtedness of \$9,979,301, and a floating debt of \$1,901,616; total, \$11,880,918. The State expenses for school purposes, including Normal and State schools, and purchase of bonds for the school fund, are \$1,557,973. The total amount of State and county taxes, including school and all other taxes, is \$11,408,032. Of these amounts the city of San Francisco pays a State tax of \$1,345,447, and a county tax of \$4,134,192, or a total tax of \$5,479,639.

A MEMORIAL window, to which Americans have contributed largely, will soon be placed in Canon Farrar's church—St. Margaret's, Westminster, London—in memory of Sir Walter Raleigh.

THE Countess of Cork recently gave a "rose ball" in London, the house being filled with roses, and all the guests adorned with roses of all imaginable sizes and shades.

ON FILE.—"Women as Horticulturists," etc., J. C. C.; "A Smile," E. M.

James B. Eads.

A Brief Sketch of the Life and Remarkable Works of the Great Engineer.

James B. Eads was born in Lawrenceburg, Indiana, May 23, 1820. In 1833 his parents removed to St. Louis, Missouri, in which city he has since resided. Owing to the financial embarrassment of his father, young Eads was compelled to leave school at the age of 13; but he eagerly took advantage of every opportunity that presented itself to increase his information. His diligence in acquiring facts was remarkable; and when he reached manhood his mind was stored with valuable knowledge. The story of the great engineer's life offers a bright example to our American youth. He seems to have begun his career with a distinct purpose, and permitted no obstacle to turn him aside from its accomplishment. Denied almost every advantage in his early years, he appears to have formed the heroic resolution to succeed in spite of fortune. He formed a habit of systematic discipline, and acquired that methodical application and persistence which have so sharply accented his riper years. Starting in life without either wealth or influence, it may be fairly said that he was the architect of his own fortune.

Young Eads was employed for five years as a clerk in a dry goods store; but the business was not to his liking. Having great mechanical ingenuity and a decided taste for mathematics, his natural bent was towards engineering; and he zealously devoted all his spare time to the study of that and kindred branches of science. At the age of 19 he was employed as a clerk on a Mississippi river steamboat; and while in that position he first began to study the peculiarities of the great river and to consider the means involved in its improvement. As early as 1842 he constructed a diving bell boat, designed to recover cargoes of sunken steamers; and soon afterwards he contrived large boats, provided with novel and powerful machinery, for raising the hull and cargoes of steamers which had gone to the bottom. He succeeded by these ingenious contrivances in recovering a number of large and valuable vessels. The operations of the young engineer extended over the entire river and its principal tributaries; and in this way he became familiar with every part of the Mississippi, and formed the theories which he has since demonstrated with such signal success. From his first step young Eads was remarkably self-reliant; indeed, many of his schemes savored of audacity to older engineers. His courage was dauntless. In 1856 he proposed to remove all the wrecks and snags which obstructed the channels of the Mississippi, Missouri, Ohio and Arkansas rivers, and a bill authorizing him to undertake the work passed the House of Representatives in 1857, but it failed to pass the Senate for want of time.

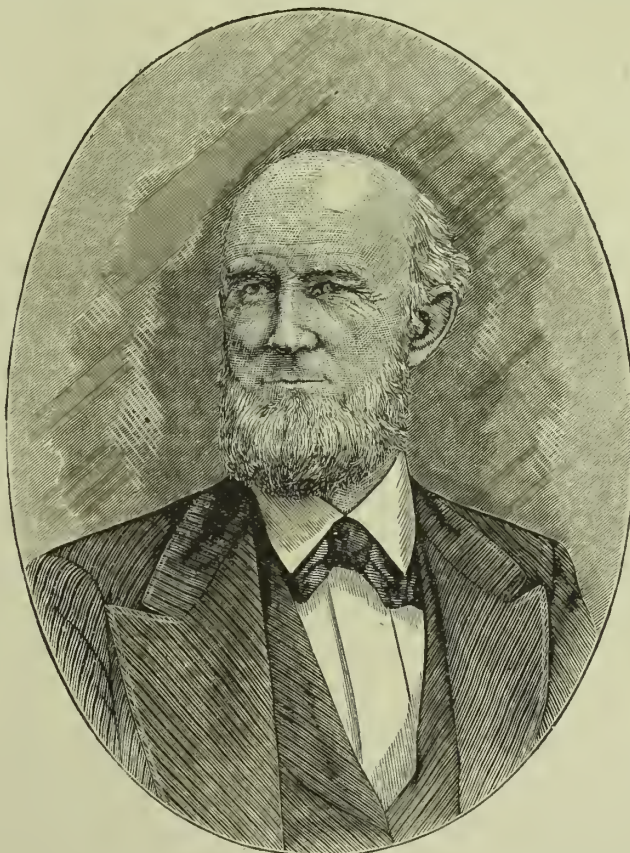
The advent of 1861 and its tremendous events brought opportunity to the active and aspiring engineer. He was requested by President Lincoln to visit Washington to confer with him as to the practicability of constructing iron-clads of light draft for service on the Western rivers. Soon after this conference Mr. Eads designed and built eight iron-clads having a speed of nine knots. This powerful fleet was completed and fully equipped, and ready for its armament of 107 guns, within the period of 100 days. But the invincible energy of the engineer was commensurate with his splendid ability. These iron-clads were the first war-vessels constructed by the Government, and some of them were engaged in the capture of Fort Henry, more than a month before the memorable contest between the *Monitor* and the *Merrimac*. In 1862-3 Mr. Eads designed and constructed six turreted iron-clad vessels, all of which were heavily plated. The turrets were of novel construction, and their powerful 11-inch and 15-inch guns were worked by steam, and could be loaded and discharged in 45 seconds. This was the first instance where steam-power was used in the manipulation of artillery.

We now approach the period of Mr. Eads' most brilliant achievements. In the interval between 1867 and 1874 he designed and erected the St. Louis bridge, which in many respects has no parallel in the world. In a paper recently read before the British Institute of Civil Engineers, on the "Recent Progress in Engineering," the first place is assigned to that work as the greatest engineering feat accomplished during the last half century. At the time the work was undertaken, grave doubts were expressed as to the practicability of the project, and few men, either in this country or abroad, would have taken hold of so stupendous a work under the circumstances which surrounded it at its inception. It was a supreme task, and it demanded the indomitable perseverance, rare engineering skill, amazing capacity for work, and perfect self-reliance of James B. Eads. He met and overcame every difficulty, and finally, by incessant application and severe work, he accomplished his purpose, and erected one of the grandest bridges of modern times.

Mr. Eads had long had in view the project of opening the mouth of the Mississippi river to the commerce of the world. The accomplishment of this project promised enormous benefit to the great Mississippi valley. It was proposed by the United States engineers to relieve the commerce of the river by the construction of a canal from its left bank, near Fort St. Philip, to Breton bay, by which the bars at the mouth of the river would be entirely avoided. Mr. Eads opposed this scheme

vigorously in several pamphlets which he published. He contended that a canal with locks would be inadequate to meet the requirements of the immense commerce of the river. Instead of the canal he proposed the creation of a broad, deep, natural channel through the bar at the mouth of the river, by means of jetties, or parallel dikes. Mr. Eads maintained that the effect of the construction of jetties would inevitably be to create such a channel, inasmuch as it would result in bringing the current of the river within narrow limits and greatly increase its velocity, and thus augment immensely the force required to carry far out into the deep water of the gulf the sedimentary matter with which the river is charged. Besides this, the increased velocity of the current would add largely to its scouring capacity. The interest in the vast project extended. In 1872 a commission, composed of seven U. S. engineers of distinction, was by Act of Congress charged with the responsible duty of solving the problem; that is, to devise the best means to open the mouth of the Mississippi to commerce. In 1874 this commission recommended the construction of the canal already referred to. This report had its influence with Congress, for a committee of the House unanimously reported a bill to appropriate \$8,000,000 for the construction of the canal as recommended.

It was under these circumstances that Mr. Eads first went before Congress with his jetty project. His known ability as an engineer, and his extensive knowledge of the Mississippi river, gave strength to the views he expressed. He called the attention of Congress to the large expenses involved in the canal scheme.



JAMES B. EADS, CALIFORNIA'S CONSULTING ENGINEER.

The estimated cost of the work was \$12,000,000; it would probably have reached \$20,000,000. Mr. Eads showed conclusively that the canal could not be completed before 1881. He also urged upon Congress the consideration that the canal when completed would afford no adequate relief to the commerce of the river. Finally Mr. Eads made a proposition that was startling in its audacity. He proposed to give an open river mouth to the commerce of the world—a broad, deep, unobstructed channel—for the sum of \$5,250,000; stipulating that not one dollar of this sum should be required of the Government until he had secured a channel not less than 20 ft. deep and 200 ft. wide. This amazing proposition was in direct antagonism to the unanimous recommendations of the U. S. Engineer Corps—a body of men known to be able and eminent in their profession. Mr. Eads not only proposed to depart from long established precedents in engineering, but to assume the enormous financial risks involved in carrying out such a vast public work. The proposition was worthy of the strong, self-reliant engineer.

The result of Mr. Eads' proposal was, that Congress postponed the canal project and appointed another commission of engineers to reconsider the whole matter and report thereon. The new commission comprised three engineers of the U. S. army, three civil engineers and one from the coast survey. This board went abroad during the summer of 1874 and examined many noteworthy works—among others, the jetties at the mouth of the Danube. The board then returned home and made another very careful examination of the mouth of the Mississippi. The end of this travel and investigation was, that six out of the seven members of the commission reported in favor of the application of the jetty system as proposed by Mr. Eads. There was, however, this

difference between the commission and Mr. Eads: The latter proposed to construct jetties over the bar at the mouth of Southwest pass; the former recommended their construction at the mouth of South pass. Southwest pass was much larger and discharged a greater volume of water than South pass; there was deep water at its head, and it carried 14 ft. over the bar at its mouth. In the case of South pass there were two bars—one at its head with 14 ft. of water, and one at its mouth with not more than 8 ft. These facts show the reason why Mr. Eads preferred the larger pass. Convinced by the clear statements and able reasoning of Mr. Eads, the House committee reported a bill recommending Southwest pass, and it was passed. But when the bill came before the Senate it was amended by substituting South pass for the proposed improvement, and in this form it was passed and became law.

South pass having been forced upon Mr. Eads, he accepted the proposition, closed his contract with the government, and engaged in the vast work. In spite of the supreme difficulties which beset the prosecution of the work during a period of unusual financial depression, the dauntless engineer pressed on. His success was complete and brilliant. On the 8th of July, 1879, he had secured the maximum channel required by the terms of the law, namely: a channel 26 ft. deep, 200 ft. wide, and a central depth through its course of not less than 30 ft. When Mr. Eads began the work there were only 8 ft. of water on the bar, there are now 30 ft., admitting of the passage of the largest vessels afloat. Indeed, since the completion of the work the channel has been gradually growing deeper and wider over its entire length, and

In conclusion we will remark that the presence of Mr. Eads in California is full of interest. In 1878 the Legislature passed an act creating the office of State Engineer, and providing for the appointment of two consulting engineers, who were to advise with the State Engineer upon plans for the improvement of our rivers and kindred matters. Gen. Alexander and Col. Mendell were appointed consulting engineers; and upon the death of the former shortly afterwards the vacant place was, by the advice of those most deeply interested, tendered to Mr. Eads. Now that the State Engineer is assisted by such splendid talent, we may look for plans which will lead to the speedy opening of our rivers and the practical settlement of the irksome question of drainage. Our hope rests largely on the great engineer.

Action of the Viticultural Commission.

A two days' session of the Viticultural Commission was held in this city on Monday and Tuesday of this week, at which several matters of general interest to grape-growers were brought forward.

Mr. Wetmore reported that he had, in conjunction with Prof. Hilgard, of the State University, selected Mr. F. W. Morse, of the University, to proceed to the different vine-growing sections and to report simple data, based on observation, inquiry and experiment, concerning vine diseases, for the consideration of the board and Prof. Hilgard. Mr. Morse goes first to Sonoma, to spend sufficient time to thoroughly familiarize himself with the indications of the phylloxera, and to inaugurate local experiments; thence to the lower Napa valley, Vacaville, Pleasant valley, Fresno and Los Angeles. Afterwards he is to return to Sonoma to complete his work. He is to report simple facts for the use of the board and the University; is an intelligent and careful observer, and is commended to the favorable reception of all vine-growers whom he may visit. He is not confined to the phenomena of the phylloxera, but will give attention to oidium, black knot, thrip and other diseases and pests. The Treasurer was instructed to pay to the Executive Committee \$50, and to the Committee on Phylloxera, Vine Pests and Diseases of the Vine, \$150 for incidental expenses.

By request of the Chairman of the Committee on Phylloxera, Vine Pests, etc., Mr. Wetmore was added to the committee, and was instructed to obtain by correspondence a statement of the best methods of resisting the phylloxera known in France, and especially the cost and methods of applying the sulphide of carbon; also the cost and methods of manufacturing the same; also samples of implements used in applying the sulphide.

Letters were read addressed to Messrs. West and Wetmore, from Stockton, relative to the practicability of obtaining seeds and plants of the buhach (*Pyrethrum cinerariaefolium*) to cultivate in vineyards as an additional protection against insects. It seemed to be practical to obtain and cultivate the plants.

On motion of Mr. Rose the following resolution was unanimously adopted, after considerable discussion:

Resolved, That it is the belief of the Viticultural Commission that it is of the first importance to maintain the purity of our wines and brandies, and to make this matter as self-evident as possible throughout our country, and in view of this fact it is the sense of this commission that an important step in this direction should be taken, if it were a requirement of the Internal Revenue Department that all brandies made from grapes and other fruit in the United States should be sold in original packages, with the tax-paid stamps attached, and that all laws permitting the sale of fruit brandies under a rectifying or wholesale liquor dealers' license be repealed. Also, that it be permitted to have five-gallon packages, and that tax-paid stamps be issued for this purpose. That our Representatives and Senators of this State be asked to help us to secure the passage of such laws and regulations as will carry out these changes. Also, that it is desirable to have a distinctive color for stamps for brandy made from grapes. That all grape-growers and distillers be asked to aid in this matter by signing a petition to Congress. Also, that it is of vital importance that all grape and fruit brandies be permitted under existing regulations to be entered for storage, and be moved from one to another of any of the bonded warehouses in the United States, provided that this shall not interfere with the present system of special warehouses.

The object of limiting the sales of brandies to original distillers packages, is to protect the trade and consumers from mixtures of brandy with common grain spirits, which may easily be operated under the rectifiers and wholesale liquor dealers license. It would also compel distillers to offer brandies fit for consumption, without reliance upon the arts of rectifiers and blending with neutral corn spirits.

Among the subjects for discussion at future District Viticultural meetings, the following were announced: Chas. Krug, for the Napa district, announced "soils and fertilizers," to be discussed by Prof. Hilgard, some time in October. Geo. West, for the San Joaquin district, announced "the general cultivation of the vine;" time not fixed. R. B. Blowers, for the Sacramento district, announced "raisins, table-grapes, and markets for the same;" meeting to be held during the time of the State fair. Arpad Haraszthy, for San Francisco district, announced "markets of the world for wines and brandies;" time not fixed. Fermentation and distillation will also be carefully treated upon at one or more of these meetings, and the lectures preserved for publication.

Forms of circulars containing questions to be forwarded to the vine-growers of different sections were agreed upon.

Melbourne Industrial Exhibition.

In relation to the approaching International exhibition at Melbourne, Mr. Thomas B. Pickering, who is the accredited Commissioner of the United States, has furnished this account to the *Atlas*:

There are several disadvantages to be contended against. Primarily, of course, the enormous distance between any port in this country and the port of destination for goods. Again, this is the first International exhibition abroad, of any importance, for which our Congress has made no appropriation for the transportation of goods, and a third difficulty is the extraordinary business revival among the Eastern manufacturers. It has placed them in such a position as to render it difficult for them to send exhibits to a foreign exhibition. Notwithstanding these circumstances there will be about 400 exhibitors in the American department at Melbourne, and the wares to be exhibited have been selected principally on account of their adaptability to the wants of the Australian colonies. The distance is too great, and the expense too heavy, to send goods merely to show. Our main exhibits will be of agricultural implements and tools, railroad appliances, and silver-plated ware. Among the largest exhibitors are the Ames' Agricultural Co., the Middleton Plate Co., Simpson, Hall, Miller & Co., and Manning, Bowman & Co. Edward Miller & Co. will make a handsome exhibit of lamps, lanterns and bronzes, and the Bradley & Hubbard Man'g Co. of lamps and chandeliers. The American Watch Co., of Waltham, Mass., who received the highest award for American watches at the recent Sydney exhibition, will again be well to the front at Melbourne. The State of Connecticut is making a special collective exhibit of the numerous industries of the State, in a business and systematic arrangement. The most promising exhibitors from this coast are the San Jose Fruit Packing Co. and the Oregon Packing Co., of Portland, the latter sending a fine collection of canned salmon. We have ample space for a magnificent display, having 60,000 square ft., and the American section is admirably located, being directly opposite France and Germany, on the main aisle. Here on the Pacific coast, where our manufacturers and producers are in easy and direct communication with Australia, this exhibition will undoubtedly prove of immense benefit to those who take advantage of this opportunity to present their goods upon the Australian market.

A few statistics may serve to show the importance of the trade of Australia. In the year 1876, the latest date for which the full returns are available, the commerce of Australia amounted to a total of \$462,950,000, the imports of Victoria, the colony of which Melbourne is the capital, being \$78,520,000, and the exports \$70,970,000. In the same year Australia took British manufactures and products to the value of \$92,072,500; the U. S., during the same period, having sent but \$7,000,000 worth of her products and manufactures. These figures demonstrate what business awaits us there if we only introduce our goods and adapt them to the requirements. The same class of goods that were required on this coast, say 25 years ago, for the development of the country, are now needed in the Australian colonies, which are growing with a wonderful rapidity. American exhibitors need not fear that a local prejudice will stand in the way of their obtaining merited awards. At the Sydney exhibition, of 300 American exhibitors, nearly 200 received awards. Exhibitors are charged nothing for space; their only expense is the transportation and installation of the goods, and the U. S. Commissioner will look after and exercise a general supervision over such goods as have no special agents or representatives in charge of them. The Pacific Mail Company has very liberally offered to return to the U. S., free of cost, all such goods as remain unsold at the close of the exhibition. Most of the goods from the Eastern States are being transported by sailing vessels direct to Melbourne, from New York or Boston. Such goods as have not already been forwarded, must necessarily be sent by steamer, and for this purpose special rates have been secured by the Morris European Express, of 50 Broadway, New York city, who also attend to the speedy forwarding to Melbourne of belated exhibits. During my stay here (which will be until the next Australian steamer, on Aug. 1st), I am anxious to meet and confer with intending exhibitors, and my headquarters will be with H. A. Gregory & Co., Nos. 2 and 2½ California St. The Melbourne exhibition will open on the 1st of Oct., and will remain open for six months—a peculiarity being that it will be the first International exhibition to keep open in the evenings. The Commissioner-General is Mr. George Collins Levy, of Melbourne.

Mr. Pickering has had great practical experience in the matter of exhibitions. He represented the U. S. at the Paris exposition in 1867; at Vienna in 1873, and represented the State of Connecticut at the Centennial. At the Paris exposition of 1878, he was Superintendent of the American machinery and agricultural department, under Commissioner-General Richard C. McCormick, who, Mr. Pickering says, was the most efficient Commissioner the U. S. have ever sent to an International exhibition. In 1873, Mr. Pickering received from the Emperor of Austria the decoration of the Order of Franz Josef, and in 1878 he received from the French government the Cross of the Legion of Honor.

The Nicaragua Inter-oceanic Canal.

The full text of the inter-oceanic canal concession granted by Nicaragua to the American provisional society has been received at Washington. It is signed by Don Adam Neordenas, Minister of Foreign Affairs, and A. G. Menocal, a member and commissioner of the provisional society. The concession has been ratified by the Nicaraguan Senate, and published as a law by the republic. The provisional society secures the exclusive privilege to construct a ship canal across Nicaragua, the canal to be of sufficient dimensions to accommodate steamers of the largest class used between Europe and America, and the locks are to be not less than 500 feet long and 28 feet deep. The concession is for 99 years from the date of the opening of the canal for general traffic, and at the expiration of that period the Nicaraguan government is to take possession of the canal in perpetuity, with the right reserved to the company to lease it for another 99 years. During the period of concession the company is to have the privilege of constructing a railway along the whole or any part of the canal, also such telegraph lines as it deems necessary for the construction and working of the canal, and these lines shall transmit public messages free of charge. The government of Nicaragua will declare terminal ports. The canal itself throughout its length is to be neutral, and transit in case of war between other powers and Nicaragua shall be uninterrupted. In general the canal shall be open to the free navigation of all vessels, provided they pay dues and observe the regulations of the company. Troops of foreign nations and vessels of war will be allowed to pass through the canal under the regulations of the existing treaties. Vessels of war belonging to other nations engaged in hostilities with Nicaragua or any other republic of Central America will be rigorously excluded. An effort will be made to secure a guaranty from all the powers of the neutrality of the canal, of a zone along it and of a zone in the vicinity of the terminal ports where the dimensions will be defined. This concession with all its advantages and privileges will appertain to the construction company and is transferable only to a company which is to be organized by the provisional society, and in no case can it be transferred to a foreign government or power. It is to be organized in the usual manner of such enterprises, with its principal office in New York, or where it may deem most convenient. Its designation will be "The Nicaraguan Ship Canal Company." The company is to be allowed to bring immigrants to Nicaragua freely from all parts of the world, but it is required to bind itself not to interfere in questions which directly, or indirectly, may affect the public peace of Nicaragua, and not to give protection to criminals or disturbers of the peace. It is exempt from every form of taxation during the period of this concession.

A SEWAGE STEAMER.—How to dispose of the city refuse to advantage is a problem in New York which has not yet had a satisfactory solution. The present cumbersome and very expensive method is of the most primitive kind, which must soon be superseded, in the nature of things, by improved appliances. The corporation of Liverpool has adopted a steam dredger which is proven to be a success in every respect, and we have reason to believe it has received the attention of the New York Pilot Commissioners, and others entrusted with the duty of preserving the harbor. The vessel is of 500 tons, 140 ft. in length, 23 broad and 11 ft. in depth, specially constructed for the economical and speedy conveyance of city refuse for deposition in the deep sea. The new vessel differs from the Clyde hopper steamers in having a hull wider at the bottom than at the top and divided into five pairs of tanks, with separate doors to each, the latter with balance weights so as to open rapidly for the escape of material. A pump of large dimensions can be used at will to force any light material through the open doors. This craft is believed to be the forerunner of many such steamers, as it is well calculated to promote the sanitary arrangements of all our seaport cities. It is represented as dredging at about half the cost of the old system—the results such as to "silence all objectors." Of course it is not to be expected that an innovation of this character can be brought about without opposition, for those who handle the city refuse have a very sweet thing as it is, and will not surrender without a protest.—*American Ship.*

IMPORTANT AFRICAN EXPLORATION.—The irrepressible Stanley was on the Congo at last advices, with the view of opening to commerce the very heart of the African continent. His expedition is very strong, comprising 20 white men of different nationalities, and about 100 negroes of Zanzibar, Sierra Leone and the Congo. He has five small steamers and a number of smaller boats, with which he has taken his party and supplies up the river as far as the first of the series of 32 falls on the river. From this point the task of cutting a road through the wild coast range of mountains has been begun, when the boats and supplies will be transported overland past these obstructions to navigation, and then the great river and its tributaries will be navigable to the very heart of Africa. This expedition promises to be the most important undertaking in its practical results, that has ever been attempted in African exploration.

Cash and Credit.

The marvelous thrift of France is attributable in part to the aversion of the people to debt, as well as to their proverbial economy. Public sentiment in that prosperous country pronounces the failure of a person to pay his debts a stain upon the family name, and where such a sentiment exists, there is much caution about incurring pecuniary obligations. One of the great curses of this country is undoubtedly the credit system, which is the parent of nine-tenths of the bankruptcies, and more than anything else causes the poverty of mechanics and farmers. Could the masses of the people be induced to restrict themselves to the pay-as-you-go system, denying themselves whatever cannot be paid for in cash on the spot, the reformation would sweep away half the ills from which the nation suffers, and 20 years hence bankrupts and almshouses would be almost unknown. If evidence in figures of the disastrous influence of the credit system is demanded, let the statistics of Dun, Barlow & Co. be studied, showing that merchants lost in bad debts an average of \$5,000,000 a week during 1878, and of \$1,250,000 a week during the last six months. These figures should burn in the minds of merchants who have adopted the credit system, and they should suggest to consumers the fact that the prices they pay are made large enough to bear a percentage of these bad debts. The man who steps up to the counter with cash in his hand can invariably buy at lower figures than the man who asks for credit. And the trust system is a snare to purchasers, in that it keeps the question of pay in the background until the glib-tongue of the salesman has urged upon the customer articles he did not intend and really is not able to buy. It is thus a prolific producer of extravagance. The fact that in the first half of 1880—a half year in which there were fewer business failures than in any other during the whole history of the country—the loss by bad debts was at the rate of \$63,000,000 a year, should lead people to consider whether prudence does not require them to eschew credit and depend wholly upon ready cash, whether in buying or selling.—*N. Y. Evening Mail.*

EDUCATIONAL DRESS REFORM.—Some time ago, says the *Record-Union*, we called attention to the fact that the education of girls in seminaries and collegiate institutions costs disproportionately far more than the education of boys in similar schools. It was there shown that the matter of dress alone made all the disparity. It is now to be noted that in colleges and high schools for girls there has been recently shown a great improvement in this matter, and dress is now being subordinated to the higher interests. Finery, and the attention it demands, has been found incompatible with devotion to studies. So it is, that now, in the leading colleges for women, the "uniform" is being adopted, and all pupils, rich and poor alike, are required to wear it, and the members of the faculty also. The reform is a wise one, and should extend to every educational institution in the land. Dress is an infinite source of trouble everywhere, but in schools it is an agent that cripples the best efforts of the most conscientious teachers.

THE LATEST TORPEDO BOAT.—At Saltonstall lake, says the *New Haven Palladium*, two representatives of the Lake Torpedo Company, the manufactory of which is located at Hartford, are engaged in experimenting with one of the company's torpedo boats. The boat is a comparatively recent invention, and the object of the experiments is to improve it in a variety of ways. The boat is made of sheet iron, is about 25 ft. in length and 18 inches in diameter, and is pointed at both ends. The motive power is a screw, propelled by an engine which derives its motion from the generation of gas. The course of the boat is directed from the shore or vessel from which it is sent by means of electricity, paying out wire for the transmission of the electricity as it advances. The explosive power is dynamite, of which 125 pounds are used in loading each boat. Boats of this kind have been sold to the Russian government and to the Peruvian government, and some are in course of construction for the United States government.

LUMINOUS FLOWERS.—Among the elegant novelties of the hour offered for sale on the Paris boulevards are phosphorescent flowers, which glow with a lambent light in the dark, and almost rival their natural tints. They are rendered luminous by coating the petals with transparent size, and then dusting them with a phosphorescent substance, such as Canton phosphorus (sulphide of calcium) or Bologna phosphorus (sulphide of barium). Canton phosphorus is the best, and yields a soft yellow light. According to M. Becquerel, a good quality can be made by mixing 48 parts of flowers of sulphur with 53 parts of calcined oyster shells, and raising them to a temperature of between 800° and 900° centigrade in a crucible. After exposure to sunlight during the day, or to the electric or magnesium light, the flowers thus coated become brightly luminous in the dark.

ON THE HALF SHELL.—Mr. K. M. Cunningham suggests a quick way of getting marine diatomaceæ: by taking a peck of fresh oysters and brushing the back of each into a basin of water, this process will give pleurosigmæ and eosinodisci in abundance.

A THEORY OF THE WESTERN TORNADOES.—Prof. Tice expresses the opinion, that all such whirlwinds as occasionally sweep the Western States are electrical storms, not wind-storms. There was, he said, no wind attending the Marshfield tornado. Among the evidence of the electrical nature of that storm he notes the facts that it destroyed every building which had a tin roof or which had any metal of any kind in its roof. In Marshfield, it passed directly over several buildings with shingle roofs, and tore to fragments others, not more exposed, which had metal roofs. A mill, situated over a quarter of a mile away from the center of the cyclone, had its iron chimney torn out and carried a long distance, while the mill itself suffered very little damage. The cupola of the public school building at Marshfield, which had a tin roof, was wrecked, but the building, which was roofed with shingles, was not injured to any extent. Even more conclusive and remarkable, he thinks, were the phenomena manifested in connection with trees and shrubbery. The bark was stripped from the trees and bushes not alone on those sides exposed to the force of the cyclone, but on all sides. The ends of the branches were not only denuded of their leaves and bark, but were rifted into fine fibers, so that they presented the appearance of little brooms. The active agent in such cases, he insists, was not wind, but electricity. Under its influence the sap under the bark was instantly converted into vapor or gas, expanding 2,000 times in volume, and as by an explosion, threw off the bark, shattered the trunk and split the green twigs into fibers. That this is what took place is, he says, conclusively proven by the fact that dead and dry limbs and twigs were not affected, and though in immediate contact with green ones, remained intact.—*Iron Age.*

FISH HATCHING.—A new interest is added to the marvelous industry of fish-hatching by the discovery that Spanish mackerel can be artificially hatched. The *New York Evening Mail* says that Prof. Earle, who made the discovery, prosecuted his investigations in Maryland; and his enterprise is likely to multiply manifold the supply of our markets with this toothsome fish. While five days are required to hatch shad, and from 8 to 12 days to hatch cod, the Spanish mackerel appear 18 hours after the milk and spawn are brought together, and 200,000 to 300,000 can be turned out at one hatching, while only 20,000 to 30,000 shad can be hatched in one hatch. Another advantage is that the spawning time comes about the last of June, just after that for shad and just before that for cod. It is thus possible to provide for each fish in its season without inconvenience, and the Spanish mackerel will henceforth share with the shad and the cod the attention which Prof. Baird and his force give to the multiplication of the piscatorial population of the United States. As it is expected that 100,000,000 Spanish mackerel will be hatched the first year of the enterprise, it seems impossible to conjecture what proportions the industry of fish hatching will yet reach. The advocates of a fish diet for intellectual purposes must take great satisfaction in Prof. Earle's discovery, and if the stocking of our waters with an abundance of fish of the varieties most sought in our markets can improve the mental faculties of the people, great progress in that direction is to be anticipated.

AN UNSCIENTIFIC HAT.—Miss Kate Field, discussing the fitness of hats for their purpose, has this to say of the tyranny of the "stove-pipe" in England: It is as much as a man's life is worth—in society—to wear aught but the regulation stove-pipe. There may be M. P.'s who dare to face the Speaker with billy-cock or soft-felt hat in hand, but I doubt it. The only man I ever heard of equal to such an amount of bravery is Joseph Cowen, the member for Newcastle and owner of the radical *Newcastle Chronicle*. He at all times has the courage of his opinions. Whether people agree with him or not, all admire his pluck, a pluck backed by brains. Joseph Cowen would be an orator were it not for a Northumberland burr which prevents him from being fully understood. "Very elegant speaker is Mr. Cowen," once exclaimed Lord Beaconsfield; "What a pity no one knows what he is talking about!" Cowen the Radical, wears a slouch hat, but I should no more expect to see Sir William Harcourt in such a covering than I should expect to see elephants in satin gowns. No one in England who is not a rough or a genius can afford to wear a slouch hat. Alfred Tennyson is rarely seen in anything else. Wilkie Collins and Charles Reade defy public opinion, but I firmly believe that even these men would wear stove-pipes were they daily subjected to the insinuating respectability of the House of Commons. Stove-pipes permeate the atmosphere and play an important part in the legislation. So greatly do they tyrannize over the British male that even Eton boys in jackets are swallowed up by them. Talk about woman's blind devotion to fashion! Did ever woman cling as fondly to crinoline as man clings to his stove-pipe? Never!

LEAKS IN GAS PIPES.—To detect leaks in gas pipes, it is recommended to apply soap suds to the suspected leaky joint. The formation of bubbles will show an escape. This is safer than trying the joint with a lighted match. If the leak occur in the branch of a bracket or chandelier, it is repaired by soldering with plumbers' fine solder; if it be a very small one, heat the piece first, with a spirit lamp, and fill the aperture with cement.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER Saxe & Son, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTEPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING.....Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. O. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES of DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTEPELLIER,
Cashier and Manager
San Francisco, Oct. 15th, 1879.

M. COOKE.....**R. J. COOKE**

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to **COOKE & GREGORY**

LAND IN FRESNO.

6,000 ACRES ADJOINING THE TOWN AND THE Central Colony. Choice, easily irrigated, canal already on the land. For sale in quantities to suit. Apply to the undersigned, or to **THOMAS E. HUGHES**, in Fresno. Also, 35,000 acres in Kern county. **E. JANSSEN**, 210 California St., S. F.

California Inventors

Should consult **DEWEY & CO.**, AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1860. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast Inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING and SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome st., San Francisco.

Educational.

THE DEGEN

Classical & English School,

1265 Franklin St., Oakland Cal.

The Sixth Year Begins July 14th.

This School prepares boys for the State University or Eastern Colleges. None of our students has ever failed to pass the entrance examinations. There are no boarders, but board will be found in select private families, for those who may desire it. Many of our best students have been from the country.

For Catalogues address the Principal,

GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,
Washington Corners, Alameda Co.

KINDERGARTEN SCHOOL.

717 Turk St., S. F.

Children Boarded at Reasonable Terms.

MRS. H. SEMLER,
Principal.

MME. ZEITSKA'S

FRENCH, GERMAN AND ENGLISH

INSTITUTE FOR YOUNG LADIES.

Number of Boarding Pupils Limited.

For Circulars address **MME. B. ZEITSKA**,
922 Post St., San Francisco.

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address **BOERICKE & TAFEL**,
Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

SANTA CLARA, CAL., APRIL 13, 1880.
MESSRS. DEWEY & Co. Gentlemen:—I received the Letters Patent for my improvement in Paper Bag Machines, together with the extra copies that I ordered on the 20th ult. Also a copy each of your most valuable weeklies, containing a full description of my invention and notice of patent. You will please accept my thanks for the gentlemanly and business-like manner in which you have dealt with me from the beginning of my application, and feel assured that I shall take pleasure in recommending your firm to all who may wish to procure Letters Patent. Very respectfully yours,
ED. O. BENNET.
P. O. Box 246.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS
BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$66, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$6.35 a quarter and upward. Catalogues free. **MASON & HAMLIN ORGANS CO.**, 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested. Young Queens ready April 1st. Also, Wintered-over Queens. Purity and safety guaranteed. Comb foundation, smokers, knives, bee-books, etc. Sample Premium Hive. Address with stamp,
JOS. D. ENAS,
Sunny Side, Napa Co., Cal.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR**,
304 Bartlett St., cor. 24th, bet. Valencia and Mission, S. F.

Our **WELL AUGER** is the cheapest, borer the fastest. We are the oldest and largest firm in America. Send for our pictorial catalogue. **UNITED STATES MFG CO.**, Chicago, Ill.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHbred



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped.....\$5.00
Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

RAMS FOR SALE.

300 THOROUGHbred

And Graded

SPANISH MERINO

Rams For Sale.

Bred from the first importation of Spanish Merino Sheep to California, in 1854.

Prices to suit the times. Residence, one mile north of McConnell's Station, Western Pacific Division C. P. R. R.

P. O. address, **MRS. E. McCONNELL-WILSON**,
Elk Grove, Sacramento Co., Cal.

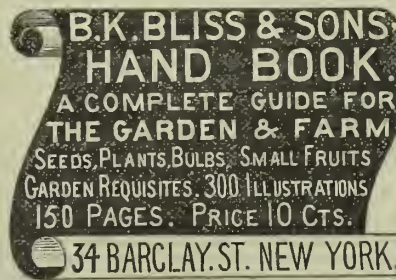
300 Choice Rams

FOR SALE.

THOROUGHbreds and GRADES.

Apply to **L. U. SHIPPEE**,

Stockton, Cal.



BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

SADDLES, HARNESS, WHIPS, LEATHER.
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in All Goods in this line. Send for Catalogue

PACIFIC RURAL PRESS.

A first-class 16-page Illustrated Agricultural Weekly, filled with fresh, valuable and interesting reading. Every farmer and ruralist should take it. It is immensely popular. Send for a sample copy.
DEWEY & CO., Publishers, S. F.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10s. Game Authors, Ise, Lyman & Co., Clintonville, Ct.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

Lands for Sale and to Let.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to **EDWARD FRISBIE**, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N. R. 6 W. M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 24th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

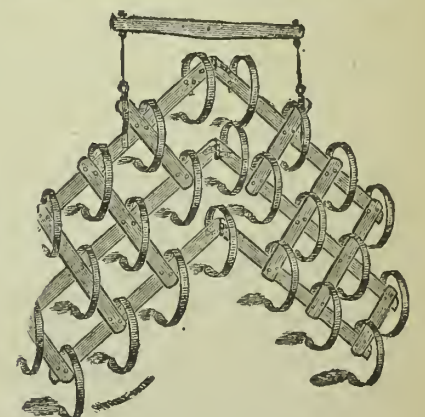
202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapes, two acres Blackberry, a sixty-five acre in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. **J. K. HOUSTON.**

VICTORY



THE CALIFORNIA Spring Tooth Harrow AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING to PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO.,
900 & 902 K St., Sacramento.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of Interest. Money also advanced on Wickets. Apply to **A. SCHULLER**,
209 Sansome St., S. F.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to **L. A. GOULD.**

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents **STEVENS BROS.**, Northford, Conn.

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING JULY 27TH, 1880.

230,520.—RAIL JOINT FOR BED FRAMES.—W. B. Cantrell, Yreka, Cal.

230,413.—USING THE TWO HALVES OF CYLINDERS.—W. T. Garratt, S. F.

230,550.—EYE-SHADE.—W. Lancaster, Santa Rosa, Cal.

230,557.—REIN HOLDER.—A. Lay, Oakland, Cal.

FOR THE WEEK ENDING AUGUST 3D, 1880.

230,764.—WHIFFLETREE.—F. O. Fischer, Aptos, Cal.

230,701.—PICTURE HOOK.—J. T. Haviland, S. F.

230,774.—STREET CAR.—W. N. Hawley, S. F.

230,712.—SHEEP SHIRERS.—D. E. McKee, Potter Valley, Cal.

230,650.—FISHING ROD.—J. S. Niswander, Oakland, Cal.

230,820.—EXPLODER FOR BLASTING CHARCOAL.—W. S. Rosecrans, S. F.

230,837.—HEATING FURNACE.—J. L. Trefren, Santa Cruz, Cal.

230,839.—LANTERN.—E. R. Tutt, Ukiah, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

HORSE HITCHING DEVICE.—Renben Seiders, 737 Howard St., S. F. This invention relates to an improved device for securing horses at points where it is necessary to leave them; and it consists in the employment of a rod, one end of which may be dropped upon the ground at will. The other end is hinged to a slide which moves in a hollow barrel or guide, said guide being secured beneath the vehicle in a horizontal position. A rod is secured to the slide and extends toward the front, having a loop or ring to which a line may be attached and led to the horse's bit. When a stop is made the hinged rod may be let down so that its end rests upon the ground, and any forward movement of the horse will draw the sliding rod back into the tube or guide, thus pulling upon the rein or line, and the horse's mouth. A spring in the rear of the tube forces the rod forward when the horse backs or the strain is relieved. This device has been applied to a number of vehicles, and the inventor informs us that the results are very satisfactory.

REIN-HOLDER.—Anson Lay, Oakland, Cal. Patented, July 27, 1880. No. 230,557. Many different devices have been arranged for holding reins when the drivers of vehicles were absent. Among them are several clamps fixed to the dash-boards by rivets, bolts or otherwise, and intended as fixtures. In connecting them holes have necessarily to be formed in the dash-board. If they are moved from one place to another the holes remain and give an unsightly appearance to the dash. Some of the devices are furnished with spring clamps, these springs being attached to the holder by bolts or rivets and liable to be broken off. This present invention is intended to overcome these objections, as it may be secured in any place without bolts or rivets, and be moved from one side to the other at will. It consists in forming or stamping in one piece a rein-holder, spring and clamp, said clamp being made elastic so as to be secured to the dash-board or any desired point without the use of bolts or rivets or the necessity of perforating the dash-board.

GEOGRAPHICAL GAME CARDS.—Walter G. Read of Epperson, Colusa county, Cal. Patented July 13, 1880. No. 229,914. This invention consists in the employment of a number of cards equal to the number of States and Territories in the United States. At or near the center of each card is drawn, in a distinct color, the State or Territory from which the card derives its name. The suits are designated by the line of latitude passing through or near the States or Territories in that suit, and the value or rank of each card in a suit is determined by the population, which is marked upon one corner, while the figure designating the value or rank of the card is marked upon its face in a large light-line figure, the same figure being also marked of a small size in the upper left-hand corner. These cards are intended for the purpose of instruction, at the same time while they are being used in playing games such as are played with ordinary cards.

SASH FASTENER.—Noah Haynes, San Jose, Cal. Patented, July 13, 1880. No. 226,884. The object of this invention is to provide a means by which the window-sashes of cars, steamers and houses may be made tight and dust-proof in their frames or stops, while at the same time they may be readily raised or lowered or held at any point without liability of jamming. It consists in providing pivoted stops in the frame inside of the sash, which stops are held in contact with the sash by means of a strong spring, the spring being controlled by a lever or knob. The sides of the sash and of the

stops are provided with corrugated rubber bands, so that by engaging with each other the sash will be held at any desired point.

DITCHING AND DREDGING MACHINE.—John A. Murray, Stockton, Cal. Patented July 20, 1880. No. 230,329. This device consists in certain details of construction by means of which mud or earth is removed from the ditch and deposited at a distance therefrom, the operation being continuous. It also consists in providing buckets or scoops, having peculiarly arranged bottoms, which open and close automatically at the proper time, so as to drop the loads freely and rapidly.

Soda Bay, Clear Lake.

The above is one of the finest watering-places on this coast. Clear lake, 20 miles in length, and ranging some five or more miles in width, is a beautiful sheet of fresh water well known as the crowning charm to tourists to Lake county. On the west side, some eight miles southerly of Lakeport, the county seat, is Soda Bay. It is really (in summer season at least) a delightful retreat. The bay is one-half to one mile in its dimensions. Much of the space is shallow water, through which effervescing soda bubbles, at momentary intervals, come wobbling up to the surface. About 100 rods from the landing, and near the southeastern shore, is a powerful boiling soda spring. The surface of the water is forced up at least 16 inches above the main lake level in about the form of an inverted tea-saucer, with a diameter of six ft. This immense flow of soda water is constant. It has a pleasing taste and is considered excellent for its remedial qualities. Its temperature is about blood heat. The water is about five ft. deep. The spring is contained in a bathing house. A slightly prickly sensation is imparted by the water to the flesh of the bather, which, with the volcano-like motion of the spring, affords a real novelty in bathing. So strong is the flow of carbonic acid gas, that if one takes a full breath with the nostrils near the surface of the water they will feel a waning of their senses. The Soda Bay hotel is pleasantly located on a gradual slope but a few rods from the lake shore, and commands a grand view of the lake and rolling hills and mountains beyond. It is bordered on the south and west side by wooded slopes and hills, with towering Uncle Sam mountain overshadowing all. A splendid little steamer, 90x12 ft. in size, makes two round trips daily between Lakeport, Soda Bay, Sulphur Banks and Lakeport again, furnishing passengers quick transportation at moderate rates. The steamer is owned by Capt. R. C. Floyd, who has a fine country seat just across the lake and in full view of Soda Bay. The craft is handled deftly by a crew of two men. It is such a perfect miniature of a fully equipped ocean steamer, that its frolic-like maneuvers are frequently watched as a novelty by beholders.

The hotel accommodations for families and visitors at Soda Bay are among the best in Lake county. Besides the main hotel, dining hall, billiard room, bowling alley, ice cellar and store room, are some half dozen neat cottages conveniently grouped in the groves in full view of the lake and landing. The sunset scene here is one of peculiar richness of vision and feeling, beyond the power of poet or artist to illustrate.

From Kelseyville, four miles distant, visitors connect with stages to and from San Francisco daily by conveyance furnished by the proprietor, Mr. A. K. Gregg.

The landlady of the hotel, Mrs. Gregg, possesses a happy faculty of entertaining and of making all guests feel at home.

The billiard tables, ball alley and hot and cold baths are free to boarders. Sail boats and row boats furnish fine and healthy amusement by day, and at night by the clear star and moonlight.

Camping parties will find this the most beautiful place to sojourn near the lake.

FRUITS IN THE SOUTH OF EUROPE.—From our foreign exchanges we glean several items. The Italian Minister for Agriculture and Commerce, in his monthly report for June, says: "The state of the country is very good, and promises a rich harvest in all products. The vines, except in some places where they were damaged by frost, promise a copious harvest, and so do the olives. Oranges and lemons are in excellent condition. A letter from Barcelona (Spain), dated July 10th, says: The ensuing olive crop gives excellent promise, and values are beginning to give way."

CARP.—A Lake county reader informs us that Schwartz & Weber, about three miles north of Middletown, have about 500,000 young carp in their ponds. The fish were hatched this spring, and vary in size from two to five inches in length. They feed them on scalded flour. When taken out of water they will live if put back within 20 minutes.

LOMPOC RECORD.—The Record, local newspaper at Lompoc, the flourishing temperance colony in Santa Barbara county, is now edited by Rev. J. W. Webb. Mr. Webb is a close observer and able writer, and has been identified with the growth of the Lompoc enterprise. He will do good work for the promotion of industry and good morals, and we welcome him to the guild of the tripod.

Academy of Sciences.

The regular meeting of the California Academy of Sciences was held Monday, August 2nd, with Dr. Hermann Behr in the chair. The donations to the museum comprised, among many valuable gifts, a large and beautifully-mounted collection of butterflies, from Mrs. J. H. Sargent; a *Raia stellulata*, from Prof. David S. Jordan; a *Telephium*, or big bug of Mexico, from Vice-President Justin P. Moore, and a large piece of American graphite, or plumbago, weighing several hundred pounds, from the graphite mines at Ticonderoga, N. Y. Several large volumes of astronomical results were received from Cambridge observatory, Harvard college, etc.

Mr. Volmar A. Hoffmeyer was elected a member of the academy.

Dr. Kellogg, the eminent botanist of the coast, read a description of a new and exceedingly beautiful large violet-blue Gentian found by Mr. G. W. Dunn in June last in the mountains east of San Diego, specimens of which are here exhibited, having flowers one and a half inches across; a very dark purple eye or center, with, as it were, a brush-dashed border, fading into blue. The plant grows to a height of about three ft., and may readily prove of marked ornamental interest to florists, and an

Agreeable Addition to Gardens.

Besides being valuable medicine. The plant being a new one to science and unnamed in the catalogues of California botany, he took occasion to name it *Gentiana Dunnii*.

Dr. Kellogg then exhibited flowering specimens of a most remarkable barberry tree from Big canyon—the *Barberis Fremontii*—which grows 20 ft. high, and its trunk is three inches in diameter. It was laden with golden blossoms, and may be cultivated and made one of the most desirable ornamental shrubs of California. It thrives well on poor, dry, rocky soils, and is celebrated for its medicinal virtues. Its sap furnishes material for making a most powerful yellow dye.

He also presented an unexplained fibrous plant from Lower California, which shoots up a flowering stem 5 or 6 ft. high, and bears an ample mass of small white blossoms. He thought it of the Colchium family of plants, all the varieties of which are valuable remedies, useful in cases of gout and rheumatism. It is good for purposes of thatching, for which it has been used. He proposed to test and study it up, and report its general commercial use at a future meeting. He also exhibited a plant of the *comandra umbellata*, belonging to the family of sandal-wood trees, which has been found in the Sierra Nevada foothills. It bears a delicious nut which squirrels eat with great relish.

Mr. C. D. Gibbs then read a carefully-prepared paper on the

Uses of Graphite, or Plumbago.

Which, he said, was erroneously called black lead. He alluded to the term used in commerce, of "lead-pencils," which he pronounced a total misnomer, because there is never any lead in them. They are all made of graphite, a wholly different substance, which has the same geological parentage or general form of classification as our anthracite coal. It is used to make pencils, crucibles, and portable furnaces; also for lubricating machinery, and giving a stove-polish to iron. He described the manufacture of pencils by the Dixon or American Graphite Company, who now supply 80,000 pencils daily, or over one-quarter of all the pencils used in America, and also the famous Borrowdale mine in Cumberland, England, which was formerly kept closed all but during six weeks of every year, when the quantity taken out was monopolized and sold for several hundred thousand dollars. The most famous mine in now the Alibert mine, in Siberia, which furnished graphite commanding the highest price in commerce. The paper was a very interesting one, and was offered in illustration of the beautifully foliated specimen presented last evening to the academy.

One of the members reported that several Alameda oystermen, having read the discussion about the King crab, presented at the last meeting, had reported to him that they had, on several occasions, found young ones among Eastern oysters on their arrival, and that no possible doubt could exist that they were introduced on our coast by being brought overland with shipments of young Eastern oysters.

Dr. Henry Gibbon, Sr., made some remarks explanatory of technical Latin names used in botany, after which the academy adjourned.

Lectures at the College of Agriculture.

EDITORS PRESS.—As past experience shows that there are some who are not enrolled as students, who would like to attend some of the lectures on practical agriculture, given at this institution, it is but fair to announce the programme for the present term. There will be lectures on Mondays, Wednesdays and Thursdays, at 10:50 A. M., with an occasional exception in favor of an expedition to some farm or other place of interest to agricultural students. The opening course will treat of the principles of stock breeding. This will be followed by a course on dairy husbandry by Mr. E. J. Wickson, editor of the PACIFIC RURAL PRESS. Farm implements and special cultures will be treated of later in the year.

C. H. DWINELLE, Lecturer.
University of California, Berkeley.

GRAFTING ON THE WILD VINE.—Now that opinions are mixed as to the probable results of grafting European grapes upon our wild vines, bits of experience are precious. The San Diego News of Aug. 7th, says that Mr. Byron Hinman, of Poway had quite a number of wild grapevines growing along the stream which runs through his orchard. On these trees three years ago last March, he grafted the Black Prince grape, which has grown amazingly. The vines are three inches in diameter, and bear an enormous quantity of very large grapes. They form a very beautiful arbor. Mr. Hinman thinks there is more tartness to the taste of these, than to the ordinary Black Prince.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove, to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

HALL'S VERTABLE SICILIAN HAIR RENOWER is a scientific combination of some of the most powerful restorative agents in the vegetable kingdom. It restores gray hair to its original color. It makes the scalp white and clean. It cures dandruff and humors, and falling out of the hair. It furnishes the nutritive principle by which the hair is nourished and supported. It makes the hair moist, soft and glossy, and is unsurpassed as a hair dressing. It is the most economical preparation ever offered to the public, as its effects remain a long time, making only an occasional application necessary. It is recommended and used by eminent medical men, and officially endorsed by the State Assayer of Massachusetts. The popularity of Hall's Hair Renower has increased with the test of many years, both in this country and in foreign lands, and it is now known and used in all the civilized countries of the world.

FOR SALE BY ALL DEALERS.

FASH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Prop.

J. G. COLMERNIL is requested to report to this office from Humboldt Co.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

PAY IN ADVANCE and get the RURAL PRESS for \$3 a year

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Aug. 11, 1880.

There is rather more life in the wheat trade, and a slightly improved scale of prices established. There is quite a firm tone to the market, and considerable confidence manifested. In other Grains, as Barley, Oats, Rye; there is also more inquiry and better prices.

The Liverpool Market.

The latest dispatch by cable to the San Francisco Produce Exchange is as follows:

LIVERPOOL, Aug. 10.—Liverpool spot quiet at 9s 10d@10s 3d for fair to choice California; floating cargoes, very little inquiry; on passage and for shipment, quiet; California cargoes off coast, 45s@46s 6d; just shipped, 43s; nearly due, 45s.

The Foreign Review.

LONDON, Aug. 9.—The Mark Lane Express, reviewing the British Grain trade for the past week, says: Finer weather has enabled farmers of some of the counties in the south to make a fair beginning of the harvest. In wheat, certainly, there seems to be a great improvement. On 15th, but the yield is likely to be very uneven. The markets have retrograded slightly, but the trade is so susceptible to the weather that buyers or sellers have the best of the market according as the day is fine or foul. The reaction has been confined chiefly to Wheat and Flour. Foreign descriptions are 6d and 1/2 quarter and 3/4 sack, respectively, lower on the week. English Wheat is nearly stagnant, and prices are unchanged. Deliveries at several well known markets have stopped entirely. The price of Wheat on passage has receded slightly. Red Winter for immediate shipment marks 43s, the same as California. For September shipment the same rates are asked, but are really lower. The imports into the United Kingdom, during the week ending July 31st, were 1,374,707 cwt of wheat, and 233,170 cwt of flour. Barley was in small supply and slow of sale at unchanged rates. Oats are slightly lower, except for best samples, which are unchanged. Maize is 6d lower.

Freights and Charters.

The ship *McLaurin*, 1,375 tons, is taken for Wheat to Cork direct at £3.

Eastern Grain and Provision Markets.

New York, Aug. 7.—There is a gradual enlargement of trade in the Merchandise markets, and prices, with a few exceptions, are firm, and the outlook for good trade this fall is very encouraging. Breadstuffs have been dull, and are lower. The condition of the crops and harvest at home and abroad continues favorable, and a diminishing demand, especially from the Continent and particularly from France, which is holding off more generally than was expected from the crop reports which have reached us. Hence it is thought that her supplies promise larger than expected. Provisions are dull, unsettled and lower.

New York Dried Fruit Markets.

New York, Aug. 7.—Foreign Fruits are in limited demand. Raisins are better, but prices are unchanged. Other descriptions are dull.

Eastern Wool Markets.

New York, Aug. 8.—Manufacturers still appear to have a pretty full amount of stock on hand and their calls are, in consequence, slow and careful. Many dealers think that if they had a little more stock here they could sell it at the present prices, but they also assert that there is nothing to encourage any extra effort to get supplies forward; and occasional small parcels picked up in the interior, with the commission lots received, cover about all the additions to the accumulation. Some of the parcels sent in on commission are to a certain extent unavailable, as the limit of valuation is above anything at present to be obtained, but other offerings can be found to supply the outlet. This week's business has been somewhat larger, including the closing of considerable negotiations pending on pulled Wools previous to our last, and while the increased movement has not been participated in by the majority of the dealers, the feeling is evidently more cheerful. A great number of buyers are in town, including a few of the principal manufacturers, and they are thought to be the advance guard of a much greater attendance. The manufacturers themselves, however, claim to feel quite as indifferent as ever, and assert that there is a little more call temporarily for special necessity, and that the supplies which they have obtained in the country will carry them through until they are ready to go into production more liberally. The sales include 35,000 lbs at 30¢ and 33¢, and 27,000 lbs scoured, at 54¢ and 70¢.

BAGS—The combination has advanced Grain Bags, standard size, another 1¢, their range being now 11¢ to 11½¢. There was an auction yesterday, at which 55 bales were pitched and 5,000 bales sold at 10¢. The remainder were withdrawn in hope of higher prices.

BARLEY—Barley is still in good request, and sales large at improved prices. We note sales: 100 tons choice Chevalier at \$1.47; 45 do do, \$1.45; 200 cts bright Bay, 87½¢; 200 do old Coast Feed, 83½¢; 1,000, 750 and 400 sks and 20 tons Coast Feed, 82½¢; 800 and 600 sks do, 80¢ per cwt.

BEANS—There is no material change.

CORN—Trade is at a standstill, and values are unchanged.

DAIRY PRODUCE—The upward movement in Butter has continued, and some fancy lots have sold so far up to 32½¢. California Cheese holds last week's advance. There is more Cheese now coming from the Eastern Dairy regions.

FEED—The Hay now coming in ranges from \$9 to \$14 per ton, the latter for the choicest Wheat Hay. Bran is cheaper again; other Ground Feeds are unchanged.

FRESH MEAT—Mutton is 1¢ higher, and live Hogs 1¢ higher.

FRUIT—Cords of Yellow Peaches are now in, and the price has dropped as low as 25¢ per basket for the poorest. It is not likely that Peaches will be low long. Apples are higher, as better kinds are now coming in. A few Muscat Grapes have sold at a bit a lb. Rose of Peru and Sweetwater are the other sorts now in.

HOPS—Still quiet here and at the East.

LIVE STOCK—The following sales are reported to us: 1,500 Ewes and Wethers, in Sonoma county, at \$2 each; 1,700 do, same place, \$1.95; 500 Lambs, Cotate ranch, \$2; 500 Lambs do, \$1.65; 230 Cattle, Steers, \$32 per head, in Contra Costa county; 5,700 Ewes and Wethers, in Solano, at \$2; 2,790 Wethers, large, in Tulare county, \$2 each; 1,200 Hogs at 5½¢; 500 Hogs at 5½¢; 1,900 Hogs at 5¢; 420 Hogs at 4½¢, the last only fair Hogs; 220 Calves, in Napa, at \$10 per head on the ranch; 7 carloads Calves at \$12; 420 grade Angora Goats at 4¢ per lb dressed; sold for Lambs.

OATS—Oats are not materially changed. We note sales: 400 sks good Coast Feed at \$1.40; 900 do light Oregon and 800 do fair California do at \$1.37½.

ONIONS—Onions are in sharp demand, and prices improved. Good Red Onions have sold as high as \$1 per cwt, and White at \$1.25.

POTATOES—An upward tendency is marked in good lots of Early Rose; some have sold a little above 50¢ per cwt. The market is stronger than for several weeks.

PROVISIONS—There is another advance of 1¢ in California Hams; other Provisions are not changed.

POULTRY AND GAME—Some quote Hens and Roosters 50¢ lower per dozen, and some quote the best at \$7 per doz., the same as last week. Geese are doing better, being \$1.50 per pair. Hare are cheaper.

VEGETABLES—There are numerous changes which may be found in our list. Horseradish is very scarce, but probably the price now quoted will bring in a supply.

WHEAT—Sales have been more numerous than for weeks: 100 tons choice new Milling, \$1.55; 2,800 sks fair do, \$1.51; 100 and 70 tons No. 1, \$1.50; 3,500 sks good Shipping, \$1.42; 50 tons Coast, \$1.35; 800 sks off grade, \$1.37½, and 350 do to a miller for Superfine at \$1.27½.

WOOL—The Wool trade is very quiet and a certain amount of weakness reported just now. Spring Wools are generally a shade lower; Southern County Wools having declined about 1¢ per lb, Choice Northern also loses 1¢ per lb. There is some fair clip Lambs Wool coming in. The trade in this material seems to be opening at about the range given in our table. Quotations generally are nominal, because there is so little Wool selling.

BAGS AND BAGGING.

[JOBBER PRICES.]

WEDNESDAY M., August 11, 1880.	
Eng Standard Wheat, 11 1/2	45 inch, 94¢ to 10
California Manufacture	40 inch, 9¢ to 9 1/2
Hand Sewed, 22x36, 11	11 1/2
22x40, 12	12 1/2
22x40, 13	13 1/2
24x40, 13 1/2	14 1/2
Machine Sewed, 22x36, 10 1/2	11 1/2
Machine Sewed, 22x36, 11 1/2	12 1/2
Flour Sacks, halves, 8 1/2	10 1/2
Quarters, 5 1/2	6 1/2
Eligible, 3 1/2	4
Hessian, 60 inch, 14	14

GENERAL MERCHANDISE.

[WHOLESALE.]
WEDNESDAY M., August 11, 1880.

CANDLES.	
Crystal Wax, 17	17 1/2
Eagle, 12	12
Patent Sperm, 25	25
CANNED GOODS.	
Assorted Pie Fruits, 2 1/2	2 1/2
2 1/2 cans, 2 1/2	2 1/2
Table do, 3 1/2	3 1/2
Jams and Jellies, 3 1/2	3 1/2
Pickles, h' gal, 3 1/2	3 1/2
Sardines, q' box, 1 1/2	1 1/2
H' Boxes, 2 1/2	2 1/2
Merry, Faulk & Co's, 2 1/2	2 1/2
Preserved Beef.	
2 lb, doz, 3 1/2	3 1/2
do Beef, 4 lb, doz, 6 1/2	6 1/2
Preserved Mutton, 3 1/2	3 1/2
2 lb, doz, 3 1/2	3 1/2
Preserved Ham, 6 00	6 25
Deviled Ham, 1 lb, 4 00	4 00
do Ham, 1 lb, doz, 3 00	3 00
Boneless Pigs Feet, 3 lbs, 3 75	3 75
3 lbs, 2 75	2 75
Spiced Filets, 2 lbs, 3 75	3 75
COAL-Jobbing.	
Australian, ton, 5 50	5 50
Coco Bay, 5 50	5 50
Bellingham Bay, 5 50	5 50
Seattle, 5 50	5 50
Cumberland, 12 00	12 00
Mt Diablo, 4 75	5 75
Lehigh, 11 50	12 00
Liverpool, 6 00	6 50
West Hartley, 8 00	8 00
Scotch, 8 00	8 00
Scranton, 7 50	7 50
Vancouver, 7 50	7 50
Wellington, 7 00	8 00
Charcoal, sack, 75	75
Coke, bush, 60	60
COFFEE.	
Sandwich Id, lb, 15	15
Costa Rica, 15	15
Guatemala, 15	15
Java, 15	15
Manila, 15	15
Ground, in cs, 25	25
FISH.	
Sao to Dry Cod, 4 1/2	4 1/2
do in cases, 5 1/2	5 1/2
Eastern Cod, 7 1/2	7 1/2
Salmon, bbls, 7 00	7 50
H' bbls, 3 50	4 00
1 lb cans, 1 30	1 30
Pk'd Cod, bbls, 1 30	1 30
H' bbls, 1 30	1 30
Mackerel, No. 1, 9 50	10 00
H' Bbls, 1 65	1 75
In Kits, 3 50	4 00
Ex Mess, 3 50	4 00
Pk'd Herring, bx 3 00	3 50
Boston Sm'd H'g, 65	70
LIME, ETC.	
Plaster, 3 00	3 25
Gate Mills, 3 00	3 25
Land Plaster, tn 10 00	12 50
Lime, Sta Cruz, 1 25	1 50
Cement, Rosen, 2 00	2 25
dale, 4 00	4 50
Portland, 4 00	4 50
NAILS.	
Ass'ted sizes, keg	5 00
OILS.	
Pacific Glue Co's, 12	12
Neatfoot, No. 1, 00	90
Castor, No. 1, 00	90
do, No. 2, 95	95
Baker's A. A., 25	25
Oliver, Plagniol, 5 25	5 75
Possel, 4 75	5 25
Palm, lb, 9 00	9 00
Linseed, Raw, bbl, 95	95
Boiled, 95	95
Cocoanut, 60	60
China nut, cs, 70	70
Sperm, 1 40	1 40
Coast Whales, 35	45
Polar, 45	45
Lard, 80	90
Devco's Br'd, 16	17 1/2
Photolite, 16	17 1/2
Nonpareil, 19	20
Eureka, 19	20
Barrel kerosene, 20	20
Downer Ker, 30	30
Elaine, 34	34
SAFET.	
Pure White Lead, 6 1/2	10
Whiting, 14	14
Putty, 4 1/2	5
Chalk, 1 1/2	1 1/2
Paris White, 2 1/2	2 1/2
Ochre, 3 1/2	3 1/2
Venician Red, 3 1/2	3 1/2
Averil Mixed.	
Paint, gal, 2 00	2 00
White & tints, 2 00	2 40
Green, Blue & Ch Yellow, 3 00	3 50
Light Red, 3 00	3 50
Metallic Roof, 1 30	2 60
RICE.	
China, Mixed, lb, 5	5
Hawaiian, 7	7 1/2
SOAP.	
Castile, lb, 8	15
Common brands, 4 1/2	6
Fancy brands, 7	8
SPICES.	
Cloves, lb, 4 1/2	50
Cassia, 19	19
Pepper, 14	15
Pimento, 19	20
Mustard, Cal, 1 lb glass, 1 00	25
SUGAR, ETC.	
Cub, lb, 11 1/2	11 1/2
Powdered, 11 1/2	11 1/2
Fine crushed, 11 1/2	11 1/2
Crushed, 11 1/2	11 1/2
Golden C, 11 1/2	11 1/2
Cal Syrup, kg, 70	70
Hawaiian Molasses, 25	30
TEA.	
Young Hyson, 40	65
Moynie, etc., 40	65
Country pk'd Gunpowder & Imperial, 35	75
Hyson, 30	35 1/2
Poco-Chow O., 27 1/2	32
Japan, 1st quality, 40	42
2d quality, 25	40

LEATHER.

[WHOLESALE.]
WEDNESDAY M., August 11, 1880.

Sole Leather, heavy, lb.	
Light, 30	32
Jodot, 8 to 10 Kil, doz, 36	40
11 to 13 Kil, 50	55
14 to 15 Kil, 50	55
16 to 17 Kil, 50	55
18 to 19 Kil, 50	55
20 Kil, 50	55
21 Kil, 50	55
22 Kil, 50	55
23 Kil, 50	55
24 Kil, 50	55
25 Kil, 50	55
26 Kil, 50	55
27 Kil, 50	55
28 Kil, 50	55
29 Kil, 50	55
30 Kil, 50	55
31 Kil, 50	55
32 Kil, 50	55
33 Kil, 50	55
34 Kil, 50	55
35 Kil, 50	55
36 Kil, 50	55
37 Kil, 50	55
38 Kil, 50	55
39 Kil, 50	55
40 Kil, 50	55
41 Kil, 50	55
42 Kil, 50	55
43 Kil, 50	55
44 Kil, 50	55
45 Kil, 50	55
46 Kil, 50	55
47 Kil, 50	55
48 Kil, 50	55
49 Kil, 50	55
50 Kil, 50	55

LUMBER.

WEDNESDAY M., August 11, 1880.

CARGO PRICES OF REDWOOD.	
Rough, M., 14	14
Surface, 24	24
Rustic, 24	24
do, No. 2, 18	18
Flooring, 17	17
do, No. 2, 17	17
Beaded Flooring, 28	28
Refuse, 20	20
Half-inch Sliding, 20	20
Refuse, 16	16
Half-inch Surfaced, 24	24
Refuse, 18	18
Half-inch Battens, 23	23
Pickets, Rough, 11	11
Rough, Pointed, 12	12
Fancy, Pointed, 18	18
Shingles, 1 1/2	1 1/2
REDWOOD, RETAIL PRICE.	
Rough, M., 18	18
Pickets, Rough, 15	15
Pointed, 16	16
Fancy, 22	22
do, No. 2, 20	20
Sliding, 20	20
do, No. 2, 17	17
Flooring, 25	25
do, No. 2, 17	17
Beaded Flooring, 28	28
Refuse, 20	20
Half-inch Sliding, 20	20
Refuse, 16	16
Half-inch Surfaced, 24	24
Refuse, 18	18
Half-inch Battens, 23	23
Pickets, Rough, 11	11
Rough, Pointed, 12	12
Fancy, Pointed, 18	18
Shingles, 1 1/2	1 1/2

RETAIL GROCERIES, ETC.

WEDNESDAY M., August 11, 1880.

WEDNESDAY M., AUGUST 14, 1890.		
Butter, California		
Choice, lb.....	25 @	45
Cheese.....	18 @	25
do.....	18 @	25
Lard, Cal.....	18 @	25
do.....	20 @	25
Flour, ex. fam, bbls 00	29 @	30
Corn Meal, lb.....	2 1/2 @	3
Sugar, wh. crshd	12 1/2 @	13 1/2
Light Brown.....	8 @	9
Coffee, Green.....	25 @	30
Tea.....	50 @	60
Finest Japan.....	55 @	60
Candies, Adm'ts.....	15 @	25
Soap Cal.....	7 @	10
Rice..... 8 @		
Yeast Pwd, doz.....	1 50 @	2 00
Cand Oysters doz.....	00 @	25
Syrup, S F Gold.....	1 00 @	75
Dried Apples, lb.....	10 @	14
Ger. Prunes.....	12 1/2 @	10
Figs, Cal.....	9 @	15
Peaches.....	11 @	10
Oils, Kerosene.....	50 @	60
Wines, Old Port.....	3 50 @	40
French Claret.....	3 00 @	40
Cal, doz bot.....	3 00 @	40
Whisky, O K, gal.....	3 50 @	40
French Brandy.....	4 00 @	40

Gold, Legal Tenders, Exchange, Etc.

[Corrected Weekly by SUTRO & Co.]

SAN FRANCISCO, August 11, 3 P. M.

SILVER, 1	Gold Bars, 890@910.	SILVER BARS, 10@18 cent. Is.
Exchange on New York, 124	on London bankers, 49 1/2	49 1/2
Commercial, 50	Paris, five francs, 10 dollar; Mexican dollars, 91 1/2@92.	
London Consols, 98 1/2	Bonds (4%), 113.	
Quicksilver in S. F., by the dash, 1 lb, 42 1/2@45c.		

DOMESTIC PRODUCE.

[WHOLESALE.]
WEDNESDAY M., August 11, 1880.

Butter, cti.....	95	@	05	Red.....	85	@	00
Bayo.....	10	@	15	Silver Sals.....	10	@	25
Castor.....	3	25	@	POULTRY.			
Pea.....	1	25	@	Petaluma, cti.....	-	@	-
Red.....	95	@	05	Tomales.....	-	@	-
Pink.....	95	@	05	Humboldt.....	-	@	-
Sm'l White.....	1	05	@	" Kidney.....	-	@	-
Lima.....	5	00	@	Peachblow.....	-	@	-
Field Peas, b'k eye	25	@	50	Cuffey Cove.....	-	@	-
do, green.....	1	00	25	Brokers, new.....	35	@	50
BROOM CORN.				Earl M'n Bay, new.....	-	@	20
Southern.....	11	@	2	Alvarado, red.....	-	@	2
Northern.....	24	@	34	Sweet, lb.....	-	@	2
CHICORY.				POULTRY & GAME.			
California.....	4	@	4 1/2	Hens, doz.....	5	50	@
German.....	6 1/2	@	7	Roosters.....	5	50	@
DAIRY PRODUCE, ETC.				Broilers, doz.....	2	50	@
Cal. Fresh Roll, lb	27 1/2	@	30	Ducks, doz.....	4	00	@
do Fancy Brands.....	30	@	32 1/2	Mallard.....	-	@	-
Pickle Roll.....	25	@	27 1/2	Spring.....	-	@	-
Firkin, new.....	24	@	26	Teal.....	-	@	-
Western.....	-	@	-	Widgeon.....	-	@	00
New York.....	-	@	-	Geese, pair.....	1	50	@
CHEESE.				White, do.....	-	@	2 00
Cheese, Cal.....	14	@	15	Turkeys.....	16	@	-
N. Y. State.....	-	@	-	do, Dressed.....	17	@	-
EGGS.				Snipe, Eng.....	-	@	-
Cal. fresh, doz.....	24	@	27 1/2	do, Common.....	-	@	-
Ducks.....	18	@	20	Quail, doz.....	-	@	-
Oregon.....	20	@	25	Rabbits.....	1	00	@
Eastern, by exp's.....	19	@	22	Hare.....	1	00	@
Picked here.....	21	@	22 1/2	Venison.....	7	@	-
Utah.....	21	@	22	PROVISIONS.			
FEED.				Cal. Bacon, extra	clear, lb.....	11	@
Bran, ton.....	-	@	12 50	Medium.....	11	@	11 1/2
Corn Meal.....	-	@	25 50	Light.....	12	@	12 1/2
Hay.....	9	00	@	Lard.....	10	@	11 1/2
Middlings.....	-	@	17 00	Smoked Beef	12	@	12 1/2
Oil Cake Meal.....	30	@	00	Shoulders.....	8 1/2	@	-
Straw, bale.....	40	@	50	Hams, Cal.....	-	@	12 1/2
FLOUR.				Dupes's.....	-	@	154
Extra, City Mills.....	25	@	50	None Such.....	-	@	154
do, Country Mills.....	4 50	@	50	Whitaker.....	-	@	154
do, Oregon.....	4 50	@	75	Royal.....	15 1/2	@	16
do, Walla Walla.....	4 50	@	87 1/2	Palmetto.....	-	@	-
Superfine.....	3 50	@	40	H. Ames & Co.....	-	@	-
FRESH MEAT.				Armour.....	-	@	-
Beef, 1st qual'y, lb	6	@	6 1/2	SEEDS.			
Second.....	5	@	6	Alfalfa.....	10	@	12
Third.....	4	@	4 1/2	do, Chile.....	4	@	6
Mutton.....	3 1/2	@	4	Canary.....	5	@	6
Spring Lamb.....	-	@	5	Clover, Red.....	14	@	15
Pork, dressed.....	5 1/2	@	6 1/2	White.....	50	@	55
Dressed.....	7 1/2	@	7 1/2	Cotton.....	-	@	2
Veal.....	6	@	7	Flaxseed.....	2 1/2	@	3
Milk Calves.....	6 1/2	@	6 1/2	Hemp.....	3	@	10
do choice.....	7	@	7 1/2	Italian Rye Grass	30	@	-
GRAIN, ETC.				Perennial.....	30	@	-
Barley, feed, cbl.....	75	@	82 1/2	Millet, German.....	10	@	12
do, Brewing.....	85	@	95	do, Common.....	7	@	5
Chevalier.....	40	@	50	Mustard, White.....	3	@	10
do, Coast.....	1	00	30	Brown.....	1 1/2	@	5
Buckwheat.....	3	00	40	Rapeseed.....	3	@	8
Corn, White.....	1 21	@	32 1/2	Ky Blue Grass.....	20	@	25
Yellow.....	1 10	@	12 1/2	2d quality.....	16	@	18
Small Round.....	1 15	@	17 1/2	Sweet V Grass.....	-	@	75
Oats.....	1 20	@	21 50	Orchard.....	20	@	25
Milling.....	1 55	@	60	Red Top.....	-	@	15
Rye.....	1 25	@	35	Hungarian.....	-	@	25
Wheat, No. 1.....	1 50	@	57 1/2	Mammoth.....	30	@	10
do, No. 2.....	1 45	@	47 1/2	Mammoth.....	10	@	12
do, No. 3.....	1 40	@	47 1/2	Timothy.....	-	@	10
Choice Milling.....	1 60	@	62 1/2	TALLOW.			
HIDES.				Crude, lb.....	5 1/2	@	51
Hides, dry.....	-	@	18 1/2	Refined.....	7 1/2	@	7 1/2
Wet salted.....	10	@	10 1/2	WOOL, ETC.			
HONEY, ETC.				SPRING.			
Beeswax, lb.....	22 1/2	@	25	Southern & San Joaquin.	-	@	-
Honey in comb.....	12	@	13 1/2	Long, free.....	22	@	23
do, 2.....	-	@	-	Short, free.....	20	@	22
do, 3.....	-	@	-	Seedy.....	18	@	20
Extracted.....	7	@	7 1/2	Slightly burry.....	20	@	22
HOPS.				Burry.....	18	@	19
Oregon.....	25	@	30	Northern.....	-	@	-
California, new.....	35	@	42 1/2	Choice, free.....	28	@	32
Wash. Ter.....	25	@	30	Burry.....	25	@	27
Old Hops.....	-	@	10	Oregon, Extra.....	25	@	27
FRUIT & VEGETABLES.				do fine, heavy.....	21	@	24
Walnuts, Cal.....	12	@	15	do Valley.....	25	@	32
do Chile.....	8	@	10	FALL—Lamb's Wool.			
Almonds, hd shd lb	8	@	10	Southern.....	13	@	15
Soft sh'l.....	16	@	18	Northern, burry.....	15	@	17
Brazil.....	14	@	15	do free.....	20	@	23
Pecans.....	16	@	17	FRUITS AND VEGETABLES.			
Peanuts.....	8	@	9	[WHOLESALE.]			
FRUITS AND VEGETABLES.				WEDNESDAY M., August 11, 1880.			
FRUIT MARKET.				Plums.....	4	@	5
Apples, basket.....	50	@	1 00	Pitted.....	15	@	-
do, box.....	1 00	@	2 00	Prunes.....	12 1/2	@	13
Apriots.....	75	@	1 00	Raisins.....	1	50	@
Bananas, basket.....	25	@	4 00	do, Halves.....	1	75	@
Blackber's, chst.....	3	00	@	do, Quarters.....	2	00	@
Cherry Plums, bx.....	30	@	40	do, Eighths.....	2	25	@
Citrons, Cal, 100.....	-	@	-	do, 1/16's.....	2	00	@
Cocoanuts, 100.....	7	00	@	do, Halves.....	2	25	@
Crab Apples, bx.....	50	@	60	do, Quarters.....	2	50	@
Fig's, black, bx.....	1	00	@	do, Eighths.....	2	75	@
Grapes.....	50	@	1 25	Zante.....	3	00	@
Sweetwater.....	75	@	1 00	VEGETABLES.			
Muscad, lb.....	8	@	12 1/2	Asparagus, bx.....	50	@	75
Rose Peru, bx.....	1	25	@	Beets, cti.....	-	@	1 00
Limes, Mex.....	6	50	@	Beans, Stronk.....	1 1/2	@	-
do, Cal, box.....	1	75	@	do, Stocking.....	-	@	1
do, large, box.....	5	00	@	do, Alameda.....	-	@	2
Lemons, Cal, bx.....	3	00	@	do, Lima green.....	-	@	2
Sicily, box.....	8	00	@	" Fountain.....	-	@	2
Australia.....	4	50	@	" Wax.....	-	@	2
Nectarines, bx.....	1	00	@	Cabbage, 100 lbs.....	-	@	50
Oranges, Cal, bx.....	3	75	@	Calatoupes, crt.....	50	@	4 25
do, Tahiti.....	30	@	35	Carrots, sk.....	50	@	75
do, Mexican.....	-	@	-	Califoutier, doz.....	-	@	75
Peaches, bx & bsk.....	25	@	70	Chile Peppers, sk.....	40	@	50
Pears, basket.....	50	@	65	do, Egl.....	40	@	50
do, Baskets.....	75	@	1 00	Cucumbers.....	25	@	35
Pineapples, doz.....	6	00	@	Egg Plants, bx.....	-	@	75
Plums, bx.....	35	@	75	Garlic, New, lb.....	4	@	-
Prunes, German.....	60	@	1 00	Green Corn, bx.....	50	@	75
Raspberries, ch'5	00	@	7 00	Green Peas, lb.....	2 1/2	@	-
Strawber's, ch'5	00	@	8 00	Lettuce, doz.....	10	@	-
Sugar Cane, bdle.....	-	@	2 50	Mushrooms, lb.....	-	@	-
DRIED FRUIT.				Asparagus.....	-	@	-
Apples, sliced, lb.....	8	@	11	Honeydew.....	-	@	10
Apricots.....	15	@	18	Rhubarb, bx.....	25	@	30
Blackberries.....	-	@	15	Squash, Marrow	fat, tin.....	15	@
Citron.....	23	@	24	Summer box.....	10	@	27 50
Dates.....	9	@	10	Tomato, box.....	75	@	80
Figs, pressed.....	7	@	8	do Vacaville.....	40	@	50
do, loose.....	4	@	6	do Sacramento.....	50	@	60
Peaches.....	18	@	20	do White.....	50	@	60
Pears, sliced.....	9	@	10	Watermelons, doz	100.....	@	10
do, peeled.....	9	@	11	MARKET PRICES.			

A NEW SCHOOL SONG BOOK!
JUST OUT.

SONG BELLS!

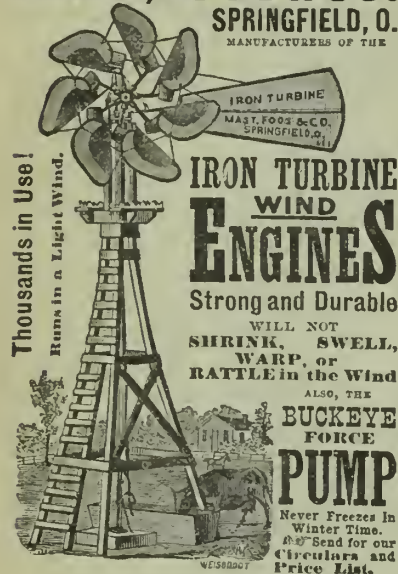
A New, Complete and Most Attractive.
Collection of School Songs,
By L. O. EMERSON.
Send 50 Cents for Specimen Copy.

BOOKS FOR SCHOOLS, SINGING SCHOOLS, CHOIRS,
AND GOSPEL TEMPERANCE MEETINGS.

- Welcome Chorus (\$1.00). For High Schools.
- Song Bells (50 cts). For Common Schools.
- White Robes (30 cts). For Sunday Schools.
- Temple (\$1). For Choirs and Singing Schools.
- Voice of Worship (\$1). Choirs and Singing Schools.
- Johnson's Method for Singing Classes (60 cts) For Singing Schools.
- Temperance Jewels (35 cts). Gospel Temp. work.
- Temperance Light (12 cts). " " "

OLIVER DITSON & CO., BOSTON.
C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.
SPRINGFIELD, O.
MANUFACTURERS OF THE



To D. E. GOLDSMITH,
General Agent for the Pacific Coast.
425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested. - Bulletin, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED
FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-will of all who have used or seen it operate.

PRICES - \$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED

PACIFIC WATER CURE

- AND -

Electric Health Institute.

Specially adapted to the cure of chronic cases such as Rheumatism, Neuralgia, Paralysis, Consumption, Asthma, Lead or Mercury Poison, etc.

Our mode of treatment is mostly new and peculiar, and relieves the patient in a short time, mostly without the use of drugs.

Good rooms and board, with competent and careful nurses furnished in the house.

M. F. CLAYTON, M. D.,
Proprietor.

Northwest corner Seventh and L Sts., Sacramento, Ca

DO NOT FAIL to send for our Price List for 1880. There is any address upon application. Contains descriptions of everything required for personal or family use.

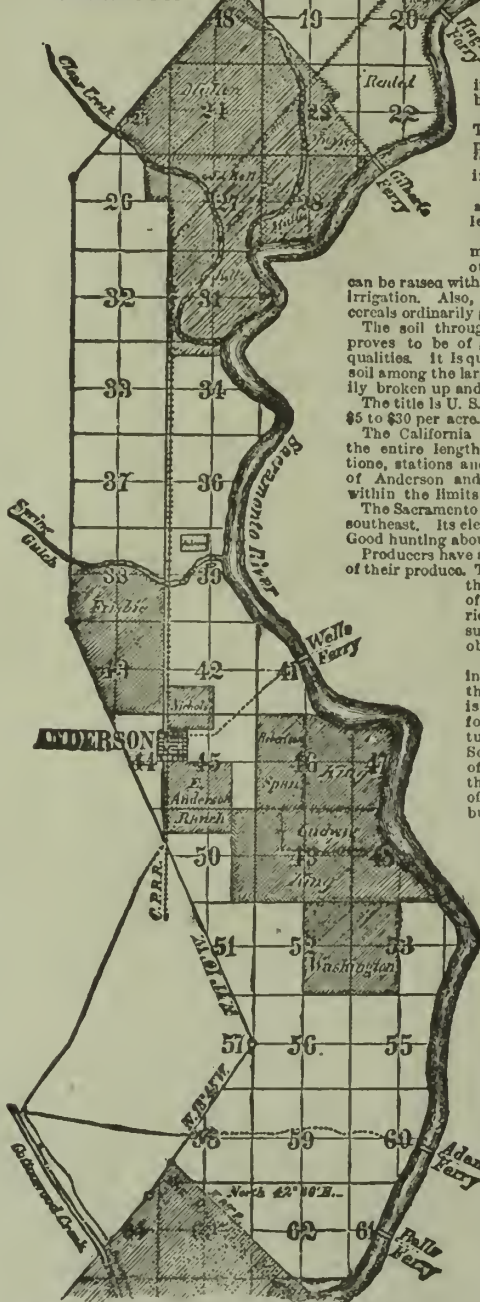
with over 1,500 Illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

50 New Style Cards Lithographed in bright colors, 10c. 60 A's, Samoles 10c. Conn. Card Co. Northford, Ct.

READING RANCH,
Shasta Co., Cal.

Good Land!
Sure Crops!
HEALTHY CLIMATE!
Prices Low. Terms Easy.

TITLE PERFECT.



The Reading Ranch, in the Upper Sacramento valley, originally embracing over 25,000 acres of choice grain, orchard and pasture land, is now offered for sale at low prices and on favorable terms of payment, in subdivisions to suit purchasers.

The ranch was selected at an early day by Major P. B. Reading, one of the largest pioneer land owners in California. It is situated on the west side of the Sacramento River and extends over 20 miles along its bank.

The average rainfall is about 80 inches per annum, and crops have never been known to fail from drought.

The climate is healthy and desirable. The near proximity of high mountains peaks give cool nights during the "heated term" which occurs in our California summers.

Pasture, wood and good water are abundant. The tillage land is mostly level, with complete drainage.

Figs, Grapes, Peaches, Prunes, Almonds, English Walnuts, Oranges and other temperate and semi-tropical fruits can be raised with success on most of the tract without irrigation. Also, Alfalfa, Vegetables, Corn and all other cereals ordinarily grown in the State.

The soil throughout the tilled portions of the ranch proves to be of great depth and enduring in its good qualities. It is quite free from foul growths. The virgin soil among the large oak trees on the bottom land is easily broken up and cultivated.

The title is U. S. patent. Prices range principally from \$5 to \$30 per acre.

The California and Oregon railroad traverses nearly the entire length of the tract. There are several sections, stations and switches, besides depots at the towns of Anderson and Reading, all of which are located within the limits of the ranch.

The Sacramento River borders the whole tract on the southeast. Its clear waters are well stocked with fish. Good hunting abounds in the surrounding country.

Producers have a local market, which enhances the value of their produce. The railroad transportation route is level throughout to San Francisco. A portion of the land is auriferous and located near rich mines now being worked. Land suitable for settlers in colonies can be obtained on good terms.

Town lots are offered for sale in Reading, situated on the Sacramento river, at the present terminus of the railroad. It is the converging and distributing point for large, prosperous mining and agricultural districts in Northern California and Southern Oregon. Also, lots in the town of Anderson, situated more centrally on the ranch. Lots in both these towns are offered at a bargain, for the purpose of building up the towns and facilitating settlement of the ranch.

Purchasers are invited to come and see the lands before buying here or elsewhere. Apply on the ranch, to the proprietor.

EDWARD FRISBIE,
Anderson, Shasta Co., Cal.
P. S. - Send postage stamp for illustrated paper containing information about Shasta county and these lands, and say advertised in this paper.

Location of Shasta County.
Shasta County lies not far from midway between the two most important ports on the Pacific shore, i. e., San Francisco and Portland, Oregon, and directly on the overland route, which in the future will become the grand thoroughfare from Mexico to British Columbia. The town of Reading, at present, and probably for years to come, the head of railroad transportation on the California side of the mountains intervening below Oregon, is distant from San Francisco by railroad (via Vallecito) 255 miles; from Sacramento City, 109 miles; from Marysville, 117 miles.

LAND FOR SALE OR RENT IN SUB-DIVISIONS.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

SEEDS.

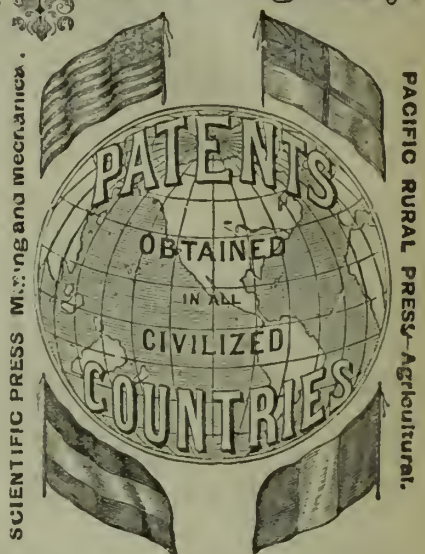
ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POPCORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

DEWEY & CO'S
SCIENTIFIC PRESS
Patent Agency.



PATENTS obtained promptly; Caveats filed expeditiously. Patent re-issues taken out; Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Soliciting Business promptly and thoroughly conducted. Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons, and our success and business are constantly increasing. The ablest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.

Office—202 Sansome St., N. E. Cor. Pine, S. F.
A. T. DEWEY. W. B. DEWEY. H. H. STRONG.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.

San Francisco, Cal.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

The Excelsior Animal Trap



Is Guaranteed to be the Best

GOPHER TRAP

Ever invented. The Gopher takes the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$3 per doz. Address, G. W. JOLLY, Paradise Springs, Cal. Pat. apd for



Calvert's Carbolic

SHEEP WASH,

\$2 per Gallon.

After dipping the Sheep, is useful for preserving wet hides, destroying the vine pest, and for wheat dressings and disinfecting purposes, etc. T. W. JACKSON, S. F., Sole Agent for Pacific Coast.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, postpaid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

A. AITKEN.

AITKEN & FISH,

F. N. FISH

Premium Pioneer Marble Works,

617 K St., Bet. Sixth & Seventh. - SACRAMENTO, CAL.

Patents

OBTAINED IN U. S. AND FOREIGN COUNTRIES; copyrights registered through DEWEY & CO'S MINING AND SCIENTIFIC PRESS Patent Agency, San Francisco. Send for free circular.

50 Pertumet, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Agricultural Articles.

W. H. CARSON. JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought iron crank shaft with
double bearings for the crank
to work in, all turned on a
run in babbitted boxes.
Positively self regulating
with no coiled spring or springs
of any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knobs without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of supe-
riority, and can be relied upon as the best and most desira-
ble Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT
Centennial and Eagle Improved Presses,
For Farmer's use. Capacity, 10 to 15 tons per day.
Combining strength and durability. Easily moved. Will
be sold low for the cash
Price, \$175.
For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.

For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.



LITTLE'S CHEMICAL FLUID.
The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.60 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

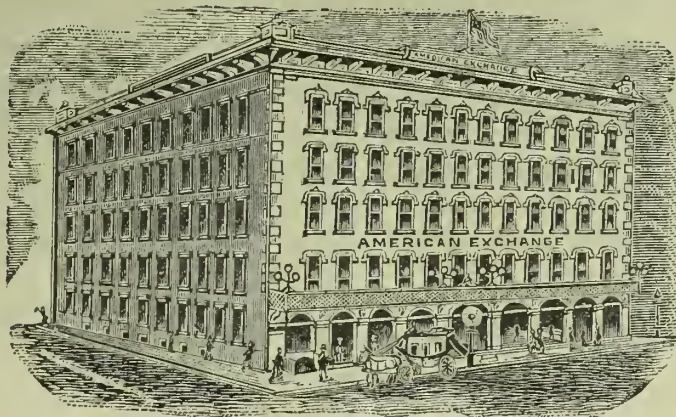
50 Perfumed, gilt edge & chromo Cards, elegant case, name
in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center
of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within
two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and
Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the
Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San
Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof
and sunny, is decidedly the Hotel for comfort and convenience for the traveling public

RICKARD & DURDEN'S

Anti-Scale Compound.

FOR THE PREVENTION AND REMOVAL OF

INCRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having dem-
onstrated the value of this invention, and its applicability to differ-
ent qualities of waters, we now offer it to Engineers and Steam
Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

BERRY & PLACE MACHINERY CO.

Market Street, Corner Fremont, - - San Francisco.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

RECORD OF SUPERIORITY.

1878-AWARDED	1879-AWARDED
J. H. STROBRIDGE, First Premiums:	J. H. STROBRIDGE, First Premiums:
Pen 5-Breeding Ewes.....\$22 50	Pen 5-Breeding Ewes.....\$22 50
Pen 5-Yearling Ewes.....22 50	Pen 5-Yearling Ewes.....22 50
Pen 5-Ewe Lambs.....22 50	Pen 5-Ewe Lambs.....22 50
Pen 3-Ram Lambs.....22 50	Two-year-old Ram.....22 50
Yearling Ram (1st and 2d).....35 50	Yearling Ram.....22 50
Two-year-old Ram.....22 50	Ram and five Lambs.....30 00
Ram and five of his Lambs.....30 00	Pen of 3 Ram Lambs.....22 50
Sweepstakes:	Sweepstakes:
For best Ram of any age or breed, and five of his Lambs.....75 00	For best Ram and five of his Lambs, of any age or breed.....75 00

THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and
50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY
SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish
Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from
Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda, Co., Cal.
E. W. PEET, Agent.



Importing to and breeding on this coast has been a specialty with us for the past 10 years. Satisfaction guaranteed.
PETER SAXE,
H. POLK SAXE,

PETER SAXE & SON,

IMPORTERS AND BREEDERS OF

Thoroughbred Live Stock,

Horses, Cattle, Berkshire Hogs and Pigs. and Sheep.

We can fill orders at any
time for the best families
of PURE BERKSHIRES,
"Short Horns" and "Jer-
sey" or "Alderney" Cattle,
Jack and Mules, Spanish
and French Merino, Cots-
wold and SHROPSHIRE
SHEEP.

All at moderate prices
and perfectly pedigree.



Address Lick House, San Francisco.

STRAWBERRIES

Newest and Best Varieties,

INCLUDING

"SHARPLESS"

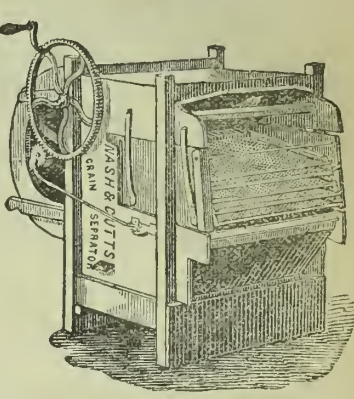
Grown in Pots and ready for shipment
after Aug. 1st. New descriptive priced
catalogue FREE. Address

ELLWANGER & BARRY,
Rochester, N. Y.

STILL AHEAD!

Trade
Mark.

"The Improved
Nash & Cutts Grain Cleaner."



Three sizes-warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fair
from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats
cracked wheat etc., in a satisfactory manner, but is also
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTEK and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our
Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.

2d. Being located here we know what is wanted much
better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.

Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO., Sacramento, Cal.

We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.
Prices at Factory-No. 1, \$33; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.

We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on
receipt of publishers' prices, annexed:- Tobacco, its culture,
manufacture and use, 500 pages, \$3.50;-The Patron of Hus-
bandry, 500 pages, \$3.75;-The Women of the Bible, 77 en-
gravings, \$4;-Wells' Every Man His Own Lawyer, 612 pages,
\$2.75;-American Husbandry, 2 vol., \$1.50;-Gray's Agricul-
tural Essays, \$1;-Langstroth's Honey Bee, \$1.50;-Randall's
Sheep Husbandry, \$1.50;-Agricultural Engineering, \$1.50;
New Bee-Keepers' Text Book, \$1;-Pacific Rural Hand-
book, \$1;-Ropp's Easy Calculator, \$1;-U. S. Land Law,
50 Cts.-Woodward's Grapes, Etc., \$1;-Sugar from
Melons, 25 Cts.-Strawberry Culture, 50 Cts.-Layses
Belles Lettres, \$1;-Holt's Map of California and Ne-
vada, to subscribers, \$1;-Back Volumes PACIFIC RURAL
PRESS (bound) 95c; unbound, \$3;-Picturesque Arizona, \$2
Address DEWEY & CO., Publishers, 202 Sansome St., S. F.

REMOVAL.

John F. Ceary, M. D.

For the last 18 years at 632 Howard street, San Francisco,
has

REMOVED TO OAKLAND.

Consulting rooms, Eric House, 1113 Broadway.

Office hours, 1 to 5 P. M. Mornings and evenings at
Marathon Park, Telegraph Avenue.

Diseases of women and children a specialty for 25 years.

COPP'S
AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township
and Section Corners; How to Homestead and Pre-empt
land; How to Enter land under Timber Culture, Desert,
Townsite and other Laws. Sent by mail postpaid for 50
cents.

DEWEY & CO.,
202 Sansome St., S. F.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

AMERICAN
MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing,
Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

614 Commercial Street, above Sansome, San Francisco.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St. SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

FOR SALE.

THOROUGHbred

POLAND CHINA SWINE

Of all ages, from 6 weeks to 3 years of age.

Being desirous of closing out my stock of SWINE, I will sell for the next 60 days Choice Breeding Stock of any age desired, at low figures. Also a few trios of

Black Cochin Chickens,

Three to four months old at \$5 per Trio.

T. C. STARR,
San Bernardino, Cal.

August 9, 1880.

OXYGEN.

What is it? Everybody knows it is as essential to life as food itself. Yet when people are ill for the very want of revitalization through respiration, they dose themselves with drugs and bitters to the effect of demoralization! All Invalids should read Drs. STARKEY & PALEN'S (Phila.) *Treatise on Oxygen*, which is sent free to all who may ask for it. The subject is worthy of investigation. References to physicians in San Francisco, who use and prescribe Compound Oxygen in practice. As prepared for home use (conveniently sent to any address) it may be obtained of H. E. MATHEWS, 606 Montgomery street, S. F., upon the same terms as furnished by Drs. Starkey & Palen, Philadelphia, Penn. Complete instructions with each package.



Windmills!

HORSE POWERS!

TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

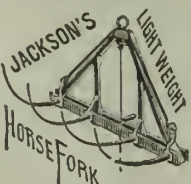
W. H. McCORMICK.

827 Market St., between Fourth and Fifth.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluzome Sts., near S. F. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Headley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address: **BYRON JACKSON, Prop'r.**



LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

Engraving

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the Mining and Scientific Press, San Francisco, at favorable rates.

Dewey & Co. { 202 Sansome St. } Patent Ag'ts

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

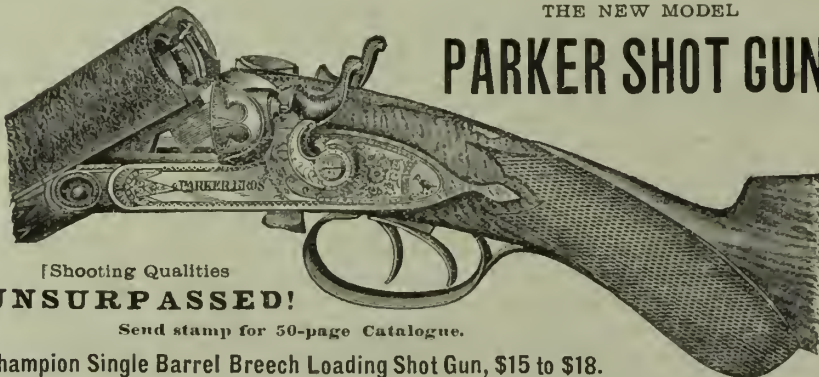
Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

THE NEW MODEL

PARKER SHOT GUN.



[Shooting Qualities

UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

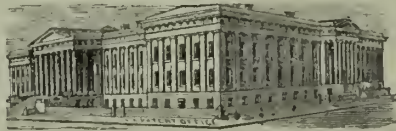
Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL.

DEWEY & CO.'S

Scientific Press



Patent Agency.

[ESTABLISHED 1860.]

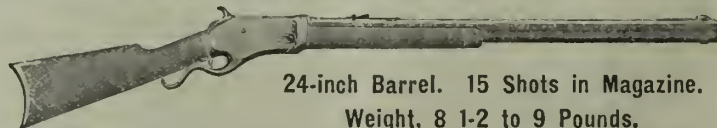
Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

FIREMANS FUND

Insurance Company.

JUNE 30th, 1880.

ASSETS:

CASH on hand and in Bank.....	\$40,029.27
U. S. BONDS, registered.....	195,875.00
OAKLAND CITY BONDS.....	29,500.00
OAKLAND GASLIGHT BONDS.....	17,500.00
FIRST NATIONAL GOLD BANK STOCK.....	10,980.00
LOANS on BOND and MORTGAGE.....	153,100.00
BILLS RECEIVABLE, secured by collateral.....	20,050.00
REAL ESTATE.....	209,218.33
MARINE PREMIUM NOTES.....	27,733.20
PREMIUMS in course of collection.....	57,000.13
INTEREST due and accrued.....	3,525.41
ADVANCES on Mort'd property, etc.....	2,795.73

\$767,307.17

ADDITIONAL CASH CAPITAL now being called in..... 350,000.00

Will Make Total Assets, \$1,117,307.17

THE

FIREMANS FUND

Insurance Company

Bases its CLAIMS TO THE BEST PATRONAGE upon its sound financial condition, reinforced by its ACCESSION OF CAPITAL, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair and clearly expressed contracts, and prompt and equitable adjustment and settlement of legitimate losses.

For SEVENTEEN YEARS it has been favorably known as a conservative Underwriter, and during that time has paid over

\$4,000,000 in Losses,

Passing triumphantly through the heaviest conflagrations known to modern history.

Agents

IN ALL THE PRINCIPAL LOCALITIES IN THE U. S.

Insurance of Grain and Growing Crops in California a Specialty.

Home Office:

401 California St., San Francisco.

WILLIAM SEXTON,	} Supervising Agents.
E. W. CARPENTER,	
D. J. STAPLES,	GEO. D. DORNIN,
President,	Secretary.
ALPHEUS BULL,	WM. J. DUTTON,
Vice President.	Asst Secretary.

SEIGLER SPRINGS HOTEL,

LAKE COUNTY, CAL.,

JOHN SPAULDING, - Proprietor

These well known and celebrated Springs are beautifully located in the forest-grown hills of Lake county, six miles from Lower Lake and five miles from Glenbrook. Daily communication is had with San Francisco.

Their waters are among the most remarkable in the world for their remedial qualities for liver and kidney complaints, neuralgia, rheumatism, dropsy, scrofula and other diseases arising from impurity of the blood. The water is remarkably efficacious in curing dyspepsia and nervous diseases.

First-Class Board,

\$10.00 to \$12.00 PER WEEK.

W. T. GARRATT, Manager.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1850. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, AUGUST 21, 1880.

Number 8

Horticultural Exhibit at the Mechanics' Fair.

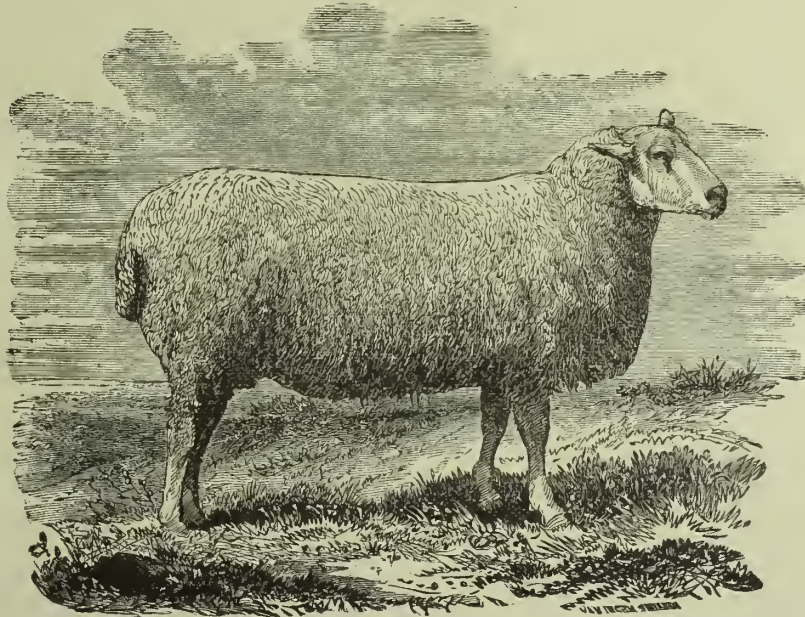
It is as yet too early to speak comprehensively of the exhibit in charge of the State Horticultural Society at the Mechanics' fair. Several causes have combined to retard the fruit show, and we shall not attempt special comment until the character of the exhibit for good or evil becomes more evident. It may be said that there are several very creditable displays, especially the citrus collections of G. W. Swan, of San Diego, and J. W. Wolfskill, of Los Angeles. There are also several good shows of stone fruit, one brought from Santa Barbara by Mrs. Winton, Secretary of the local horticultural society, others being from the orchards nearer at hand. We hope ere long to note the exhibits of all who come forward and aid the effort to show the visitors at the fair something of California's horticultural wealth. There should be a creditable and representative display. The season is very backward, it is true, but if each one interested would keep an eye on good specimens on his trees and vines, and would send them along as they mature, the aggregate would be a splendid fruit show. The Managers of the Institute have offered good premiums and give prominent space to the display. The officers of the State Horticultural Society are giving the matter their personal attention. It is to be hoped that fruit growers will not hesitate to enter the lists, either for competition for the premiums or for exhibition, as they desire, and let all see just what are the adaptabilities of the different regions as shown by the actual growths in them.

The department of plants and flowers does not require much exhortation. The city nurserymen, florists and gardeners have come forward with a mass of beautiful material, which is highly creditable to them and the exhibition. There has not been such a show of handsome, rare and well-grown plants for a number of years. The garden adjoining the pavilion is far more rich and radiant than usual. First on the right, on entering the garden, is the exhibit of J. T. Murphy, consisting chiefly of ferns, palms and araucarias, some specimens being of great size and beauty. Continuing around the department, one comes to the splendid stands and groups of E. Meyer, F. A. Miller & Co. and Woodward's Gardens, all rich in color and valuable in the possessions of rare and interesting growths. The tables of cut flowers of W. Meyer, E. Meyer, Thos. Saywell, J. T. Murphy and F. A. Miller & Co., mentioned in the order in which they stand in the circle, are being kept up with commendable effort on the part of the exhibitors, and are greatly enjoyed by the public. A fine display of rustic work and filling is made by E. Meyer, five pieces being shown. Another piece of rustic is by P. J. Keller & Co., of Oakland. The way in which the garden is kept up, and the taste of its arrangement, does the managers of the exhibition much credit. There is a skillful combination of colored lights thrown upon jets of water, which produces an effect passing beautiful, and the "prismatic fountain" is the cynosure of all eyes during the evenings.

Another feature of the Horticultural Society's exhibit is the extensive show of cereals grown on the experimental grounds of the University of California, at Berkeley. There are about 150 specimens of distinct varieties of grains, each shown with specimen heads and threshed grain, and to one interested in the growth of cereals there is afforded opportunity for long comparative study. Many of the grains are wholly new to this State, as seed of most of the prominent cereals grown in Europe was obtained last fall from Germany. This collection is worth a long journey to see, if the subject interests the visitor. There is also shown from the University seedlings of many plants of industrial value, including cinchonas, anonas, coffee trees, etc., and several promising forage plants. Adjacent to the University is a group of thrifty orange and lemon trees, by E. Meyer, of this city, and an extensive collection of native grasses by J. Begg. A cranberry plant in fruit, from H. Nyland, of Bouldin island, is a sight which comparatively few Californians have ever seen. The fair, as we write, has just closed its first

week, and is pronounced generally successful and interesting. In its horticultural features we expect great developments during the coming week; and if the hope is realized, we shall have occasion to say so, and to give due credit to those who contribute to such a desirable result.

SHEARING TWICE A YEAR.—We infer from an article in the Melbourne *Leader* that shearing twice a year is a brand new practice in that part of the world. We read accounts of the experiments of W. Armstrong of Hexham Park, which satisfy him that semi-annual shearing is the proper system to adopt. He is breeding cross-bred long wool sheep, and, in case of the Lincoln and Merino cross, the wool is about six inches long if clipped but once a year. The year's experiences, however, felt down the wool so that it is not desirable to manufacturers. Wool buyers told Mr. Armstrong that they would prefer a shorter staple of free wool than a long staple matted, so he resolved to try shearing twice a year. A beginning was made this season by



BORDER LEICESTER RAM FROM THE MERTOUN FLOCK IN BERWICKSHIRE.

passing under the shears in the autumn over 4,000 sheep, which had been shorn as usual in the spring. A thousand fat wethers belonging to Mr. Armstrong's Pirron Yallock estate, near Colac, were first shorn, and the result was that an average of 4½ lbs. of wool was obtained in the grease. As exactly four months and a half had elapsed between the two shearings the growth of wool was equal to 1 lb. per sheep per month. Drafts of these sheep, accompanied with some lots of unshorn wethers from the same flock, were sent to the Melbourne market, and 10s. per head was obtained for the former and 12s. for the latter. The wool has been estimated both by Mr. Armstrong and some of his experienced neighbors to be worth over 1s. per lb., or about 5s. per sheep; so that there is a clear gain of 3s. per sheep upon this part of the experiment. As the results obtained by selling test lots of the Hexham Park flocks were much about the same as in the case of those sent from Pirron Yallock, it seems to have been pretty well established that in disposing of the surplus stock of long wool flocks it is more profitable to shear than to sell the sheep with their fleeces on.

FRUIT BOXES.—Hixon, Justi & Co., of this city, write to the *Riverside Press* as follows: Cherries are shipped in boxes in the clear 4x8½ x14½, weighing about 10 lbs. The apricot box, used also for plums, is 6x12x18 in the clear, holding from 28 to 30 lbs. The apple and pear box is 12x12x20 in the clear. Measuring from the outside of the head board is one inch and the sides are one inch it makes 12x14x22; but many of the boxes are half-inch sides, and many use head pieces 1½ thick, so you see it is better to give the inside measurement.

THE OUTLOOK IN WOOL.—As the fall clip of wool will soon be ready for market, it is interesting to examine the outlook for prices. Walter Brown & Co., of Boston, in their August circular, say: "The improved tone in the wool trade noted in our last issue, as the closing feature of the month of June, has continued during the period now under review, and has resulted in a moderate demand with steady prices for nearly all classes of the staple. Manufacturers, however, have not had sufficient inducement from the sales of their goods to influence them in buying beyond their actual wants, and any attempt to advance prices has had a tendency to check sales. They have canvassed the markets more extensively during the past two weeks, and as many of the mills will probably find it necessary to buy within the next 30 days, we can reasonably look for more liberal sales. The movement in woolen goods during the month has been mostly confined to the completion of orders taken some time ago; outside of these the transactions have been com-

The Leicester Sheep.

Our engraving shows a ram of the Border-Leicester blood, a race of sheep derived mainly from the famous Leicesters which came into prominence through the efforts of that pioneer in the modern art of breeding, Bakewell. Bakewell, it will be remembered, commenced with the original Leicester sheep, an animal of large frame, with heavy bone and coarse-grained meat, a flat-sided carcass and legs large and rough. It was a slow feeder and necessarily late in reaching maturity, weighing at two or three years, old 100 lbs. to 120 lbs. Seeing the necessity of obtaining in addition to the fleece, the largest possible increase of flesh in proportion to the food consumed, in the shortest period of time, he bred by selection most persistently and skillfully for these objects. This was commenced in 1755, and the result of Bakewell's breeding was the production of a sheep of such marked improvement that the receipts from hire of rams alone yielded \$15,000 in a single season. The fame of Bakewell's sheep, the Dishleys as they were called, spread far and wide and importations of them were made for Gen. Washington's estate in Virginia. There a Dishley ewe crossed by a Persian ram gave rise to the Arlington race of long-wooled sheep, which became widely known.

The race of Border-Leicesters arose something more than a century ago, and early in the present century the improvement was carried farther by the use of Dishley rams by the border flock wasters. Now the border sheep have secured distinctive appellation and recognition at the English shows.

The characteristics of this breed, as given by Mr. John Wilson, are extraordinary aptitude to fatten and early maturity. He says: The most marked feature in their structure is the smallness of their heads and of their bones generally, as contrasted with their weight of carcass. They are clean in the jaws, with a full eye, thin ears, and placid countenance. Their backs are straight, broad and flat; the ribs arched, the belly carried very light, so that they present nearly as straight a line below as above; the chest is wide, the skin very mellow, and covered with a beautiful fleece of long, soft wool, which weighs, on the average, from six to seven lbs. On good soils, and under careful treatment, these sheep are currently brought to weigh from 18 to 20 lbs. a quarter at 14 months old, at which age they are generally slaughtered. At this age their flesh is tender and juicy, but when carried on until they are older and heavier, fat accumulates so unduly in proportion to the lean meat as to detract from its palatableness and market value.

The ram represented in the accompanying engraving, which is produced from a photograph, is from the Mertoun flock of Lord Polworth, in Berwickshire. The engraving does not indicate a pampered sheep, intended only for the show-yard; but the straight and broad back, the wide chest brought well forward, the well-sprung ribs and long quarters, the full and square rump, all bespeak an animal compact and symmetrical—a meat-maker of the highest order.

SAN FRANCISCO'S WEALTH.—The Auditor of the county has submitted the following compiled statement to the State Board of Equalization as required by the law: Value of real estate in San Francisco, \$122,029,868; value of improvements on real estate, \$42,968,640; value of personal property, exclusive of money, \$68,774,195; amount of money, \$19,747,623. Total value of all property, \$253,520,326. Last year's statement is as follows: Real estate and improvements, \$166,429,845; personal property including \$7,388,635 cash, \$51,027,229. Total \$217,487,074. Excess this year, \$36,033,25.

SHOCKING THE PHYLLOXERA.—We hear in a very round-about way that a French chemist thinks he is warranted in asserting that the phylloxera can be destroyed by electricity. He sends a current by means of the Ruhmkorff coil directly to the roots of the vines, killing, as he says, not only the insects, but its eggs. When the steam is turned on the Ruhmkorff the insects are at once seized with a desire to shuffle off their mortal coil—so to speak.

THE C. P. Railroad Company have determined to construct several thousand feet of snowsheds this season between Emigrant Gap and Truckee.



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Notes from Tehama County.

EDITORS PRESS:—From all parts come the cheering news of a splendid harvest. A few of our foothill farmers from the coast ranch district around Paskenta and the Nome-Lacko reservation have been in our thriving city since my last. John Knothe, an extensive farmer near Newville, but in this county, was in with a load of very fine barley a day or two ago. He reports the farmers in his section having finished heading and waiting patiently for the separators to get around. E. Senter, of the firm of Cox & Senter, who farm 350 acres in the foothill portion of our county, on Elder creek, has commenced hauling their splendid crop of "Proper" and Club wheat which was threshed by Morrill Miller. It turned out very handsomely, especially the "Proper" variety, which is extraordinarily clean and of an excellent quality. He is storing in Cone & Kimball's, but no doubt he will soon find a purchaser for his "Proper" wheat for seeding purposes, as that variety of wheat is now very popular among our farmers.

Mr. Senter mentioned an experience worth noticing in regard to harvesting of his grain, and it may be of service to your many readers. He says he cut his crop this year when the grain was rather green—in fact the joints were sappy yet when he headed his grain. He says he headed it in a splendid manner, the machine working well. He put the grain into small stacks, and when the separator threshed it, the grain turned out wonderfully. It is plump and clean, and is as fine a sample of grain as anyone can wish to grow. Mr. Senter is a farmer of 25 years' experience, and he says he never saw such an improved condition in the grain as by working it that way.

Mr. Miller, a neighbor of Senter & Cox, has finished; so also have the Ruff Bros., two industrious young farmers, who have two very fertile places near the Nome-Lacko reservation. John A. Williams, a farmer from beyond Paskenta, reports very fine crops in his section, the average being somewhat above previous years. He thinks 25 bushels to the acre about what most of our foothill farmers will clean up this summer. John brought in a drove of over 100 head of hogs for the pork buyer, Bradbury, who will drive them to Weaver. The swine were in a fine condition, and traveled very reluctantly this warm weather. P. McCarty, who farms about 150 acres out of 1,100 or so, has sent his crops, but is waiting for the thrasher. His farm is mostly grazing land for sheep; it is situated on Thomas creek, near Paskenta. W. Underhill, who farms the heart of the old reservation country, had 100 or so acres more to cut when John Ruff, his neighbor, was in a day or two ago. Farmer Underhill rents from S. A. Gyle & Co., large land proprietors and extensive merchants of Tehama. He has a magnificent crop of grain this year, and well does he deserve his good fortune.

From friend Ruff I learned that the late sown grain in and around the foothill country is turning out the best crop. Mike Newman, of Nevada bottoms, has finished threshing his own fine crop, and has started out on a trip through his neighborhood. The threshing outfits doing most of the work in this hummocky foothill country are horse-power machines, so do slow work, though, as a rule, good work.

J. W. B. Montgomery, of Cana, Butte county, was in Red Bluff the latter part of the week, and he reported a splendid crop of cereals in Butte county, the grain turning out very much better than the farmers anticipated early in the season. He has not threshed his fine crop. His estimate of the average is about 25 bushels to the acre on bottom land and 21½ bushels on the uplands.

In company with F. J. Mayhew, our popular miller, the writer visited the well-known "Ide bottom," situated between the farms of H. Kraft and H. Mooney, some seven or eight miles from Red Bluff, on Friday last, and found the threshing outfit belonging to Robert Gemmill threshing the fine crop of "Proper" wheat of O. A. Lovett. The machine was doing excellent work. The separator is a Pitts, and is one of the best separators now at work in Tehama county. A powerful engine drives this smooth working machine, and O. A. Lovett was profuse with his praise of the excellent work the outfit was turning out. Mr. Lovett will have a very nice lot of plump, clean and millable wheat. He will probably sell all to the millers, or to the local purchasers, and buy new seed for next fall. His bottom land will probably average 21 bushels to the acre. H. A. Rawson has on his bottom land 9,672 sacks, an average of 21 bushels or more to the acre; a good yield. He has a large quantity of grain piled up on a side track ready for shipment. His upland wheat has not been threshed yet. He has a splendid crop this season.

Our small farmers west of town, on Reed, Pine and Brush creeks, are driving a thriving trade in the melon, squash, cucumber and green corn line. C. P. S. Johns, a thrifty farmer on Brush creek, or one of the numerous creeks west of town, brought in three specimens of

watermelons a few days ago, together weighing 72 lbs. Mr. Johns reports the industry of melon culture to be a very fair paying one; and when we come to think of the fact that melons are the same price now that they commanded 10 or 15 years ago, we are led to believe that there is money in melons for the producer. Milton Dale, on Pine creek, raises very fine melons. He and his neighbor C. P. S. Johns vie with each other in raising monster melons. These gentlemen grow a good quality of potatoes. The Early Rose does just as well in the favored spots of this valley as they do in the mountains.

Our Antelope valley farmers are about through. R. H. Blossom finished on Tuesday last. He says his average is from 20 to 21 bushels to the acre. His fine threshing outfit is now on the farm of Judge E. J. Lewis. M. Bohn, the partner with Judge Lewis, is a very good farmer, and has a magnificent crop of wheat this year. They have over 100 acres of the celebrated "Snowflake" wheat, which will be sold for seed wheat to farmers who have bespoken the bulk of it.

I am pleased to chronicle the good news that our river is again open for navigation, or that we have had a visit from the snagging boat *Dover*, which arrived opposite Red Bluff on August 6th after an absence of nine years. Capt. Rogers, who commands the boat, says "the stream from Tehama to this point is as free from obstructions as it has been for 15 or 20 years, and the water was ample for navigation to our city." On the arrival of the boat our citizens were excited and jubilant, guns were fired and congratulations exchanged with the hard-fisted husbandmen who were rejoiced at the prospect of cheap transportation for their thousands of sacks of grain; but we have not heard from the steamer since. FELIX.

Red Bluff, Cal.

Fruit and Fruit Canning in Santa Barbara County.

EDITORS PRESS: Having occasion to call at the Santa Barbara Fruit Cannery the other day to sell a little fruit, I paused a few moments to watch the busy fingers and see the happy, smiling faces of the long rows of neatly dressed ladies as they prepared the festive apricot (perhaps festive is not the right word) for canning. It was an enlivening as well as an encouraging sight. It told of even the present great abundance of apricots in this county, notwithstanding partial failures in some localities. One of the proprietors of the cannery informed me that he had, two years ago, thoroughly canvassed the county in regard to fruit production; consequently he had not blindly erected his establishment. Few people are aware of the almost immense quantity of fruit trees already bearing in this county. The quantity set, and to be set, will be immense. From the great care, I observed, they took in selecting the fruit at the cannery, I have no doubt they will quickly establish a reputation that will result in a ready sale of all the fruit that has their brand upon it. The character of the proprietors, Messrs. Dimnick & Sheffield, has always stood high in this community; every one who is acquainted with them will know that their goods are as good, at least, as represented.

The fruit-drying establishment here is also in operation, and the two will doubtless dispose of all our surplus fruit this year and stimulate the production of more in years to come. Santa Barbara will be a leading fruit county in the State. We shall scarcely equal Los Angeles and San Bernardino in oranges and lemons; but for apricots, nectarines and peaches, I do not think there is a better county in the State; indeed, many think, not the equal. But as comparisons are odious, while I claim an equality, I do not like to assert a superiority.

We continually find more and more land adapted to fruit-raising, and more and better varieties of fruit that succeed here. Three years ago everyone said cherries were failures, and few planted them. This year the large, beautiful cherries of the Monticito prove the fallacy of the remark. I saw a tree in town the other day with a fair crop of cherries upon it. When the trees get sufficient age they may probably be constant bearers; so, doubtless, in regard to other varieties of fruit—even oranges, it is now ascertained, do well, indeed, remarkably well, in certain localities. But we are rather young yet in fruit knowledge and fruit culture in this county—too many of the first settlers came for the purpose of health, pleasure or speculation to give the fruit interests the attention that their immense advantages merit. But we are now getting down to sober matters of fact; we are looking around for the best and easiest way of earning our bread and butter; and, among others, we find that none in the long run will be superior to that of fruit.

Our Horticultural Society is and has been from the start a live institution, and this will add very much to our knowledge of how, and what, and when to plant. I do not write for the purpose of stimulating an unhealthy immigration to this county; we have had too much of that kind of writing; I prefer to merely state facts, and then let everyone locate where he pleases, unbiased. But if anyone proposes to enter extensively into the fruit business it would be well, perhaps, for him to visit this county before he decides upon his location.

S. P. SNOW.

Santa Barbara, July 29th.

Tuolumne Notes.

EDITORS PRESS:—Life loves variety. Change is requisite for mind and body, so as to secure life's greatest blessing—health, which is nature's grandest wealth. The eye feasts on nature's varied panoramas, as hill and dale, garden and field, brooks and pine woods break upon the delighted vision. All this we enjoyed while visiting friends in Sonora and Columbia. We felt proud of our mountain scenery as we traveled towards the gem city, and witnessed the many comfortable homes embowered in densest foliage of green and gold—fruits of all descriptions growing in profusion, not so much for marketing as for home use and the pleasure of plucking it when ripe and luscious. Only a very few years have sped since our longings went out for the fruits of the East. Now we can return the favor with interest.

Sonora steadily improves in all the elements of civilization. The main street is beautifully shaded, some of the trees meeting in the center. Columbia stands pre-eminent for fruit and hospitality. The garden of J. Winchester is a model of neatness and a school for progressive productions; the pears, apples and berries represented in late numbers of the *RURAL* may be found in vigorous growth from the graft, etc. Being an amateur at such work, Mr. Winchester deserves credit.

The "coddling moth" has found its way to the mountain orchards, and if it is not conquered, it will destroy a lucrative branch of horticulture. We also made a visit to the fine garden of James Goodwin, Mountain Pass, and found him battling the moth with old sacks, etc., tied around the trees. The traps seemed to be full of the worms. Mr. Goodwin's garden is now in full bearing, except peaches, but he has more of that fruit than any other garden in the county, and of a very superior quality. Especially is this the case with the early varieties. The late crop is short, almost nothing compared to former seasons. His blackberry crop is particularly fine, selling readily at 8 cents per lb.

I inquired at Mr. Goodwin's if he was going to patronize the State fair. He thought not, and gave many reasons why he should not. He is of the opinion that those from a distance do not receive the same consideration as those nearer the center of attraction, in proof of which he gave me a copy of a letter sent to some of the fair managers, which speaks for itself. The following is a copy of what I received. The letter remains unanswered to this day, which bespeaks a lack of courtesy to exhibitors from the outskirts of civilization:

J. N. Hoag.—DEAR SIR: I write to you to say I exhibited some peaches and seedling oranges at the State fair, and have not been able through the papers to learn whether the judges ever saw them or not. Mr. Smith, of Coloma, had peaches fully equal to mine, and a few, I think, superior; and where I had one box, he had 10. He was justly entitled to the first premium. But I have the best of evidence to bear me out in saying that there were no oranges in the fair equal to mine, or that attracted more attention, but there were more in numbers.

I had some 30 miles to bring my fruit, over a rough road, before reaching Milton. I applied to the railroad agent, telling him the company advertised to carry people to and from the fair for half price. He told me "that we must come back to the same place and over the same road, or they would not do it." So that fell through. They also refused to carry the fruit on that day, so I had to send by express. If I had had the fruit Mr. Smith brought to the fair, it would have cost a good round sum. On Wednesday afternoon—fair week—I asked one of the clerks what time the judges came around to pass upon the fruit. That worthy told me "they never supplied exhibitors with any such information." I told him we were almost ready to leave the city, and I did not suppose this question was out of place; and, moreover, I thought some of the exhibitors understood it, as I noticed they had removed some of their fruit that had begun to wilt, and substituted much better looking. Mr. Smith did not do so. Mr. Quinn and I exhibited fruit last year, but arrived too late to receive notice, although there were none in the fair to equal it. Perhaps it was quantity the judges were looking for. Taking it altogether, I cannot see much inducement for people living at this distance to visit the State fair. Hoping you will answer this letter, I am, dear sir, very respectfully yours—J. A. GOODWIN, P. O. Chinese Camp, Sept. 23, 1879.

I send you a copy of the above for the purpose of correcting some misunderstandings which may exist amongst exhibitors from a distance. The case is not isolated by any means. The spirit of fairness should extend to those from abroad, so as to encourage growers from all sections of the State to gather together the rarest productions the world ever beheld.

JOHN TAYLOR.

Mt. Pleasant, Aug. 6, 1880.

[It is quite likely that the grievance of our Tuolumne friends can be removed by an explanation on the part of the Secretary of the State Society. If so, we offer him opportunity to make it.—EDS. PRESS.]

A Home-Made Fruit Drier.

EDITORS PRESS:—As I stated in a late number of your journal a drying machine cheap enough for every farmer was needed, I will herewith send you a description of one we have invented and put in use. I will also send by this mail a few samples of fruit cured in it, that you may compare it with samples of other machines and let us know what more is needed, if anything, to be at the top of the market. The machine is made by digging a hole in the ground deep enough and large enough to put in an air-tight stove (which we use in winter) and leave an air chamber of a ft. or more all around it. On the north side, starting a few

inches below the top of the ground, we place an incline platform some 12 or more ft. long and three ft. wide, with four-inch strips nailed on the edges, on the inside of which long one-inch strips are nailed to support a window sash, which we spare from the house during this hot weather. The platform is at an angle of 30° or 35°, and in it "shake" trays of fruit are placed and covered with the sash. The stovepipe passes up under the platform, so as to get as much heat as possible from the pipe. The heat from the sun will carry the temperature under the sash up to 150°; but by building a fire in the stove and letting the heat pass up over the fruit, we get about 220°, which gives us such samples as we send. This machine, you see, is built, without outlay of capital, of material that can be spared on most any place during the curing season; but next year I propose to perfect the machine by building a chimney at the elevated end of the platform, to make both a better draft and, under the sash, to carry off the moisture; also, instead of having a stovepipe run straight up under the platform, economize heat by a zig-zag flue; and I shall use wire cloth screens to put the fruit on instead of shake frames. The whole expense of such a machine need not be over \$25, and I believe will give as good results as any of the patent machines. I call this the "Community sun and stove drier." I will thank anyone for suggestions that will improve the machine for the good of all, as all are free to use it if they desire. Bakersfield, Cal. I. B. RUMFORD.

[The samples of dried peaches sent by Mr. Rumford are very good indeed, and would sell easily in the market. They are noticeably superior to fruit dried in the open air. We trust his experiments with a home-made drier will incite many others to exercise their native ingenuity to provide themselves with means to save their surplus fruit.—EDS. PRESS.]

THE DAIRY.

Los Angeles County Cheese Factories.

Gen. J. H. Shields, of Florence, has written for *Semi-Tropic California* a sketch of the cheese factories in Los Angeles county, from which we quote as follows: In the vicinity of Florence, patches and fields of sugar beets, of the best quality, are maturing, and the Florence beet-sugar factory is rapidly building by Ernest T. Gennert, the veteran of the beet-sugar industry west of the Atlantic. Now, several cheese factories, near Florence, are turning off tons of cream cheese weekly, inferior in no respect to the best Eastern cream cheese. The beet-sugar factory is referred to here, because it is destined to become a promoter of the dairy industry; for beet pulp, the cheaper complement than grain of the dairy allowance of hay, will, in due time, assert its sufficiency.

Mr. J. J. Ballis, of the Star cheese factory, three miles south of Florence, is the pioneer of the regular cheese factory in Los Angeles county. Since my last visit, he has greatly enlarged the factory building. He had been making 700 lbs. of cheese per day, but is now making 200 lbs. a day, on account of some changes now transpiring in the contracts with milk growers. A stream of pure, artesian water fountains up near by, and, at will, flows by or through the factory. Sixty degrees is the uniform winter and summer temperature of the water. Artesian water may be had in hundreds of places on the alfalfa dairy belt. The dairy belt is parallel to the Pacific ocean. It is within a few miles of the ocean. Hundreds of cheese factory sites are swept by the daily ocean breeze. The Pacific summer breeze is swifter and cooler than that of the Atlantic. It daily whistles around, below, above and through the Star cheese factory, cooling and purifying. There were three and a half tons of clean, solid cheese ripening on the shelves at the Star factory. Other tons were in Arizona, or on the way. The Star, and, indeed, all the cheese factories here, fill orders too rapidly for the thorough ripeness of their products. The Star cheese is frequently on sale in the markets of San Francisco, Bodio, Salt Lake City and in the villages and cities of southern California.

The Anchor cheese factory, at Compton, is four months old and under the capable management of Mr. J. J. Harshman, from the Western Reserve, where he successfully managed a cheese factory with 800 cows. His in the curing room seven and a half tons of cream cheese. Is making 425 lbs. daily. Daily make was and will be greater. Sales satisfactory. Competes successfully with Northern and Eastern cream cheese, in fact, is excluding such from the markets of southern California and Arizona. Quality equal to the best Western Reserve cream cheese; keeps better. Stands up perfectly in the warmest weather. Does not become soft or puffy. Western Reserve and other Eastern cheese lose shape and sharp angles, become soft and puffy in the warmest weather. Such effects do not occur here. Cheese here loses more weight and gains more in value than in the East. A cheese at one month old weighed 30, and at four months old weighed 26 lbs. Receives milk of the farmers. Farmers have the whey without other expense than removing it from the vats to their homes. Sells the cheese, retains two and a half cents of the money received for each pound, and pays the remainder to the milk-grower.

Other cheese factories simplify the accounts by turning over to the milk-grower his proportionate part of each day's make of cheese, charging the milk-grower two cents a pound for making the cheese. By this arrangement the milk-growers become sellers of cheese. So many sellers derange market prices. A third plan, now being re-adopted at the Star factory, is to pay in money so much a pound for the milk. This plan is even simpler than the second, and has all the advantages of the single salesman principle of the first stated method, but requires more capital, assumes greater risk, and may demand the indemnity of low prices for milk. Each plan has its advantages, and time will tell which is the best. The out-and-out Co-operative Anchor cheese factory has sold the March pressings, and has closed the accounts of that month, by paying over what was found to be due to the milk-grower, which was an average per hundred pounds of milk, of 85 cents; also April, 75 cents; May, 75 cents. Mr. Harshman, upon data, calculates that June will close at an average price per hundred pounds of milk of 80 cents; July, 80 cents; August, 90 cents; September, \$1; October, \$1.35; November, \$1.35; December, \$1.35; January, \$1.35; February, \$1.05; year's average, say \$1.01 per hundred pounds of milk, and the whey returned. Mr. Harshman says that his milk-growing customers are increasing their cows under the influence of these prices. Why not? It is nearly all alfalfa milk. An acre here in alfalfa yields about eight times as much feed as an acre in the East yields of dairy feed. Alfalfa is so tender, digestible and nutritious that it stimulates the flow of milk, fed in the form of hay, only less excessively than when fed green. Moreover, one-half of the Eastern yield of one-eighth as much as our yield of dairy feed per acre is fed in winter, merely to keep the cows alive. Our eight times their yield of dairy feed keeps up the flow of milk from January to January. Our cheese factories and creameries are incessantly operating all through summer, autumn, winter and spring.

Two miles east of C mpton, at Sayner's cross-roads, is Mr. Walker's cheese factory. His factory cost about \$500. He has in the cheese curing-room five tons of ten and thirty-pounders. It is daily increasing in value, both from age and a stiffening of the markets. Shelled cheese is idle, but it draws as loaned money. It is one of the few things that can keep up with a California mortgage. Mr. Walker declares that one square mile around his factory, to alfalfa, would run a lively cheese factory.

The newest and cheapest cheese factory is Mr. Jas. H. Cocke's, two miles south of Downey City, and just east of Los Nietos college. Mr. Cocke built a \$250 factory, made the first cheese ten days ago. Shelves now loaded with cream cheese, while all around is still the land of the sun, of the myrtle, the orange and the pomegranate. Mr. Cocke bought a handsomely improved homestead at \$100 per acre, and is wrapped up in his bargain, with the accompaniments of orchards, vines, perennially blooming shrubs and trees, a stylish cottage, and now a cheese factory. Concerning the profits of milk-making on alfalfa Mr. Cocke says: "There is neighbor Dismuke, whose 40 acres in corn, barley and other field crops brought him only \$400 gross last year, on account of low prices. He says, in alfalfa, the land will keep a milk cow to the acre. I told him I would pay him \$6 an acre for all such yield of alfalfa, and save him further trouble and expense. But suppose he has a cow to the acre of alfalfa, and lets me turn his milk into cheese. If he has good cows, and manages them properly, he can rely on an average of at least two gallons per cow per day, for 300 days in the year; or 600 gallons of milk per cow or per acre; or 600 pounds of cheese per cow or per acre per annum. I will make the cheese for him at two cents a pound. He will average, year through, at least ten cents a pound on the basis of weights, green. It is plain that the cheese product of Mr. Dismuke's acre will bring \$60, of which he will get \$48, and the cheese maker \$12." Mr. Dismuke's land is no better than that of his neighbors. The Hon. J. W. Venable, on similar land, in an adjacent neighborhood, verified the above calculations with his herd of dairy cows. Space fails me to give other cases, prominent among which are the cheese factory of John Bixby, of the Alamitos; of Julian Valdez, of Ballona; and of scores of private creameries; and of numerous more or less seriously contemplated cheese factories.

THE EXPORT TRADE IN DAIRY PRODUCTS.—The *American Dairyman* gives the following figures of the growth of the export trade of cheese and butter:

	Exports of Butter.	Exports of Cheese.
1821.....	1,069,024 lbs.	766,431 lbs.
1831.....	1,728,212	1,131,517
1841.....	3,785,993	1,748,741
1851.....	3,994,542	10,361,139
1861.....	15,531,381	32,361,428
1871.....	3,965,043	63,698,867
1872.....	7,746,261	66,204,025
1873.....	4,518,844	80,366,540
1874.....	4,367,983	90,611,077
1875.....	6,360,827	101,010,853
1876.....	4,644,894	97,676,264
1877.....	21,527,242	107,304,666
1878.....	21,837,117	123,783,736
1879.....	38,248,016	141,654,574

The total value of the last annual shipments was over \$18,000,000. For the expired portion of the present year, the figures are not yet at hand, but the shipments promise to equal, if not surpass, those of last year unless unforeseen accidents occur.

HORTICULTURE.

Notes and Comments.

EDITORS PRESS:—A most enjoyable visit from Prof. Comstock and his accomplished assistant, Mrs. Comstock, who are sent out by the Agricultural Department at Washington to investigate the injuries to the citrus fruits from the scale insect, has made it seem a duty to add another testimonial to Dr. Strentzel's opportune words, as reported in the last RURAL PRESS, concerning the valuable and now indispensable work of that department. It will be remembered that the State Grange, by a resolution at the last meeting, asked that the Agricultural Department should be elevated to the rank of the others, its head having a seat in the Cabinet; and we see that other States have given similar expression to their wishes. Prof. Comstock belongs to the agricultural faculty of Cornell University, and is working for the Government on a leave of absence from that institution. Mrs. Comstock was one of the earliest students who knocked for admission to that university, and, making her husband's scientific specialty her own, renders important service by her observations and carefully-drawn illustrations of insect life.

And just here let me quote from a letter of Marshall P. Wilder, dated July 21, 1880, which seems to show how far the interest in California reaches, and how many read the RURAL PRESS along the seaboard. Mr. Wilder says: "Nothing could give me more pleasure than your kind remembrance of me and my services in behalf of rural culture, as exemplified in your appreciated article of June 19th, in the RURAL PRESS."

* * * In truth, my dear madame, I have ever felt an anxious desire that woman should be a helpmate to man in the cultivation of the soil, as in the beginning; that woman, the mother of our race, the sharer in our joys, the participator in our woes, woman should enjoy with man the pleasures to be derived by adorning and elevating nature to the highest purposes of creation, and which is indeed one of the highest refinements of civilized life. I approve entirely of your remarks in regard to membership of ladies, and have even been in favor of admitting ladies to full membership of our horticultural society. Some 40 years ago, when Mrs. Gov. Gove and Mrs. Mary Griffith, both distinguished ladies and cultivators, were proposed for membership at the Massachusetts Society, there were strong objections, one of which was that woman in the garden had already caused much mischief to our race; but these objections were overruled, and our lady members are among the most important contributors to our exhibitions, and take part in our discussions. I feel some little pride in being the medium of introducing ladies to our agricultural and horticultural banquets, the first of which in New England, if not in our country, was held by our horticultural society 40 years since, and when I had the honor of presiding at the festival. Great objection was made on the ground that if we had women we could not have wine. But the better judgment prevailed, and we have ever since discarded the wine and taken to ourselves the better part, woman; the 'better half,' and on all similar festivals, during 40 or more years, I have insisted on the presence of the ladies at the festive board."

What the Humboldt of our pomological and horticultural cosmos approves, may as well be passed upon as needing no further comment.

The discussions of the horticultural society are increasing in interest; each meeting gives us something to base our comparisons upon. Dr. Strentzel asks us to do ourselves credit and the society a favor by sending contributions to its exhibit. This will be cheerfully done, I have no doubt, if time admits; but the oranges are too young, the lemons too old, the apricots mostly too ripe and the finest nectarines too green to be in at the opening. Besides a few hot days have wilted the ripening fruit a little on the trees. We are too remote to send small fruits, or I would select raspberries, strawberries and blackberries of which I am not ashamed.

The reports from our society bring afresh to my mind the importance of

Isolating Vineyards.

The phylloxera is no longer to be ignored, and as we prophesied in 1876, before many gatherings of California teachers, we too must learn what European states have learned and practiced—the importance of giving greater prominence to natural history as a department of public school study. Among the school charts of Switzerland is one showing the different forms of the phylloxera highly magnified; and there is another illustrating the changes in the berry of the grape during its ripening.

Instead of here and there a competent observer and an intelligent application of remedial measures, we should then have an army of keen young naturalists and a greater willingness to accept even the desperate remedy of extermination, instead of half measures and quackery. Separated by 400 miles from the phylloxera-infested districts, we nevertheless, in planting our vineyard in 1877, thought it prudent to obtain cuttings only from untainted localities, and from vines which had grown under such a thorough system of winter

irrigation as to make their exemption from the pest reasonably certain. All our raisin grapes were obtained from Mr. Blowers, at Woodland; and no one who has seen the winter flooding of his vines need hesitate to pronounce them louse-proof. But these precautions were not all. We said, "In case the phylloxera reaches Los Angeles county, the great vineyards covering hundreds of acres, many of them not irrigable, will suffer most." So we divided our planting by belts of trees, and introduced lines of American grapes to isolate still more the tender foreign varieties. Looking at the small isolated vineyards of this colony, I cannot help thinking them safer, framed in among the olives and oranges, than the possessions of larger vignerons of our district, especially if the winged pestilence fails to reach us.

But the alarm having been sounded, let us look well to all the aids and sources of protection. Our arroyos are full of the most magnificent growths of wild grapes that I have seen in the State. The San Gabriel valley seems to have been a favorite haunt of this species for centuries; acres are covered with what look like rounded knolls or hummocks, but prove on closer inspection to be grapevines, planted by birds at the foot of a greasewood or chemise bush, and which have covered their supports with a leafy tent. The sycamores along the water-courses are similarly draped, and I grieve to see how fast the woodman's axe is destroying every wild nook within reach. Many a wood lot owned by the Pasadena and Lake Vineyard colonists might be properly grafted with foreign grapevines—the growing wood left to grow and the original moist, cool condition of the arroya soil preserved. But the passion of clearing usually will not be sated until the axe and grubbing-hoe have exterminated the last stray root of native growth. When the equilibrium of nature has been disturbed our warfare with pestiferous growths, animal and vegetable, begins, and will never cease until we know enough to apply the ounce of prevention.

I see that the Horticultural Society has discussed the peach curl. A neighbor said to me, looking at the ropes of young peaches on one young tree, "You will not need to thin them; they will all fall off; see the histers on the leaves!" But the peaches did not fall; they should have been thinned, for a few little cuts with a pen-knife quite through the bark possibly arrested the flow of sap at the right time—the new leaves were not curled at all, and we had a heavy crop of inferior peaches. The Australian saucer peach did not curl; and the delicate fruit has been a grateful addition to our breakfast table for nearly four weeks. The Waterloo was not free from curl, but the fruit was large and fair, and very delicious. Early Rivers is also quite free from curl.

We could match Prof. Sander's exhibit of Bermuda grass, and the panicum spectabile received from him and also from Prof. Hilgard is nodding in a purple mist as high as our heads.

JEANNE C. CARR.

Pasadena, Los Angeles Co., Aug. 8th, 1880.

Sheep and the Coddling Moth.

Our orchardists who are fighting the coddling moth, and have not already made satisfactory arrangements for the dropping fruit, may be interested in the experience of Eastern growers with sheep in the orchard. The *Country Gentleman* says: "We have strongly recommended for many years the practice of turning sheep into apple orchards to destroy the coddling moth. It is true that only a part of the fruit drops and is eaten by the sheep with the worms it contains, and the rest goes with the mature fruit into the market barrel, apple room or cellar. But the dropping apples which the sheep eat include nearly all that are infested, which furnish a new brood in the orchard. In other words, what the sheep do not eat are carried off with the gathered apples. This is true to a great extent. The sheep are turned in soon after the blossoming season and are continued till nearly the time to gather the apples. The branches of trees which have low heads and are heavily loaded with fruit, will bend down within reach of the sheep before the end of August, and in this case they must be taken out a little sooner. The sheep should be sufficiently fed with grain and hay, or other suitable food, for the fallen apples will not sustain them. They will devour every apple that drops, from the small ones early in summer to those nearly full-grown two months later. If they do not get enough moisture in these, they will be likely to attack the bark of the trees, unless well supplied with water. Enough for them to drink should therefore be always within reach. If the trunks of younger trees are coated every few weeks as needed, with a mixture of whale oil soap-suds and sheep manure, the sheep will not be likely to attack the bark."

The droppings of the sheep will be a valuable fertilizer for the orchard, the more so as the quantity of grain or meal is increased. The number of sheep to a given number of trees varies with different owners. Some have kept in their orchards half as many sheep as the number of trees, where they have been planted remotely, and orchard grass or other food gives them a good supply; and they are careful to make up any deficiency with other food. Others find that all the fallen apples are eaten with only one sheep to six trees. The owner must determine this question himself by observing the amount of feed required, and the number of sheep to pick up promptly all the dropping apples.

Strawberry-Growing in Santa Clara County.

A strawberry-grower near San Jose gives the *Country Gentleman* an outline of local practice of strawberry culture which will be of interest to readers in other parts of the State. In California our strawberry crop commences ripening in March and lasts until the frosts are heavy in November, December and sometimes till after New Year. We set our plants in January or February and they bear in May. We prepare our beds in the fall by deep plowing and harrowing. We irrigate the land to make the weeds grow. Then in January we plow the young weeds under to kill them; harrow both ways to thoroughly pulverize the soil, and lay out the rows four ft. apart in the direction of the least fall of the land. But if the fall is equal each way it is preferable to run the rows north and south, as in this way the sun gets to both sides of the plants. When the rows are marked off we run the plow each way in the furrows. Then with a shovel we throw the earth up into a ridge, having a level strip or ledge on each side of the ridge, with a furrow between each two ridges. We run the furrows full of water to the height of the ledge made for the plants, holding the water by means of temporary dams. The plants are then set out one ft. apart by making a hole with the hand, putting the plant in deep and covering. We let the water remain till it dries away. After the ground is thoroughly dry we hoe around the plants to loosen the ground. If, after the ground has been hoed, no rain falls for two or three days, we irrigate. By this treatment every plant should grow, and with fair weather should flower in three months. In dry and warm weather the patches should be irrigated every five or six days, to keep them in flower and have a continuous crop.

A strawberry patch must be kept well hoed and free of weeds. It is advisable every year to run a bull-tail the length of the hill between the plants to loosen the ground. Every week run the horse hoe in the furrow. Never touch the ground when not thoroughly dry. This year we were very late with our strawberry crop owing to late frosts, and a flood after the frosts were gone. So far this year (to the 15th of June inclusive) I have picked an average of 1,220 lbs. per acre, and am getting now over 30 lbs. per acre daily. We have a first and second crop. The first commences in March or April, according to the lateness of the frosts, and lasts till the middle of June or first of July. Then comes the intermediate time, when the plants produce little, but still there are some all the time till the latter part of July or first part of August, when they increase in bearing, and the second crop is said to commence. The height of the first crop is about the first of June and of the second crop about the first of September.

Berries sell from 4 to 25 cents, the average being about 7 cents, per lb. Our strawberries are worked entirely by Chinamen, who get one-half the net receipts. The owner of the land furnishes the land, tools, water and houses for the Chinamen. The most profitable berry for the owner is the Longworth Prolific, but not so for the Chinaman. He wants the berry most easily picked, which is the Monarch-of-the-West or Triomphe de Gand. The large size of the latter two, together with their higher price, make them the favorites. The Monarchs have been the kings of the San Francisco market, but the Triomphe will gradually supersede them in being the favorites. Last year the second crop was almost an entire failure, but this year the outlook is promising for a large yield.

"THE AMERICAN GARDEN."—This journal, devoted to the gardening interests of America, is now published by B. K. Bliss & Sons, of 34 Barclay street, New York. The editor is Dr. F. M. Hexamer, one of the foremost horticultural writers of the East, and he is supported by a host of able contributors. The *American Garden* is well fixed both in its publishers and in its editorial features, and we predict a wide success for it.

UTILIZATION OF WOOD SHAVINGS.—From wood shavings and paper Herr Heileman makes plates, dishes, etc., as follows: Selected plane shavings are bound into bundles, and steeped in a bath of weak gelatine solution about 24 hours, then dried and cut into suitable lengths. Plates are cut of strong paper or thin paste-board, of the size of the objects to be produced. These are moistened with a liquid consisting of weak gelatine solution with soda waterglass and pressed in heated metallic molds. After drying, the pressed paper objects are coated on both sides with an adhesive material made of five parts Russian gelatine and one part thick turpentine; the shavings are applied to them and the whole is subjected to pressure. Wood shavings alone would, because of their unequal thickness, present uneven surfaces. The objects are now cut, if necessary, dried and varnished.

AMERICAN WINDMILLS IN ENGLAND.—Windmills of American manufacture continue to be exported in considerable numbers, particularly to the British colonies. One of the largest lately shipped had a diameter of 24 ft., and single castings in it weighed 5,000 lbs.

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

Resuscitation of Petaluma Grange.

The *Argus* gives an interesting account of the resuscitation of Petaluma Grange: In accordance with previous notice, Bro. Spilman, W. M. of California State Grange, Bro. I. C. Steele, P. M. of California State Grange, and Bro. Amos Adams, Secretary of California State Grange, met with a goodly number of the old members of Petaluma Grange for the purpose of reorganizing or resuscitating Petaluma Grange. The meeting was called to order by W. M. of State Grange, who stated the first thing in order would be the election of officers, which was done, with the following result: W. M., D. G. Heald; W. O., J. B. Lewis; W. L., C. W. Hoyt; W. S., S. A. Hall; A. S., F. Parker; W. C., D. S. Dickson; W. T., Wm. Hill; W. S., W. W. Chapman; G. K., H. Church; C., Sister S. F. Dickson; P., Sister J. P. Hill; F., Sister D. M. Winans; L. A. S., E. A. Hoyt. They were duly installed by W. M. Spilman, assisted by Bros. Steele and Martin, after which a few remarks were made by Mr. Spilman, urging members to a more regular attendance at all Grange meetings. He was followed by P. W. M. Steele, who gave a very interesting review of the organization, rise and some of the beneficial results of the Grange organization, dwelling quite lengthily upon the good resulting to the Grange from the influence and assistance of our wives, sisters and daughters being received and placed upon an equal footing to work side by side with man, the rougher and tougher half of creation. After lunch the doors were thrown open and Mr. Spilman spoke for a few minutes, showing very forcibly that farmers of all other classes should co-operate, both in their buying and selling. That they (the farmers) were the producers, still the merchants set the price, not only upon his own goods, but upon whatever the farmers offered for sale. Mr. Adams urged as a remedy for the farmers, whether Grangers or not, to patronize the business houses established for farmers; that such houses had done and were still doing a good work; that every farmer upon the Pacific coast, to a greater or less extent, had been benefited by their influences. The meeting was one long to be remembered by those who were present. Could the farmers of Sonoma county hear and be governed by the advice given by those gentlemen, we think all would be benefited thereby.

War and its Antidote.

Every great society having the interests of humanity for its leading object, ought to emphasize the evils of war. There is nothing so soon forgotten, even while people groan under the burdens imposed. Mr. Mundella, of the British Parliament, in a speech before the Cooper Union, said: "It is possible to do something to put an end to war, and I believe the only people that can do it are the great Anglo-Saxon people, of which you are the noblest craft on this side of the water. When can we hope for any extension of the principles of Christ, 'Peace on earth, and good will to men,' if the great English-speaking people do not make some effort in that direction? I hold that if we could only erect some board of arbitration among ourselves, English and Americans, to settle all questions of the past, present and future, and prevent, as far as in us lay, wars in other countries as well as in our own, we should influence the destiny of the whole human race." If every association, Grangers, Workmen of various orders, would contribute their efforts to this end something would be gained. I am reminded of this by an appeal which has been lying neglected in my desk from Mrs. Howe, who wrote the "Battle Hymn of the Republic," and who has been so actively engaged in promoting the interests of the International Peace Association. During our civil war an organization of women in the States of the northwest effected great good by working among the poorer class of soldiers and their families, and inducing them to make the necessary provision in case of the death of the head-winner, male or female. In this gratuitous service, it was indeed wonderful to find how dense an ignorance prevailed as to the remote effects of war, especially upon the laboring classes; it was almost deemed unpatriotic to speak of them. Equally ignorant of the principles of life insurance, it was hard to restrain the tendency to "spend as you go," which was increased tenfold by the mental state of excitement and uncertainty among the more improvident. I have wished that an American Harriet Martineau might be found, who, in a series of readable, popular tracts might do for our people what she did for the English workmen.

Let us remember that the principles of universal peace are included in a complete economic as well as moral education.—*Jeannie C. Carr.*

THE WORTHY MASTER'S WORK.—We had the pleasure of a call from Worthy Master Spilman, of the State Grange, last Monday, while on his way to Petaluma. Bros. P. W. M., I. C. Steele and Secretary Adams, accompanied him. We expect to hear a favorable report from the meeting, and a good account rendered of Petaluma Grange, which has been one of the best in the State. Bro. Spilman reports a great deal of good feeling in the Granges he has already visited. The Grange interest has certainly enlivened along his pathway, as we learn from members in various sections visited, who most kindly appreciate Bro. Spilman's earnest and unselfish efforts. Good Patrons, help him who helps you all, and keep the Order rolling onward and upward.

A NEW WAREHOUSE IN STOCKTON.—The Stockton *Herald* says: The warehouse capacity in Stockton now is not less than 100,000 tons of grain, and there are unlimited opportunities for more warehouses. The more there are the more are wanted. This year the capacity was increased by the erection of warehouse No. 6, by the Farmers' Co-operative Union, adjoining warehouse No. 5, erected in 1878. No. 6 is designed to afford permanent storage for 10,000 tons; it is so conveniently located for receiving wheat from cars and loading it on steamers, that undoubtedly two or three times that amount will pass through it every season. This warehouse, together with No. 5, built especially to handle wheat rapidly and at the least cost possible, and both having fronts on the Stockton channel, with side-tracks running to the rear, have storage capacity of 20,000 tons. Warehouse No. 6 is rapidly approaching completion. The walls are up and the large force of carpenters are putting on the roof. It is already receiving wheat. It is probable that next year still another very large warehouse will be built on Stockton channel, above No. 5, by a joint stock company.

TEMESCAL GRANGE, OAKLAND.—Bro. C. J. Cressey gave the Grange some plain and encouraging remarks last Saturday evening, in his well-known, familiar manner. He was followed by Bros. Webster and others. On motion, Bros. Bagge, McGrew and Sister Dewey were appointed a committee to engage a suitable hall and arrange for the accommodation of members of the State Grange at the meeting in October. By vote, Worthy Master Collins was added to the number and the committee empowered to act. It is expected that one or more open meetings will be held during the session of the State Grange for the benefit of all farmers and their friends. With the help of neighboring Granges in Alameda and Contra Costa counties, Temescal will do its best to make the State meeting even more agreeable and profitable than any former session.

FREIGHT RATES ON GRAIN.—Mr. Montpelier, cashier and manager of the Grangers' Bank, has placed the public under renewed obligations to him for tabulated information of a valuable character. He has secured from the general freight agent of the C. P. R. R. and its branches a statement of the rate per ton of grain from all the stations. This enables one to see at a glance what the cost is of bringing the grain to the shipping points from the various producing regions. The tables will be found valuable for reference.

It is reported doubtful if Worthy Master J. J. Woodman of the National Grange can attend our California State Grange meeting this year, to the regret of all Patrons here.

What a Resident Thinks of the Damming Project.

Hugh Morrison writes to the *Bear River News* the following comments upon the project to restrain the mining debris by brush dams: "This damming business will do about the same proportion of good to our farms and river channels as putting your finger into the strait of the Golden Gate to stop the flow of the tide into San Francisco bay. I will conclude by saying that if it is determined by the State Government to permit this accursed system of mining to continue, pay us for the lands which you have already allowed to be destroyed and for the remainder which will soon be, and we will leave a country blessed by nature in all things, but cursed by man in his unholy lust for gold, to get which he cares not whose rights he tramples upon, or how many families he ruthlessly drives from their homes. Pay us for our destroyed homes, and we will give them up to those boss-miners who rule the Government, the courts and the press, and they may go on damming it to their satisfaction, as it appears we have no rights which a miner might respect. Many of us are old, having spent the prime of our lives here, having borne the burden and heat of the day in the early settlement of this country; yet go we must. The country will soon be in possession only of the master and the slave—the miner and the Chinaman. Some expect great results from Mr. Eads' visit to California. I believe Mr. Eads does not pretend to work miracles, and nothing short of one can make the Sacramento valley what it was before hydraulic mining destroyed it. It is true Mr. Eads has performed great engineering feats, but what is necessary here is something which never happened, perhaps, in the world before. Our river channels are filled from the top of the mountains to the sea with sand, and the mines are still sending down more. Even if it were possible to levee all these rivers so as to make scour out all those hundreds of millions of tons of sand, look to the tremendous expense. It would bankrupt the State. The first step in remedying the whole evil is to stop hydraulic mining."

AGRICULTURAL NOTES.

CALIFORNIA.

CONTRA COSTA.

AGRICULTURAL SOCIETY DIRECTORS' MEETING. Martinez *Gazette*, Aug. 14: A quorum of the Board of Directors of the County Agricultural Society met at the Court House in Martinez, on Saturday last, Aug. 7th. A resolution was adopted fixing the time of holding the fair this fall from October 11th to 16th, both days inclusive. A resolution was adopted that the domestic department of the premium list should be submitted to a committee of ladies for revision; and the following named ladies were appointed as such committee, to wit: Mrs. R. O. Baldwin, Miss Julia Fish, Mrs. D. F. Majors, Mrs. Mary Bent, Mrs. Samuel Hodges, Mrs. J. E. Durham, Mrs. M. W. Hall, and Mrs. Geo. Yoakum, the committee to hold its first meeting at the residence of D. F. Majors, in Ygnacio valley, Aug. 19th. It was resolved that a revision of the stock premiums be made by the Board of Directors. The Board then adjourned to meet Friday, Aug. 20th, at Walnut Creek.

THE TURN-OUT.—So far as we hear reports from the threshing in the Dishle, Ygnacio and San Ramon districts, the turn-out has been far beyond expectations; and even where calculations in provision of sacks had been liberally made, from a quarter to a third and a half more have been required. We feel warranted, from the turn-out so far realized, in calculating that the wheat yield of the central section of the county will average not less than, and will probably exceed 20 cents an acre, while many fields will give 40 and 50, or more, cents, of a quality much above average.

FRESNO. GRASSHOPPERS.—*Republican*: These festive little cusses have put in an appearance on the Central Colony during the past month, doing some damage to trees and vines. As yet they have not appeared in sufficient numbers to occasion much alarm. A good big flock of turkeys driven over the lands would in our opinion soon abate the nuisance.

LOS ANGELES.

THE FAIRS.—*Semi-Tropic California*: A great deal of interest is taken by the public-spirited citizens of southern California in the success of the horticultural fair to be held at their pavilion in Los Angeles and the sixth district agricultural fair to be held in agricultural park, commencing October 18th, and continuing six days. During the existence of the fairs the hard times have had much to do in curtailing their usefulness. Now that good times have arrived, with our bounteous crops, with our granaries full to overflowing, with our outlook from vineyard and orchard most promising, with a demand for everything at remunerative prices, we will have a revival in our fair interest as well as every other interest of our county.

EXAMINING SOILS.—*Herald*, Aug. 14: Mr. George C. Knox left yesterday to make an examination of the soil of that portion of Los Angeles county, south of the San Gabriel river, and prepare a report on such other data as may be of interest for the use of the State engineer. Col. John E. Jackson has been deputed to prepare a similar report of the characteristics of the soil and data of the northern part of the county, and will start out in a few days.

MENDOCINO.

PROPER WHEAT.—*Ukiah Press*, Aug. 12: M. C. Briggs this year sowed one and four-fifths acres of the celebrated Proper wheat, and from it threshed 75 bushels of measured grain. This is at the rate of 41.66 bushels per acre. It was sown in December, on black gravel land cultivated in pumpkins the previous summer. We have often seen mention of this wheat as being superior in quality, yield, and ability to stand vicissitudes of seasons.

THE COUNTY FAIR.—*Beacon*: The time chosen for the fair, from the 4th to the 9th of October inclusive, is convenient for our farmers, as the hay and grain crops will all have been secured, and it comes in between the harvests of the early and of the late potato crops. Then the climate of Little Lake valley is genial, and but little in contrast with that of the coast. But the opportunity afforded to the residents of the different portions of the county to get acquainted with each other, or to renew and strengthen their social ties, will of itself be one of the most beneficial effects of our County fair, if generally favored with their presence by the people. We hope, therefore, that the fair this year will be well patronized by the farmers, and also by a goodly portion of the business men from all sections of our county, and will prove a still greater success than that of last year.

NAPA.

IMPROVEMENTS IN GRAPE CRUSHING.—*Register*, Aug. 14: The grape crop of this valley is unusually large this year, and the coming fall will be a busy one at the many cellars in Napa county. To handle the grapes expeditiously, new and improved machinery is being substituted in many cellars for that used in former years. At the cellar of Terrell Grigsby grapes will be elevated and crushed by steam instead of by hand, as heretofore. Preparations are also being made to roast between 30,000 and 40,000 gallons of sweet wine at the same cellar. Wine making will not commence this season before the latter part of September or the 1st of October, owing to the lateness of the season. Mr. Grigsby says the price of Mission grapes

will average \$20; other varieties \$25 per ton, and as the yield is large in almost every vineyard in this valley, the grape crop will prove a profitable one.

SANTA BARBARA.

EDITORS PRESS:—Wheat is being harvested; it is heavy and very little rusted, even close to the ocean. Corn and Lima beans in the Carpinteria are good, as indeed are all crops that were well tended. We are learning that there is more in good culture than in irrigation, and the latter is getting into disfavor. Some who can easily irrigate neglect to do so, finding that in many cases it does more harm than good, and that the better way is to retain the natural moisture in the ground by keeping the surface constantly stirred, thus forming a mulch, through which the moisture evaporates but slowly. Irrigation injures some soils, by causing them to bake; besides which, it prevents the roots of plants and trees from seeking the more natural and better adapted moisture farther down. Of course, when the rains fail, irrigation is the only alternative. The curl leaf has destroyed much of our peach crop, but not injured the trees very materially. Our almond trees are bearing considerably this year; still, it is and probably always will be exceptional, and I recommend budding them to the nectarine, which always succeeds here. On the whole, farmers in this county have much reason to rejoice and take fresh courage. It has been cool and foggy. Many of my blackberries (of which I have sold over a ton) mold and rot. It rained hard three hours in Carpinteria yesterday, necessitating the opening of stacks.—S. P. SNOW, Santa Barbara Co., July 28, 1880.

INCOMING WEEDS.—*Lompoc Record*: We are thankful to Mr. Ruffner for calling our attention to a threatened evil. He has noticed, in a few places in this valley, a growth of wild radish and wild turnip. It is his strong conviction, founded on considerable experience and observation, that they are far worse weeds than mustard, and even more difficult to get rid of. There is but little of it in our fields, as yet, and every one should at once satisfy himself that there is not a root of it allowed to seed. It spreads very fast. Let all be warned in time. The fact is we are too careless. We are permitting squirrels to multiply rapidly. Don't let this new weed enroach upon us.

SAN BERNARDINO.

IRRIGATION SURVEYS.—*Index*, Aug. 14: J. D. Schuyler, Assistant State Engineer, with his party is at work in the mountains, while Fred. T. Perris has charge of another party, both examining into our water resources, and the feasibility of constructing reservoirs in our foothills for irrigating purposes. Very little interest seems to be taken by our people in this work, but we assure them it is of vast importance to the town of San Bernardino. Once determine the feasibility, at a cost that would be warranted, of storing the vast amount of mountain water, that now goes to waste, and that portion of the Muscupiabe ranch lying north and east of town, together with thousands of acres adjoining, would be settled upon. It is among the finest fruit lands in the county.

SANTA CLARA.

CARP.—*Mercury*, July 29: There are hundreds of places in this county where carp ponds could be constructed at small cost, and which would soon become a source of profit to their owners. Capt. Fieldsted, who resides in the eastern foothills about four miles from San Jose, is experimenting with this fish, and thus far with fine success. The writer visited his place on Monday, and is pleased to commend his enterprise as one well worthy of imitation. His pond is about 30 by 80 ft. in extent and 8 ft. deep. The depth of the water is now reduced to 5 ft. to facilitate the work of spawning. It is fed by a fine spring, and the waste water is used to irrigate his orange orchard and garden. His pond was completed in July last, when he procured, through a friend, at a cost of \$5 each, ten carp from San Diego. They were about five months old, and the lot weighed 17 lbs. These fish would now turn the scale at five lbs. each. About five weeks ago the young fry first made their appearance, and have been coming along most abundantly ever since, until the pond is now actually swarming with thousands of young carp, all the way from one to four inches in length—enough to stock all the prospective carp ponds in the county. The fry are fed on shorts, which they take eagerly. Capt. Fieldsted will soon commence the work of constructing another pond, of about one acre in extent, and intends to test the matter of carp culture thoroughly as a business venture.

WHITE AUSTRALIAN WHEAT.—EDITORS PRESS:—I send to-day by express a sample of wheat which was raised on Martin Murphy's hill ranch in Freeman township, Santa Clara county. I hope you will give it note, it is White Australian.—OLD SUBSCRIBER, Mayfield. [The sample is received with thanks and much admired. It is a very heavy and well grown grain. We shall put the heads on exhibition at the Mechanics' fair.—EDS. PRES S. SAN DIEGO.]

CHICKEN STATISTICS.—*Union*, Aug. 12: Dan Mauning, at the "Ten Mile House" on the Cajon road, keeps 200 hens, and since October 15, 1879, he has gathered and sold 1,700 dozen eggs at a price averaging a trifle over 20 cents per dozen, netting him \$350 in coin in 10 months. The amount may be considered clear profit, as the chickens and eggs consumed by the family have more than paid all expenses of keeping. Having a good "range," his chickens have re-

quired comparatively little feeding. Mr. Manning's stock of fowls are mixed breeds, but he considers a "cross" between the Irish game and Leghorns the best.

SAN MATEO.

PESCADERO.—*Cor. Journal:* Harvesting has fairly got under way and the grain crop is much better than last harvest. Flax has suffered somewhat from blight and rot in places; still, upon the whole, the crop will be up to the average. Wheat is far above the general yield both in quality and quantity, which is a promising outlook for the future with the farmers on the coast. Until very recently wheat has been considered a failure with us, but this and last year have demonstrated the fact that it can be raised with more profit than any other grain.

SAN JOAQUIN.

STORAGE OF GRAIN.—*Stockton Independent,* Aug. 12: There has never before been a year when circumstances demanded the storage of so large a bulk of grain as we have this year. Egypt's granaries in the plenitude of her richest harvests were never crowded as ours will be with the deluge of grain that is ready to pour in upon us. Stanislaus and San Joaquin counties will have together anywhere from 300,000 to 350,000 tons of wheat, most of which will be stored if warehouse room can be obtained. There are many warehouses on the rivers and railroad lines ranging from 500 to 5,000 tons capacity, and these together with vacant barns and sheds, will all be in requisition for storing the crop, for there is little disposition among farmers to sell at present prices, when money may be advanced and the crop held to secure a possible rise later in the season. The storage capacity of Stockton is about 85,000 tons at present, and the leading warehouses are filling up very rapidly. The quality of the grain is good—better than the average, and none is so poor but that \$20 per ton may be loaned upon it.

INEXPERIENCED ENGINEERS.—*Herald,* Aug. 11th: The penalty of employing inexperienced engineers to run threshing engines has been paid frequently in the San Joaquin valley. Not a year passes that one or more men are not killed through the criminal carelessness or ignorance of men engaged in running engines of this kind. The terrific accident that occurred on the 22d of February, 1879, by which 17 persons were killed, will not soon be forgotten, yet there are probably as many unfit and incompetent men running steam engines this year as ever before. Day before yesterday an engine engaged in running a threshing machine on Geo. Carlon's ranch, near Messick's bridge, acted queerly and put the men in a panic three or four times during the day so that the fires were raked out and an examination made. Finally it was decided to bring the engine to town. When thoroughly examined, the bottom of the boiler was found filled with scale and mud. It was conceded that the boiler was liable to burst at any moment. The engineer did not know his business and was discharged, the boiler put in trim and another man engaged. This morning an engine was brought in from the Lone Tree neighborhood for repairs. The crown sheet had been burned and the rivets pulled through. The water was blown through the rivet holes into the fire-box and out in front. Happily the fireman and engineer did not stand in range or they would have been killed. It is desirable that stringent laws be passed requiring all boilers to be inspected and all engineers to be examined and licensed.

THE HARVEST AND THE WHEAT MARKET.—The harvest is the latest and most abundant ever known in California. The best calculators, in their estimates of the wheat fields, fell far short of actual results. Farmers generally have been agreeably disappointed so far as production, both in quality and quantity. They have the grain, and what to do with it is the next consideration. There is little or no demand at present for export, and there seems to be some disposition manifested on the part of the shippers to hold off and thereby, in some degree, compel farmers to accept exporters' terms. How far shippers will succeed remains to be seen. Farmers, as a general thing, were never before in as good condition financially to retain the grain in their own hands, a course they are evidently inclined to pursue.

SONOMA.

SURFACE SOIL CULTIVATION.—*Santa Rosa Republican,* Aug. 14: Last year Dr. Simms, of this vicinity, and Prof. Hilgard of the University, debated the propriety of cultivating the soil so as to leave the same surface on top—or, the difference in plowing, by which it is turned under each year, and the cultivation, equally as deep, with a plow without a mold board. Dr. Simms' theory and practice seems to be good, and he shows 30 bushels of plump wheat per acre off a field of 25 acres this year. Before the crop was put in he stirred the land from six to eight inches deep, harrowed, and sowed 90 lbs. of seed per acre, then harrowed. He burns the straw off. The land is bottom, sandy loam, and has been in wheat most every year since 1851. Six years ago it was partly in corn. The accepted opinion is that wheat after wheat impoverishes the soil. His opinion is that its fertility can be maintained by deep cultivation, as he practices it.

SORREL.—Summer fallowing is the only way to kill out sorrel. Mr. Cohan of Green Valley, and Mr. Groff of Sebastopol, have thoroughly tried it. Very few farmers like to pull their teams at dry plowing, but it pays.

GRAIN FIGURES.—*Petaluma Argus,* Aug. 14: As an indication of the grain yield in the neigh-

borhood of Petaluma we are informed of the following results where the grain has been threshed. Two tenants on the Burdell ranch report respectively 50 and 60 bushels of wheat per acre; M. McLaughlin reports 60 bushels per acre; John Rodeck threshed 37 bushels to the acre; N. Wiswell, 30; Geo. Campbell, 26; D. Stewart, 50; and H. Gregory, 40 bushels to the acre. There is little question that our average will reach 35 bushels to the acre, and of prime quality of wheat.

SONOMA AND MARIN AGRICULTURAL SOCIETY. We are informed by W. E. Cox, Secretary of the above mentioned association, that the preparations for their annual exhibit of the fine stock, agricultural and other productions of this district at Petaluma, promises to excel any previous exhibit. The space in the pavilion and stalls for cattle is being secured. The races promise to be a complete success, entries for which will close on Monday next. The exhibition will open on Monday, September 4th, and close on the 11th of the same month.

STANISLAUS.

GRAYSON.—*Cor. Stockton Herald:* The future promises far better times for Grayson than she has experienced in the past. The Miller & Lux canal has been completed as far down as the Arroyo del Puerto, but a short distance above the town. It will skirt the foothills of the Coast Range as high as possible, and when completed render valuable much land that is now comparatively useless. The soil is generally good, level and easy to work, lacking only irrigation to produce luxuriant crops. In view of these facts, there is reason to believe that the day is not far distant when the now barren plains will be dotted with comfortable homes, and prosperity dawn upon the people. The irrigating system once completed, but a few years would elapse before a railroad through that portion of the valley would become a necessity. As a shipping point Grayson possesses superior advantages. The old channel of the river forms a very deep slough, overhanging which are high, bluff banks, where steamers and barges are easily and expeditiously loaded. The river is falling rapidly, and only light-draft vessels will be able to reach points above Grayson in the future. There is much complaint of a scarcity of tonnage, and if the water continues to fall a large amount of grain will be left upon the banks, where it is piled up awaiting shipment. Threshing will probably continue some three weeks, the tardy prosecution of which is owing to the fact that the facilities are totally inadequate to the demand. A good authority estimates the amount of grain to leave this landing for the season at between 60,000 and 70,000 sacks, which amount would have been nearly doubled but for the unfavorable weather in the early spring.

MR. BANGS' FARMING.—V. E. Bangs, three miles north of Modesto, was one of the first to advocate summer-fallowing and cross-plowing, which he did ably and exhaustively in an essay read before the Stanislaus Agricultural Society several years ago, being awarded the diploma for the best essay of several read on that occasion. By summer-fallowing and cross-plowing, Messrs. Bangs, Reyburn, Vincent, Thompson and others raised, in 1878, with barely four inches of rainfall, from 18 to 28 bushels per acre, the latter figure being reached by J. D. Reyburn, of Salida, who summer-fallowed and cross-plowed three times. Here was practical pecuniary inducement that appealed successfully to the pocket, where before it had failed to convince the mind. The lesson of that year has been heeded and no county can boast of better tillage than the bountiful acres of this fertile area now annually receive. This year wheat ranges from 15 to 35 bushels per acre, the latter figure representing summer-fallow. Moist earth may be found anywhere within three inches of the surface on Mr. Bangs' summer-fallow. He has recently demonstrated that the vine will flourish and produce abundantly by deep and constant tillage. His land is a sandy loam. He has a charming little orchard of choice fruits set around his house, comprising the peach, pear, nectarine, apricot and apple, all of which succeed admirably by irrigation, save the apple. Mr. Bangs' favorite variety of wheat seems to be Nonpareil. Two faults are charged to the account of this variety, viz.: That it shells freely and the kernel is not so hard as some other varieties. The advantages claimed for this variety are that it yields heavily—25% in excess of other varieties and stands up well. The straw is tall and strong, the kernels plump and handsome. Mr. Bangs began his farming operations on a quarter section, and in 1878 added another, and recently he purchased still another, paying this time \$35 per acre to Timothy Page for a choice piece, and rounding out his place to the proportion of 480 acres.

TULARE.

DEER CREEK.—*Cor. Delta:* Harvesting is nearly over and threshing is progressing well; grain turns out better than was expected at the beginning of the harvest. A small portion of the crop, not over one-twentieth (and that first cut), was pinched; but the balance is good. Some of the wheat on the Raymond place yielded 36 bushels to the acre. It is estimated that 15,000 sacks will be required in this section. T. D. Collins alone has bought 2,000 for his own use. Mr. Collins has probably the two best varieties of wheat in the county, which he has this year tried to his satisfaction; these are the Propo and Smith Club. Of the latter he brought four sacks from Stanislaus county, which he sowed on 15 acres; and he estimates

that he will have a yield of from 15 to 75 sacks for each one sown. This wheat differs from the common "Club" in that it has a larger head and a stock offering less resistance in cutting, although large and standing up well. In Stanislaus, where this variety has been tried, it meets with great favor, ranchers claiming that its increased yield over other varieties will pay the harvesting and threshing.

THRESHING.—*Delta,* Aug. 14: Over 20 steam threshers are at work in the Mussel Slough country, and not over one-third of the grain has been threshed as yet. The demand for cars, threshers and a place for storage, and the rush hither and thither for one or the other of these, gives one a reminder of old California times. The liveliest town in the San Joaquin valley is undoubtedly Hanford.

TUOLUMNE.

A PROMISING TURNIP.—*Sonora Independent,* Aug. 14: In the garden of Peter Klein, at Shaw's Flat, is growing an English turnip which has attained the enormous dimensions of 3 ft. and 1 inch in circumference, and is increasing in size at the rate of one-half inch each 24 hours. If it keeps on growing at this rate, Peter will have to pre-empt another 160 acres to give it a chance to spread.

YOLO.

THE PLAINS.—*Democrat:* The great level plain south and west of this place, which 25 years ago was entirely devoid of tree or shrub, except along the courses of Willow slough and Putah creek, is now dotted everywhere with groves of thrifty trees of many varieties. The country mentioned, viewed from an elevated point, presents a varied and pleasing aspect at this season of the year. Miles on miles of stubble fields, left level and even by the busy header; hundreds upon hundreds of grain stacks, waiting for the thrasher; the roads crossing each other at right-angles on the boundaries of almost every section, marked by a silvery line of dust; the farm-houses, cool and white, peeping out from the groves of cottonwood, locust, and other shade trees; long avenues of all kinds of growth indigenous to the valley lining the courses of our streams and the great irrigating canal which winds diagonally across the land—all combine in contributing to the pleasure of the beholder.

YIELD.—Warren Cole, of Blacks, reports having finished harvesting his grain with good results. Sixty-five acres of Little Club averaged 16 bushels to the acre, weighing 141 lbs. to the sack. Thirty acres of Sonora turned out 11½ sacks to the acre, averaging 150 lbs. to the sack.

PROSPERITY.—*Democrat,* Aug. 14: The harvest season is drawing to a close in this county. All the grain has succumbed to the leveling influence of the header, and the many thousand stacks which dotted the fields are rapidly disappearing before the advances of the steam threshers. The streams of golden grain which have been steadily flowing from the spouts of the separators will ere long cease to run, and streams of gold and silver will begin to flow into the pockets of the happy Granger. On all the roads leading to towns situated on the railroads may be seen teams of horses and mules, drawing the precious wheat to market or to the warehouses for storage. The warehouses are already groaning under the weight of tons upon tons stored within their walls. Besides this, along the railroad tracks at every station, thousands of sacks are temporarily stacked, either awaiting transportation or being held for an advance in prices. The two railroads will be taxed to their utmost capacity in carrying off the surplus grain before the fall rains. The ruling prices are not near so good as we should like to see, but it is a general belief that much better rates will be obtained before the majority of producers are compelled to sell. An air of general prosperity pervades the community, and you seldom see any of our sturdy, hard-worked farmers who are not satisfied with the results of the harvest.

NEVADA.

GRASSHOPPER NOTES.—*Reno Journal:* Our farmers are carefully studying the habits of the grasshoppers with a view to exterminating them. It has been ascertained that they select soft, sandy, but often rocky spots in which to lay their eggs. George Alt, Henry Whistler and other leading farmers, propose to observe closely and find out these spots, and then, after the eggs are all laid, to plow the soil very deep, and turn them all under. Then, to make it still more certain, they will pasture their cattle on the infested spots and thus trample the eggs to pieces. This experiment has been tried and is a success. A concerted movement in this would materially decrease the next year's stock of hoppers.

INSECTS' WORK.—*Gazette:* A. T. Rice cut only 40 tons of hay on his place this year, where he usually cuts over 100 tons. He would not have cut that much if he had not commenced harvesting a month earlier than usual. He does not expect to cut any second crop at all. He has two ranches, either of which, in an ordinary season, will keep his 200 cows in pasturage. But this year the grasshoppers eat the grass so fast that he has to move the cows from one place to the other every week.

UTAH.

NO DRIED PEACHES THIS YEAR.—*Salt Lake Tribune* Aug. 6: Last year dried peaches were shipped out of the Territory by the carload, but this year there will be none to ship. The late frosts destroyed nearly all the fruit, and in many instances the trees were killed.

News in Brief.

ELECTRIC lights are talked of for London streets.

FIFTY ladies are struggling for medical honors in Paris.

THE Santa Clara Agricultural fair begins October 4th.

THERE are nine tenant-farmers in the British Parliament.

THE census shows not a woman in Greenland, Vt., over 30.

ADELAIDE NELSON, the actress, died suddenly in Paris, Aug. 15th.

THE demand at the Treasury for standard silver dollars is steadily increasing.

JOHN HUME, of Astoria, killed a 900-pound elk recently on Saddle mountain.

SIR STRATFORD CANNING, for many years British Ambassador to Turkey, is dead.

THE cultivation of casava and arrowroot is being generally embarked in by Honda farmers.

MAJOR-GENERAL GRIMES of the Confederate army has been assassinated in North Carolina.

THE New Orleans schools have been closed until there shall be money enough on hand to pay expenses.

LOCKJAW runs in a family in Camden, N. J., three members of which have recently died from that cause.

IN Illinois a duel was recently fought with coffee and blank cartridges, and they shook hands and parted.

THE Tokio (Japan) Times says that a shock of earthquake is probably felt in some part of the island every day.

HEAVY fires are raging in the timber in various portions of Oregon. No serious damage is reported as yet.

AT the signal station at the top of Mt. Washington, the other day, the mercury marked 31 degrees and water froze.

SOME ladies at Saratoga wear red jackets at breakfast, and look like members of the old volunteer fire department.

THE New Haven police recently broke up a street fight by throwing water on the combatants with a fire engine.

TUESDAY, Aug. 9th, 2,000 acres of pasture on Dry creek, Alameda county, were burned over. Cause, careless hunters.

THE fur trade on the northeast coast has been very good this year, the catch of fur-seal and bear being unusually large.

WORK on the Normal School building at San Jose is progressing rapidly. The force of men has been increased to eighty.

WAREHOUSES are crowded with wheat at Merced. Unless the farmers begin to sell, there will not be storage room.

ROCHESTER is to have a colossal tower surmounted by an enormous statue of Mercury. It will advertise a tobacco factory.

PLATE and jewelry to the value of £20,000 have been stolen from the residence of Lord Eldon, near Warthorn, England.

THREATS are made that the Land League will prevent the collection of rents in Ireland against all the power of England.

H. E. BARTON of Lake valley, El Dorado county, has lost 800 acres of pasture and two miles of fence from fires this year.

A COLORED preacher in Georgia makes his parishioners work out his salary on his farm when they have not money to pay it.

THERE is a funny report that it is fashionable in Paris just now for brunettes and medium blondes to dye their hair a blue black.

A BOY was given three months of hard labor in the workhouse in Cambridge, England, for plucking a rose and a sprig of geranium.

SENATOR BRUCE, of Mississippi, is reported to be the possessor of two large plantations in his State, and has a fortune also of \$200,000.

THE firm that has been awarded the contract to construct the debris dam on the Yuba river advertises for 300 laborers and 150 teams.

TWO boys in Paris settled a dispute by having a duel with knives, which they threw at each other. One was killed, and the other arrested.

THE President of the Imperial Bank of Germany has, in a remarkable treatise, exposed the mistake made in abolishing the silver standard.

A SERIOUS riot took place in Glasgow on Saturday, Aug. 14, between Home Rulers and Orangemen. Two policemen were fatally injured.

THE population of Oregon will foot up about 170,000. It was 90,000 ten years ago. The increase is about 90%. This is a remarkable gain.

WHITE sate sun-shades elaborately painted by hand are carried by some of the fashionable women who ride in open carriages along Bellevue avenue at Newport.

A MAN, who was one of the five in a wagon which was struck by a locomotive in Syracuse, says that the engineer was flirting with a young lady at the time.

ERSKINE WOOD, shot by Hiram C. Briggs at Coeymans the other day, ran half a mile and lived fifty-eight hours after the bullet had passed through his heart.

THE man who fired at Lord Lytton, Viceroys of India, in December, and then declared himself to be insane, has recovered and has been committed for trial.

AN English rector has omitted the prayers for Parliament since the Liberals came into power, and says that "he does not think such a lot worth praying for."

THEY are showing inventions in England in devising pretty additions to weddings. Four little children dressed as sailors holding the bride's train in the bridal procession was one of the features of an English wedding last month.



Country Living.

Not what we would, but what we must,
Makes up the sum of living;
If heaven is both more and less than just
In taking and in giving.
Swords cleave to hands that sought the plow,
And laurels miss the soldier's brow.

Me, whom the city holds, whose feet
Have worn its stony highways,
Familiar with its loneliest streets—
Its ways are never my ways.
My cradle was beside the sea,
And there I hope my grave will be.

Old homestead! In that old gray town,
The vane is seaward blowing,
Thy slip of garden stretches down
To where the tide is flowing.
Below they lie, their sails all furled,
The ships that go about the world.

Dearest that little country house,
Inland, with pines beside it;
Some peach trees, with unfruitful boughs,
A well, with reeds to hide it;
No flowers, or only such as rise
Self-sown, poor thing, which all despise.

Dear country home! Can I forget
The least of thy sweet trifles?
The window vines that clamber yet,
Whose blooms the bee still rifles?
The roadside blackberries growing ripe,
And in the woods the Indian Pipe?

Happy the man who tills his field,
Content with rustic labor;
Earth doth to him her fullness yield,
Hap what may to his neighbor.
Well days, sound nights, O can there be
A life more rational and free?

Dear country life of child and man!
For both the best, the strongest,
That with the earliest race began,
And hast outlived the longest.
Their cities perished long ago;
Who the first farmers were we know.

Perhaps our Babels, too, will fall,
If so, no lamentations.
For Mother Earth will shelter all,
And feed the unborn nations;
Yes, and the swords of menace now
Will then be beaten to the plow.

The Weaver of Raveloe.

It was 15 years since Silas Marner had first come to Raveloe, and at the end of 15 years the Raveloe men said just the same things about him as at the beginning. He was subject to catalepsy, and to the villagers there was something mysterious in these fits, as a fit was a stroke, and it was not in the nature of a stroke to let a man stand on his legs like a horse between the shafts, and then walk off as soon as you can say "Gee!"

So had his way of life mysterious peculiarities. He invited no comers to step across his door-sill, and he never strolled into the village to drink a pint at the Rainbow, and he sought no man or woman, save for the purposes of his calling, or to supply himself with the necessities of life.

He had knowledge of herbs—and charms, too, they thought, and perhaps he was possessed of an evil spirit—so it was partly to this vague fear that Marner was indebted for protecting him from persecution, and still more that as linen-weaver his handicraft made him a highly welcome settler to the rich housewives in the district. There was only one important addition which the years brought. It was that Master Marner had laid by a fine sight of money somewhere.

His life had reduced itself to the mere functions of weaving and hoarding. But about Christmas of that 15th year a great change came over Marner's life, and his history became blent in a singular manner with the life of his neighbors.

The greatest man in Raveloe was Squire Cass. Of his two sons, Dunstan, the second, the neighbors said it was no matter what became of him—a spiteful, jeering fellow, whose taste for drinking, betting and swopping might turn him out to be a sowing of something worse than wild oats.

But it would be a pity if Mr. Godfrey, the eldest, a fine, open-faced, good-natured young man, should take the same road as his brother, which he seemed inclined to do of late.

Godfrey was in Dunstan's power, as he had secretly married a coarse beauty whose love of drink had made her an unfit companion for any one, and he lived in fear of his father learning the dreadful secret and turning him adrift, so Dunstan made constant demands on him for hush money. Driven to desperation by his profligate brother, he had given him permission to sell his favorite horse if he would make no further demands upon him.

So Dunstan rode the horse to the races, and before he had a chance to sell, killed the horse, and went from the grounds in a drunken, penurious state.

As he was plodding home through the dark, he saw a light in Marner's house. He knocked, but no one answered, and in stepping in he found it vacant. Where could he be, leaving his supper a cooking and the door unfastened?

It was a dark, rainy night, and perhaps he had gone out for fuel and fallen in the stone pits.

That was an interesting idea to Dunstan. If the weaver was dead, who had a right to his money? Who would know where his money was hidden? Who would know that anybody had come to take it away? He saw a place near the loom where the sand had finger-marks. He darted to it, lifted the bricks, and found two leather bags. He hastened out of the house with the bags. The rain and darkness had got thicker, but he was glad of it.

Silas came soon after, and after getting warm he thought he would put his beloved guineas on the table before him, as it would be pleasant to see them as he ate his unwonted feast; for joy is the best of wine, and Silas' guineas were a golden wine of that sort. The sight of the empty hole made his heart leap violently, but the belief that his gold was gone could not come at once. He had put his gold somewhere else, and then forgotten it. He turned his head over, he looked in the brick oven.

He felt once more all around the hole. He could see every object in his cottage—and his gold was not there. He put his trembling hands to his head, and gave a wild, ringing scream—the cry of desolation. The cry had relieved him from the first maddening pressure.

He tottered towards his loom, and got into the seat where he worked, instinctively seeking this as the strongest assurance of reality. The idea of a thief began to present itself. He started from the loom to the door. He rushed out in the rain, and made his way to the inn. There Silas told his story under frequent questioning, as the mysterious character of the robbery became evident.

The slight suspicion with which his hearers at first listened to him gradually melted away before the convincing simplicity of his distress.

Dunstan Cass had never been heard from, and on New Year's eve Squire Cass gave a large party. That night Godfrey's wife was walking with slow uncertain steps through the snow-covered lanes of Raveloe, carrying her child in her arms.

Soon she felt numb with cold and fatigue, and then nothing but a supreme immediate longing to lie down and sleep. The complete torpor came at last; the fingers lost the tension, the arms unheeded; then the little head fell away from the bosom, and the blue eyes opened wide on the cold starlight. Suddenly its eyes were caught by a bright gleaming light on the white ground; in an instant the child had slipped on all fours, and held out one little hand to catch the gleam. But the gleam could not be caught, and now the head was held up to see where the cunning gleam came from. It came from a very bright place; and the little one, rising on its legs on to the open door of Silas Marner's cottage, and right up to the warm hearth where Silas's coat lay on the bricks to dry. The little one squatted down on the coat, and presently the warmth had a lulling effect, and the little golden head sank down on the old coat asleep. But where was Silas Marner? He was in the cottage, but he did not see the child. He had gone to the door to look out, and put his right hand on the latch of the door to close it—but he did not close it; he was arrested by the invisible hand of catalepsy, and stood with wide, but sightless eyes, holding open his door, powerless to resist either the good or evil that might enter there.

When Marner's sensibility returned he closed the door, and turning toward the hearth, where to his blurred vision, it seemed as if there were gold on the floor in front of the hearth.

Gold!—his own gold—brought back as mysteriously as it had been taken away.

He leaned forward at last, and stretched forth his hand; but instead of the hard coin, his fingers encountered soft warm curls. Could this be his little sister came back to him in a dream? He had a dreamy feeling that this child was somehow a message come to him from that far off life. But there was a cry on the hearth, and Silas fled and soothed it. He found it had on wet shoes, which suggested to him that she must have come from out doors, so he raised the child and went to the door, and the little one cried mammy. Bending forward he could just discern marks made by the little feet, and he followed their track to the furze hush, and there he found a human body with the head sunk low in the furze, and half covered with the shaken snow. Silas knew that all the town was at the grand party at the Squire's, so he carried the little one right there in search of the doctor. The doctor, Godfrey, and a few others, go to the stone pits, and then find that the woman is past help—dead. They urged Silas to part with the child, but he presses it to him and says:

"No, no! I can't part with it. It's come to me—I've a right to keep it."

It was a bright autumn Sunday, 16 years after Silas Marner has found his new treasure on the hearth.

The bells of the old Raveloe church were ringing the cheerful peal which told that the morning service was ended. He called her Eppie for his sister, and that morning as they walked home together, in low murmuring tones, Eppie talked to him.

"Father, if I was to be married, ought I to be married with mother's ring?"

"Why, Eppie, have you been a-thinking on it?"

"Only this last week, father," said Eppie, innocently, "since Aaron talked to me about it."

"And what did he say?" said Silas.

"He said he should like to be married because

he was going on four and twenty, and had got a good deal of gardening work, now Mr. Mott's given up."

"And who is it as he's wanting to marry?" said Silas with rather a sad smile.

"Why, me, to be sure, daddy," said Eppie, with dimpling laughter, kissing her father's cheek; "as if he'd wanted to marry anybody else."

"And you mean to have him, do you?" said Silas.

"Yes, some time," said Eppie, "I don't know when."

"Everybody's married some time," Aaron says.

But I told him that wasn't true, for I said, "look at father—he's never been married."

"My child," said Silas, "your father was a lone man till you was sent him."

"But you'll never be a lone man agsin, father," said Eppie tenderly. "That was what Aaron said."

"I could never think o' taking you away from Master Marner, Eppie," "And," I said, "it 'ud be no use if you did, Aaron, and he wants us all to live together, so you needn't work, and he'd be as good as a son to you. But I don't want any change. Only Aaron does want a change, and he made me cry a bit—only a bit—because he said I didn't care for him, for if I cared for him, I should want us to be married, as he did."

"Eh, my blessed child," said Silas, "You are o'er young to be married. But I shall get older and helpless, and I should like to have you have somebody else besides me—somebody young and strong, as 'ud take care o' you to the end."

"Then you would like me to be married, father?"

"I'll not be the man to say no, Eppie, but will ask your godmother. She'll wish the right thing by you and her son too."

And the godmother wished it.

In draining the lands the stone pits were drained dry, and the skeleton of Dunstan Cass was found, and all of Silas Marner's gold, 265 pounds. So Aaron and Eppie enlarged their garden, and made pretty their home as they did not wish to leave the stone pits, and Eppie's own words tell the story of their united happy life.

"Oh, father, what a pretty home ours is! I think nobody could be happier than we!"—*George Eliot.*

Our Mothers.

In the formation of character, we owe to our mothers more than to any other human agency, for it is their hands that first twine the tendrils of our hearts, guide our footsteps aright, lead us in the path of virtue, and in the dark, dreary night of pain, their watchful vigils keep beside the couch of their dear ones. Whose but the all-seeing eye of Jehovah can fathom the depths of anxiety they feel, and who can tell of the ceaseless prayers which they offer for their sin-stricken children?

Their influence ever shines with an unsullied light which softens and purifies the wayward impulses of the youthful mind, and guides it onward in its course towards heaven. How, then, can we pay just tribute to our mothers—with what measures of gratitude and affection shall we requite them for their maternal care?

To those who have lost their mothers in early life, there is the hallowed spot, sacred to memory, where they retrospect the past—recall days and nights when their mothers kept watch over their sinless years, and where they may look forward, with faith and hope, to the blessed reunion of the everlasting future.

Friends may be torn from our hearts, hopes may be blasted, and our love for others may grow cold, yet every principle of gratitude and every feeling of virtuous sensibility requires that we should cling to our mothers and love them still.—*Freemason.*

HOME.—I never saw a garment too fine for man or maid; there never was a chair too good for a cobbler or a cooper or a king to sit in; never a house too fine to shelter the human head. These elements about us, the glorious sky, the imperial sun, are not too good for the human race. Elegance fits man. But do we not value these tools a little more than they are worth and sometimes mortgage a house for the mahogany we bring into it? I had rather eat my dinner off the head of a harrel, or dress after the fashion of John the Baptist in the wilderness, or sit on a block all my life, than consume all myself before I got to a home, and take so much pains with the outside that the inside was as hollow as an empty nut. Beauty is a great thing, but beauty of garment, house and furniture are tawdry ornaments compared with domestic love. All the elegance in the world will not make a home, and I would give more for a spoonful of real hearty love than for whole ship-loads of furniture and all the gorgeousness all the upholsterers in the world can gather.—*Dr. Holmes.*

NEW MUSIC.—"When Sorrow Dies" is the title of a graceful song by Pinsuti, sent to us by the publishers, O. Ditson & Co., who also enclose "Birdie in the Cradle," one of fifteen attractive songs for children, by Franz Abt. The picture title is very pretty. "In Dell and Dingle," another song, is a very musical "flower song" by Roedel. With these come three good piano pieces—"Flower Bells," by H. Scott, "Bright as a Button," polka by Cloy, and "Queen of my Heart," polka by Fairbach.

Home Dressmaking.

There is a good deal of work about making a dress, even if it is a small one, but it is very little more trouble to make it tasteful and stylish, and it is a pleasanter task to create a pretty thing than an ugly one. Like all other arts of the home dressmaker, it takes experience to make a success of children's dresses. Amateurs are apt to take fright at the dressy, elaborate styles now in vogue, but really there is nothing appalling about them with a plate or pattern to follow, and the most complicated are frequently the most easy to copy in old material, because the elaboration helps to disguise many makeshifts in the way of piecing and eking out scanty trimmings.

One of the daintiest little misses known to me wears a dress for her "Sunday best" that looks as if it might have been selected from one of the most fashionable shop windows. I should never have suspected it of being home-made, much less made of a fabric no longer new, had not my familiarity with the clever handiness of the child's mother and sister made me expect marvels from their fingers and venture to ask some searching questions.

I am happy to say that my friends were not ashamed of their economy, but gave me the history of the little dress with obliging readiness. The foundation was a plain princess form, cut from a thin lining, which, by the way, was originally a light calico morning dress of one of the older sisters. Among the cast-off clothes of the family were small portions of two very old silk dresses, one a fine black-and-white check, the other a plain dark brown. There was not in either enough in quantity to do much with alone, but combined there was sufficient to make a very good result. The silk was poor and thin, but it was carefully cleaned and stiffened, and, wherever used, furnished with a thin, coarse Swiss muslin lining. Long folds of the two silks alternating were put upon the front breadth perpendicularly, reaching from the throat to the bottom of the dress in the center. Across the back were narrow gathered ruffles of check silk bound with the plain brown. The upper part of the dress was of white Angora gauze flannel skirting, which was but 20 cents a yard, and resembled a summer camel's-hair. The fronts were made in saquee form, meeting over the long center plaits at one point only, about equidistant between the throat and waist, and cut away abruptly above and below. The back was long and looped over the ruffles with very graceful effect. The cuffs were of check silk, with brown bias binding upon the edge, and the deep round collar (almost a cape) was in the same order. The upper part of the dress was covered with brown silk that was too old and poor to be fit for any other use; but, under the polonaise, the worn places did not appear, and the flannel was so thin that it required a continuous color beneath to prevent the ugly variegated appearance that some silk and bunting toilettes present. The polonaise was edged with three rows of machine chain-stitching, done with coarse brown silk, and was not a separate garment, being sewed in with the shoulder and side seams, and buttoned in the back with brown buttons.

Another dress of the same little lady's was made from a pair of old Turkey-red curtains, of the dark color and heavy quality of former manufacture. The dress was made with a full skirt gathered around the waist, with five rows of shirring. The blouse-waist was gathered in the same way. The deep collar, cuffs, wide belt, and the binding to two ruffles on the bottom of the skirt, were of Madras gingham in indigo-blue shades. The combination made a very quaint and stylish dress, and was modeled from a recently imported one of much more expensive material.

In making over children's clothes, or elders' clothes for children, there is a double advantage in combining more than one material. Fresher parts of both can be used, and harmonious arrangement of colors diverts the eye from the want of newness that might be apparent in a plainer dress. In making use of diverse fabrics there is, however, one all-important thing to be kept in mind—there must be a certain harmony in color and method of arrangement observed, or the effect will be disastrous.—*Andrews' Bazar.*

TRUST THE CHILDREN.—The discipline of certain households consists for the most part in the enactment and enforcement of prohibitory laws. "Touch not, taste not, handle not," is inscribed upon almost everything which the child is likely to hanker after. All the trees in the garden are full of forbidden fruit. He is told that he must not take anything without asking, and he is well aware that asking will be in vain. Now, if you want to bring up your children so that they may become something, you must leave some things to their own discretion. The moral judgment must be disciplined as well as the moral sense.

PERSONAL.—We acknowledge the pleasure of a call from Mrs. Locke (Mary Mountain), who has so far recovered from her severe attack of rheumatism to avail herself of a change of scene, which we trust will aid greatly to the attainment of a full measure of health. Although her hands are crippled her affliction detracts nothing from the gleam of her countenance and the kindness of her manner and expression.

PRIDE hath two seasons; a forward spring and an early fall.

Chaff.

WHEN is a man not a man? When he makes a goose of himself.

"Oh, papa!" cried a little fellow upon seeing a trout for the first time, "it's got the measles, hasn't it?"

PATRICK on the zebra—"Phat kiud of a baste is that, the mule wid his ribs on the outside of his shkin entirely?"

A MAN has invented a chair that can be adjusted to 800 different positions. It is designed for a boy to sit in when he goes to church.

It was a New York lawyer in whose peroration this occurred: "I hope, gentlemen of the jury, that you may have mercy upon this unhappy man, who has never yet strayed from the path of rectitude, and only asks your assistance to enable him to return to it."

A LADY who had received a severe bite on her arm from a dog went to Dr. Abernethy; but hearing of his aversion to hear the statement of particulars she merely uncovered the injured part and held it before him in silence. After examining it he said, in an audible tone, "scratch?" "Bite," said the lady. "Cat?" "Dog," replied the lady. So delighted was the Doctor with the brevity and promptness of the lady's answers, that he exclaimed: "Zounds, madam, you are the most sensible woman I have met with in all my life!"

"WILLIAM, do you know why you are like a donkey?" "Like a donkey?" echoed William, opening his eyes wide; "no, I don't." "Do you give it up?" "I do." "Because your better-half is stubbornness itself." "That's not bad. Ha! ha! I'll give that to my wife when I get home." "My dear," he asked, as he sat down to supper, "do you know why I am like a donkey?" He waited a moment, expecting his wife to give it up, but she didn't. She looked at him somewhat commiseratingly as she answered, "I suppose because you were born so."

Dress for Out-door Workers.

We do not know how our brothers and our cousins and our uncles will like to be rigged out in the style proposed; but a man has written on the subject in the *Germantown Telegraph*, and so other men must treat the suggestions with respect at least. Perhaps our rural housewives may take some hints to aid in the construction of their lord's raiment:

In order for one to work well and cheerfully, conditions must be favorable, and one of these is garments in no wise impeding the motion of the limbs concerned. There should be no sticking, binding and friction. But many persons who may be supposed to be immediately interested in not being hampered and distressed are the very ones to use articles of dress so closely or so badly fitting as to render dispatch in manual labor a hardship because of said apparel not being made to order, but got up wholesale to suit the convenience of the tailors and sellers rather than the consumers. Pantaloon is too generally short in the leg, tight across the small of the back and too long of body, instead of the latter resembling a low but broad basket. The legs ought to be long, tapering from the knee downward. The waistband may be snug, if so the body is of ample size horizontally-wise, permitting perfectly free motion in turning of the trunk and stopping, similar to the let-out back-strap on the harness of plow horses. Drawers also had better be made to measure and fastened to bone buttons inside the waistband three or four inches below top-edge, two on each side, and then will sit far more comfortably than the woven ones bought ready-made and held up by suspenders or loops passed over the waistband buttons on trousers. And if these could be worn buttoned or hooked to a vest, waist or spencer, so saving suspenders, all the better. Undershirts open clear down in front and buttoned, styled wrappers, admit readily putting on or off, especially the latter when wet with perspiration. I like best to pull up pantaloons to within six or eight inches from the knee, snugly tying them with broad soft bands or straps (garters), and so relieve the knees from any clinging and binding. Work entailing much squatting and kneeling, such as transplanting, weeding, trimming low horders, thinning out, etc., is thus rendered materially less wearisome, and the trousers last longer from not being worn so much about the knees. I found this with me, original notion very useful, also in going up steep flights of stairs, a load on back or shoulders, and up steep hillsides, over fences, stiles and gates, riding, improvised, on horseback, not being just then provided with straps to trousers, or having regulation riding pantaloons. A heavy drag seemed removed.

LOVE of power, and of fortune as a means to it—and some one has resolved the love of money into a love of power—is not an affection: it is a passion: one of the passions that swallow up the affections: the gentler affections are overborne by the violence of the passions, or discarded as standing in their way—the way of their gratification—but, in taking their departure, the affections also take away with them the happiness.

PIN MANUFACTURE.—A writer, who has been looking into the statistics of pin manufacture, makes the statement that while 50 years ago it took one man a minute to make 14 pins, to-day, with our improved automatic machinery, a single workman can make more than 1,000 in the same time.

Young Folks' Column.

Our Puzzle Box.

Cross-Word Enigma.

I am composed of 10 letters.
My first is in moose, but not in deer.
My second is in grave, but not in bier.
My third is in near, but not in far.
My fourth is in chair, but not in bar.
My fifth is in much, but not in all.
My sixth is in kite, but not in ball.
My seventh is in sow, but not in reap.
My eighth is in stream, but not in deep.
My ninth is in mire, but not in mud.
My tenth is in rose, but not in bud.
My whole is an English city. DICK E. N. S.

Decapitations.

1. Behead a strong breeze and leave a beverage.
2. Behead to trifle and leave to change.
3. Behead to pander and leave a demoniacal being.
4. Behead to spring upon and leave a small weight.
5. Behead to fascinate and leave to injure.
6. Behead a culpability and leave crippled. JAMES.

Charade.

Joe Tomkinson waited on Smith,
To ask for the hand of his daughter;
He held a snug berth in town,
And felt pretty sure he had caught her.
But queer are the fortunes of love,
And Joe's was one of the worst;
For Smith in my second, most unlike a dove,
Right speedily showed him my first.
Our hero abashed and confounded,
Lost over his feelings control,
And hurrying home, deeply wounded,
Spoke of it as my whole.

Concealed Rivers.

1. I shall visit the old shop on the banks of the river.
2. When I let John have my horse again I shall be sure that he will take better care of it.
3. I think that ham Esther bought is very poor.
4. Is Ernest about the house?
5. Is a codfish better than a herring?
6. Upon that side a deer was shot last week.
7. A very meager endowment did the college receive.
8. I do not what I most desire, but what will result most desirably. UNCLE CLAUDE.

Dropped Letters.

T-e-e -s - t-d- i- t-e -f-a-r- o- m-n
W-i-h, -a-e- a- i-s -l-o-, l-a-s -n -o -o-t-n-;
O-i-t-d, -l- t-e -o-a-e -f -h-i- l-f-
l- b-u-d -m -h-l-o-s -n- i- m-s-r-e- CEPHA.

Answers to Last Puzzles.

NUMERICAL ENIGMA.—"A merry heart maketh a cheerful countenance."

DOUBLE ACROSTIC.—

L	a	W
I	nergeti	C
V	er	B
E	lix	R
W	isel	Y
E	ph	A
L	iter	N
L	une	T

PROBLEM.—A little more than 102½ feet.

SYLLABLE PUZZLE.—Con-stir-nay-shun (consternation).
CROSS-WORD ENIGMA.—Gainsborough.

The Time to Be Pleasant.

"Mother's cross!" said Maggie, coming out into the kitchen with a pout on her lips. Her aunt was busy ironing; but she looked up and answered Maggie: "Then it is the very time for you to be pleasant and helpful. Mother was awake a great deal in the night with the poor baby."

Maggie made no reply. She put on her hat, and walked off into the garden. But a new idea went with her. "The very time to be helpful and pleasant is when other people are cross. Sure enough," thought she, "that would be the time when it would do the most good. I remember the time when I was sick last year I was so nervous that, if any one spoke to me, I could hardly help being cross; and mother never got angry or out of patience, but was just as gentle with me! I ought to pay it back now, and I will." And she sprang up from the grass where she had thrown herself, and turned a face full of cheerful resolution toward the room where her mother sat smoothing and tending a fretful teething baby. Maggie brought out the pretty ivory balls, and began to jingle them for the little one. He stopped fretting, and a smile dimpled the corners of his lips.

"Couldn't I take him out to ride in his carriage, mother? It's such a nice morning," she asked.

"I should be glad if you would!" said her mother. The little hat and sack were brought, and the baby was soon ready for his ride. "I'll keep him as long as he is good," said Maggie; "and you must lie on the sofa and get a nap while I am gone. You are looking dreadfully tired."

The kind words and the kiss that accompanied them were almost too much for the mother. The tears rose to her eyes, and her voice trembled as she entered: "Thank you, dearie; it will do me a world of good, if you can keep him out an hour; and the air will do him good, too. My head aches badly this morning." What a happy heart beat in Maggie's bosom as she trundled the little carriage up and down on the walk! She had done real good. She had given back a little of the help and forbearance that had so often been bestowed upon her. She had made her mother happier, and given her time to rest.

She resolved to remember and act on her aunt's good word, "The very time to be pleasant is when everybody is tired and cross."—*Well Spring.*

THE Superintendent approached a youth of color, who was present for the first time in Sunday-school, and inquired his name, for the purpose of placing it on the roll. The good man tried in vain to preserve his gravity when the answer was returned: "Well, massa calls me Cap'n, but my maiden name is Moses."

GOOD HEALTH.

Hints on Sea-Bathing.

August is the month for sea-bathing, which, if properly managed, is one of the most healthful and invigorating of exercises, though its good effects are often neutralized through ignorance or carelessness. The following extracts from Dr. J. H. Packard's *Sea-Air and Sea-Bathing* (one of the "American Health Primers") furnish a very good summary of rules for the guidance of the unprofessional reader in this matter:

How Long to Bathe.—It is quite absurd to lay down positive rules as to the time people should remain in the water, since they do not carry watches in with them. And any day's experience on the beach in the season will show a great many bathers sporting in the water for half an hour or an hour, and even longer, without any perceptible ill effect. It is quite a common practice among the young folks to go in, take a bath, come out and lie on the sand, and go in again, perhaps a number of times. The powers of endurance vary greatly, and it is well known that swimmers have sometimes remained in the water for many consecutive hours without harm.

There can, however, be no question that for sanitary purposes, and as a matter of prudence, it is better to take the bath, and then to leave the water for the day.

What is wanted in ordinary sea-bathing is to carry the chilling of the body only so far as to promote the subsequent reaction. The first sense of cold on entering the water is soon followed by the feeling of returning warmth; and this continues for some little time, to be again succeeded by a sense of chilliness. This second cooling is accompanied by diminution in the activity of the circulation, shown especially by blueness of the lips or fingernails; and this should invariably be regarded as a signal for leaving the water at once. To wait until the teeth chatter, and the skin of the fingers becomes shriveled like those of a washerwoman, is in a high degree imprudent.

For those who have young children or invalids under their charge, and who are able to observe and regulate the exact time of their stay in the bath, it may be said that this may be according to the condition of the skin, somewhere between 2 and 15 minutes. It is always safe to err on the side of prudence, and to cut the bath needlessly short rather than to prolong it at any risk.

Perhaps it need hardly be said that the colder the water is, the less time should be spent in it. When the air and the water are both cold, the duration of the bath should be correspondingly diminished. This condition of things increases the danger of shock and of insufficient reaction.

One should enter a sea bath comfortably warm and exercise actively during the stay in the water. The temporary chilling of the surface will then give place quickly to a glow, which may be kept up or even increased by thorough rubbing.

How to Bathe.—There is very seldom opportunity for diving into the sea, and only a very small number of bathers are expert enough to do it. The best plan is to walk or run rapidly into the water, wading out at once far enough either to dip the whole person, head and all, or to allow a wave to break over the bather. Some like to have a bucket of sea water dashed over them before going in. Once in the water, and thoroughly wet, one need only keep moving, occasionally going under a wave, as long as the water is agreeable, and there is no sense of chilliness.

Swimming.—It is not safe to swim in the sea when the tide is running out, as then it is difficult to make headway towards the shore. It is not safe to swim when there is a heavy surf, as even a good swimmer may be so confused and baffled by waves breaking over him as to lose his presence of mind, and perhaps swim seawards instead of to the shore; or he may be so exhausted by the force of the water as to sink.

It is not safe to swim when there are strong currents running in the general line of the shore, as these sometimes set outward enough to keep the bather in deep water longer than his powers can hold out. Should he find himself in such a current, he should never try to make head directly against it, but should swim diagonally towards the shore, and, above all, should try to keep his presence of mind and save his strength.

INSANITY A BOON.—A German physician considers insanity in the light of a boon. This is certainly a novel view. He holds that the loss of reason lands the sufferer from a sea of trouble into one of comparative calm—often into one of decided happiness; and attempts to restore such a person to sanity would be cruel rather than kind. Moreover, he insists that without a certain amount of insanity success in life, in the ordinary acceptance of the term, is quite impossible. All eminent men, he contends, are decidedly more or less mad. Many of them are dangerous monomaniacs whom it would be decided on public grounds to shut up, but who nevertheless achieve grand careers, and are credited with doing a vast amount of good. The false notion he attributes to the fact that the greater mass of mankind are also insane, and quite unable to distinguish between good and evil.

DOMESTIC ECONOMY.

CANNING CORN AND TOMATOES.—A correspondent of the *Rural New Yorker* writes: "I am surprised that almost all the ladies that have written, prefer glass for tomatoes. My experience is that tin is better than either glass or stone. Two years ago I put my tomatoes in both stone and glass. I was very careful to cook them well, to seal them well while hot, kept them in a cool, dark place, and almost every one spoiled. Last year I prepared them the same way, except that I put them in tin cans, and when opened they were perfect. In canning tomatoes I always put sweet corn with part of them. Cut the corn from the cob, and when the tomatoes have boiled a few minutes, put in one-third as much corn as you have tomatoes; boil all about a quarter of an hour, then seal. They are very nice."

TO PICKLE WALNUTS GREEN.—Put the walnuts in salt and water for 10 days, stopping the jar close with a linen cloth, so that the walnuts cannot rise above the water; then put them in vinegar for 10 days. If the walnuts are exposed to the air they will lose their color. To 100 walnuts put one-half ounce mace, one-fourth ounce cloves, one-fourth ounce nutmeg, 100 cloves of garlic, one and one-half pints mustard seed, a handful of horseradish sliced, some bay salt, and one gallon of good vinegar. The vinegar should not be scalded. The walnuts should be young enough so as to be easily pierced with a pin.

DELMONICO PUDDING.—One quart of sweet milk, the yolks of five eggs, three tablespoonsful of corn starch, mixed smooth in half a teacupful of milk, a teacupful of sugar and any flavoring liked. Bring the milk to the boiling point, stir in the corn starch, then the sugar, and lastly eggs. Draw to the back of the range and let thicken for two or three minutes. Be very careful not to burn. Turn into a pudding dish and bake about half an hour. Beat whites to a stiff froth; stir in four tablespoonsful of powdered sugar; flavor; spread over the pudding and return to the oven to brown.

RICE BLANC-MANGE.—A quarter of a lb. of ground rice, two ounces of loaf sugar, one ounce butter, one quart of milk, flavoring of lemon-peel; mix the rice to a smooth batter with a little milk, and put the remainder into a saucepan with the butter, sugar and lemon-peel; bring the milk to a boiling point, stir in the rice; let it boil for 10 minutes, or till it comes away from the saucepan; grease a mold with salad oil, pour in the rice, let it get perfectly cold and turn out.

NEW SUET PUDDING.—Four eggs, half a lb. of suet, one pint bread crumbs, one quart milk, half teacupful each of cinnamon and nutmeg, two tablespoonsful of flour; chop the suet very fine and heat the eggs thoroughly; heat the milk scalding hot and pour it over the crumbs; mix the suet, nutmeg, cinnamon and flour (the latter wet a little to prevent lumps), and beat all together; add eggs; sweeten to taste; add salt and brown in oven half an hour.

HOME PUDDING.—One quart milk, four eggs, beaten separately, eight tablespoonsful baking powder, one-half cupful sugar. Bake in greased pan 35 minutes. Sauce for Home Pudding.—One-half pint milk, three tablespoonsful sugar, one tablespoonful butter, one small tablespoonful flour; heat the milk boiling hot, and mix sugar, butter and flour, previously well beaten together, into it. Flavor with vanilla.

RASPBERRY CREAM.—Rub a quart of raspberries, or some raspberry jam, through a hair sieve, to take out the seeds, and then mix it well with cream; sweeten with sugar to taste; put into a stone jug and raise a froth with a chocolate mill. As your froth rises take it off with a spoon and lay it upon a hair sieve. When you have got as much froth as you want, put what cream remains into a deep china dish or punch bowl and pour frothed cream upon it, as high as it will lie on.

WHITE JELLY CAKE.—Whites of 3 eggs; 3 cup butter softened and melted, 1 cup white sugar; beat together; then add 1 teacup sweet milk, flavor to taste, two heaping teacupfuls baking powder sifted in with a portion of the flour, and add enough sifted flour to make it spread smoothly and easily on your tins; when cool, spread with jelly.

VEAL SAUSAGE.—Chop small and equal parts of veal and salt pork. Season with pepper and sweet herbs, mixing all well together with the meat; tie in a cloth and hang it in a cool, dry place. When about to use it make the sausage into cakes, flour them, and fry in hot lard.

PLAIN LEMON PIE.—Two lemons, peel and cut in very thin slices, the rind to be chopped, one and a half cups of water, three-quarters of a cup of flour, one cup of brown sugar, one cup of molasses. Bake with two crusts in a moderately hot oven.

TO MAKE GOOD SAUSAGE MEAT.—Take one-third fat and two-thirds lean pork and chop them, and then to every 12 lbs. of meat add 12 large spoonfuls of powdered salt, nine of sifted sage and six of sifted black pepper. Keep in a cool, dry place.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$ 5.00
Half line (1 square)..... \$1.00 \$3.00 7.50 24.00
One inch..... .200 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STANG.

SAN FRANCISCO:

Saturday, August 21, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Horticultural Exhibit at the Mechanics' Fair; Shearing Twice a Year; Outlook for the Leicester Sheep, 113. The Week; Of Interest to Subscribers to the RURAL PRESS; Bags or Bulk; Australian Fruit for England; The Port of Guaymas; Results of Intemperance, 120. Leaf-Variation in Acacia Trees, 121. Notices of Recent Patents; The Percheron Horse, 124.

ILLUSTRATIONS.—Border Leicester Ram from the Mertoun Flock in Berwickshire, 113. Leaves and Flowers of the Acacia Melanoxylon, 121.

ENTOMOLOGICAL.—Grapevine Leaf-Hopper; Mites on Fruit Trees; The Fertile Winged-Phylloxera Found, 120.

CORRESPONDENCE.—Notes from Tehama County; Fruit and Fruit Canning in Santa Barbara County; Tuolumne Notes; A Home-Made Fruit Drier, 114.

THE DAIRY.—Los Angeles County Cheese Factories; The Export Trade in Dairy Products, 115.

HORTICULTURE.—Notes and Comments; Sheep and the Coddling Moth; Strawberry-Growing in Santa Clara County, 115.

PATRONS OF HUSBANDRY.—Reusciation of Petaluma Grange; Temescal Grange, Oakland; A New Warehouse in Stockton; War and Its Antidote; The Worthy Master's Work, 116.

AGRICULTURAL NOTES from the various counties of California, Nevada and Utah, 116-117.

NEWS IN BRIEF, on page 117 and other pages.

HOME CIRCLE.—Country Living (poetry); The Weaver of Raveloe; Our Mothers; Home; Home Dress-making; Chaff; Dress for Out-door Workers, 119.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; The Time to be Pleasant, 119.

GOOD HEALTH.—Hints on Sea Bathing; Insanity a Boon, 119.

DOMESTIC ECONOMY.—Canning Corn and Tomatoes; To Pickle Walnuts Green; Delmonico Pudding; Rice Blanc-Mange; New Suet Pudding; Home Pudding; Raspberry Cream; White Jelly Cake; Veal Sausage; Plain Lemon Pie; To Make Good Sausage Meat, 119.

MISCELLANEOUS.—Manufacturing Industries of San Francisco; Address of Hon. A. A. Sargent; Address at the Opening of the Mechanics' Fair, 122.

Business Announcements.

Imported Percherons—M. W. Dunham, Wayne, Ill.
Plow Share Fastener—J. P. Patrey.
Compound Oxygen Treatment—H. E. Mathews, S. F.
Arroyo Grande Warm Springs—D. F. Newson Prop.
Sheep For Sale—J. B. Hoyt, Birds Landing, Solano Co.

The Week.

California promises to make a good march forward this year, not only in material productions, which will be in the aggregate greater than ever produced before, but also in the development of her resources and the enlistment of a goodly number of desirable incomers in the delightful task of home-making in California. So far as our information goes, there is a gratifying spirit of content, energy and enterprise now ruling in all parts of our commonwealth. Our young and vigorous State is already fast brushing off the dust of fallacies which social and political theorists threw upon her escutcheon, and is again coming into the eye of the world as a vision of all that is stirring in enterprise and desirable in natural resources. The result of this truer view of California is seen in the hosts of responsible people from abroad who are making or contemplating investment in California soil and carefully scrutinizing the growth, preparation and marketing of different products to decide what line of production they had better adopt. The restored confidence in California is also seen in the other host of men who have somewhat invested in city property or business enterprises who are thinking of transferring their capital and energies to the field and sharing in the advance which seems to be assured to several of our specialties of agricultural production.

Fair fame abroad and confidence at home will be greatly brightened and strengthened by this year's experience in California, and the present generation should never allow the State and its future to be again darkened by the cloud of demagogism. Nor does there seem reason to fear a return to the darkness. The evil we have passed through was brought about in great part by the discontent of thousands who were led to our State by glowing descriptions, the deduction from which was, that California could give men something which they did not earn. We have atoned for this folly of those who claim to be our friends, and we are now starting upon a course of moderate prosperity, which is based directly upon a man's will and power to deserve it. This is the surer foundation, and California is the best place in the world to build upon it.

Of Interest to Subscribers to the "Rural Press."

The publishers of the PACIFIC RURAL PRESS are desirous that all subscribers should avail themselves of our reduced rates for cash-in-advance subscriptions. We therefore urge all who have not paid in advance to settle up arrears to date at the old rates, and then subscribe for 12, or as many months as practicable, in advance at the rate of \$3 per year. We cannot afford to issue a journal, which costs us so much outlay and effort, at \$3 per year, on trust. We presume all can see the reasons why we prefer a payment in advance, although, under existing circumstances, it does not seem for the best of all concerned that we should be arbitrary in the matter.

We aim to make the RURAL PRESS of a great deal higher value to our readers than the amount of money it costs them. The investment of \$3 from each subscriber very little more than covers the actual expense of maintaining his share of the co-operative enterprise into which we enter with our subscribers. Beyond this there is a value returned to each reader, and to the community at large, in the shape of salutary food for mind and heart. We hold it to be much more important to the general good that the reader should secure, for himself and his family, reading matter charged with incentives toward purity of thought and life than he should get the greatest amount of reading for the least money, without regard to the influences which such literature exerts. Our readers can judge how well we succeed in furnishing them a journal of pure tone, devoid of evil and struggling for the right. We trust our readers will perceive this disposition on our part and not place us upon the same plane with publishers who do not hesitate to send forward that class of matter which pays best, because it caters to evil propensities and satisfies longings which should be repressed. We feel that we have a duty to discharge in the interest of the better progress of our readers and of the community at large. Hence we place our standard high and refuse to participate in the rewards of those who serve lower aims and purposes.

We may repeat plainly, that there may be no misunderstanding, that every subscriber in arrears is invited to pay up to date at our old price of \$4 per year, and from date forward at the rate of \$3 per year. We may remark also, that we have never advertised the paper at reduced rates, in clubs or otherwise, except it be paid cash in advance.

Bags or Bulk.

The select committee of the English House of Commons, appointed to investigate matters related to Mr. Plimsoll's proposition, that all grain be hereafter ordered by law in bags and not in bulk, has just made a report, as we learn from our English agricultural exchanges. Mr. Plimsoll, it will be remembered, is given to philanthropic work in the interest of sailors, and his knowledge that ships were endangered by the shifting of the cargo when grain is shipped in bulk, led him to propose that an act of parliament should be issued against this mode of shipment. The select committee made a searching investigation, and they conclude that bagging the grain is not a panacea for the evils described, consequently they do not favor Mr. Plimsoll's proposition, the shipment of grain in bulk will not be interfered with, and the massive elevators of the Atlantic ports will not be thrown out of use. However, the committee find occasion to urge certain reforms without a radical change in systems of loading. They would make it the duty of the shipowner to use all necessary and reasonable precautions, whether prescribed by legislation or not, to prevent grain from shifting, and they would lay upon him the burden of proving, in a Board of Trade inquiry into the loss of a grain ship, that he had fulfilled his duty in this respect. In the case of vessels which cross the Atlantic and Bay of Biscay, with a third or more of their cargoes consisting of grain, the committee would make imperative certain special precautions. Subject to certain exceptions, no grain must be carried between the main and upper decks, or in the 'tween decks of vessels with only two decks. Where grain is carried in the hold or 'tween decks, no matter whether in bags or bulk, there must be a division formed by a properly secured longitudinal bulkhead, or strong, grain-tight, shifting boards from deck to deck, or from the deck to the keelson. The master should be bound to furnish to the Consuls at the ports of loading, and to the officers of customs at the ports of unloading a "manifest" of the cargo; and there should be power to inspect the stowage of the cargo in order to see whether the statements in this document are false. The committee do not take upon themselves to say that the carrying out of these and the other recommendations which they make would universally suffice. They admit the powerlessness of the legislature to foresee all the varying precautions which may be proper, and they propose to leave the shipowner who has satisfied the requirements of the statute liable to punishment if, in the opinion of a competent tribunal, he failed to do what was reasonable or necessary in the circumstances.

The announcement that the English Parliament refuses to order all grain bagged, will rather cloud the outlook of those who have hopes for a great increase in the demand for bagging materials. It is fortunate for grain-growers in the great central States that this burden is not to be placed upon them; and it is also fortunate for Pacific coast grain-growers, for such an increased demand for sacks would doubtless make them high-priced until the

manufacturers could enlarge their production. It would certainly seem to a casual observer that the movement to sack all grain was a great step backward. Whenever there is to be a change it should be in the way of lifting burdens from producers, not increasing them. Pacific coast grain-growers certainly would prefer to see a tendency toward the abolishment of bags, which cost them so much every year, than a disposition to make the affliction perpetual.

ENTOMOLOGICAL.

Grapevine Leaf-Hopper.

EDITORS PRESS:—In the last PRESS you say: "If any of our readers have experience with the insect described, we would like to hear from them." I have had experience with the insect, and a desire to benefit the afflicted induces me to give my experience to the public. I have a vineyard of about four acres. About five or six years ago the leaf-hopper became a terrible nuisance, so much so that it was a very unpleasant task to gather the grapes. The hoppers would be all over one, in eyes, ears and nostrils. The leaves of the vines turned yellow and I was really afraid that I should lose my vineyard. In my ignorance I thought that I had got something akin to phylloxera. We all loved the grapes so dearly that I could not endure the thought of losing the vineyard, and I found that "where there is a will there is a way." I went to work and pulled off all the outer bark that I could pull off with my hands. After the grapes were gathered I turned the sheep in; since that I have turned in hogs. I find that hogs are much better than sheep, as they gather up every grape that is left on the vines and among the rotting leaves. We read that "where the carcass is there will the eagles be gathered together;" and where tempting food is there will insects gather and multiply. I have now a healthy vineyard as there is in California. We have but little frost in California to destroy insects and their eggs. If we wish to be successful in raising fruit we must try and cut "off the supplies of these invaders." I would recommend this to all the afflicted. Pull off all the outer bark that can be pulled off by the hand. As soon as the grapes are gathered turn in sheep and hogs, and after that rake up all the leaves and burn them. I would recommend to all fruit growers to destroy, in the fall of the year, all the old rotting fruit and decaying leaves, and there will soon be less complaint about fruit destroyers, etc.

With the phylloxera something else will have to be done, as they feed on the tender roots of the grapevine, if I am correctly informed. I have thought of a remedy for them, which I may offer to the public after becoming a little better informed as to their habits, and withal if I can overcome a diffidence arising from the failure of thousands of much wiser men than your humble correspondent. I never saw the insect, and I never saw its work. All I know is the little that I have read in the newspapers. If I had time I would like to visit the vineyards of Sonoma and be introduced to them.—W., Visalia, Cal.

Mites on Fruit Trees.

EDITORS PRESS:—I leave on your table some sprigs of cherry containing specimens of a spider which has recently made its appearance in our vicinity (Fruit Vale). The first time I noticed it was three years ago, when a cherry began to turn a rusty brown in mid-summer, and, on nearer examination, I found that this spider was eating out the green of the leaves. Now it is over most of our 2,000 cherry trees, on some very badly. The almond trees are everywhere badly affected, and apples and plums contain specimens. I notice two kinds, one flat-backed like a crab, and another rounded with spines.—FRANKLIN RHODA, Fruit Vale, Alameda Co.

These mites are now becoming quite widely disseminated. We have had specimens, from time to time, from as far south as the Pajaro valley and northward to Oakland. The eggs cover the twigs of the almond trees in some parts of Santa Clara county so that they seem covered with a red dust. The insect is very minute and of a bright cherry red color. There is also a black insect somewhat larger. We shall send the specimens to Prof. Comstock for report upon their entomological standing. The pests could doubtless be destroyed by showering the trees with whale-oil soap suds or other alkaline solutions. A force-pump attached to a tank on wheels, something like they use in Los Angeles county for showering trees affected with scale insects, would probably be the easiest way to get at them. They make sorry work of the leaves, and they should be fought in some way.

The Fertile Winged-Phylloxera Found.

EDITORS PRESS:—As a matter of interest to many of your readers, I would state that in a lot of seven individuals of the winged phylloxera, lately received from Dr. Hyde of Santa Rosa, I find two of the fertile variety. This, unfortunately, settles the question of possible infection at a distance, in the affirmative. The fertile variety is produced in California, but in small numbers only, at least in the Sonoma valley. What might be the case in this respect, elsewhere in the State, still remains to be seen. At all events, it seems high time that some effective measures were taken to check the pest, in Sonoma, Napa and Solano, as it has been in Fresno.—E. W. HILGARD, 11

Australian Fruit for England.

The Australian colonies are still experimenting in shipping fresh fruits to the English markets. Both South Australia and Queensland are endeavoring to make a success of such a trade and all methods of packing for long shipment are received with interest. We learn from the Adelaide Observer that a good many plucky experiments have been made; some of them failing most miserably, some meeting with a slight success, and a very few turning out favorably—amongst them being a consignment of oranges and lemons by Mr. Thomas Hardy, which fruits were packed in hardwood sawdust. Another promising consignment of grapes has been made, packed in the same way by Mr. George Wilcox, but returns had not been received. A package similarly packed and retained in the colony and opened about the time the others were due abroad turned out in first-rate condition. The Royal Agricultural Society, of South Australia, has also had the matter of fruit-packing and exportation under consideration, and at the last meeting a very practical suggestion was offered that experimental shipments should be made to Sydney and New Zealand first, where there exists an opening for trade in fresh fruit, and when the best methods of packing and the most suitable medium for packing in are discovered, then the more extended voyages might be undertaken. The Queensland Agriculturalist says that the London Telegraph, referring to importation of Australian fruit in splendid order, per Lusitania, speaks of it as likely to open out a new and lucrative trade. Australian fruit-growers especially, and the colony at large have good reasons to receive this intelligence with the most unqualified satisfaction, and doubtless a great stimulus will be given to the cultivation of fruit by its influence. California will probably have earnest rivals for pomological rewards in the great nations of the South Sea.

THE PORT OF GUAYMAS.—This coming rival of San Francisco is thus described by a correspondent of the Prescott (Arizona) Miner. The port of Guaymas is situated on the eastern side of the Gulf of California (called on Spanish maps by its original name of the Gulf or Sea of Cortez). The harbor is safe at all seasons, and will accommodate vessels of all sizes; those of deepest draft lie in the outer anchorage; small coasters come in near the Custom House wharf. The population is about 5,000. * The commerce consists of the import of foreign dry goods, groceries, hardware, machinery, lumber, wine and spirits, from San Francisco and Europe, and the export of hides and treasure to San Francisco. The traffic coastwise consists principally of the export of flour to southern ports and the import of coffee, sugar, etc., from the south. The vicinity of Guaymas is sterile. Water is at present supplied by water carts, which are filled at wells on the outskirts of the town. A project is entertained of bringing a supply in pipes from the Rancho of San Jose de Guaymas, about nine miles from here, the necessary surveys and plans for which are now being made. The climate is very hot in summer, and in winter cool, without frost in the southern part of the State. The rainfall is very low on the coast, but much more abundant in the agricultural districts. Guaymas is very healthy, the death-rate being exceptionally small.

RESULTS OF INTemperance.—A shocking casualty at Oakland Sunday night, resulting in the death of three children and the serious injury of as many more grown persons, speaks more loudly than words of the awful effects of intemperance. A drunken father and mother lying in a squalid stupor while their children are burning to death, is a picture to sadden the most hardened. Two of the unfortunate children were found in the ruins. One other was taken out so badly burned that it died in a few hours, and another escaped uninjured. The mother herself was so badly burned that she has since died. Another woman in the house at the time was also fearfully burned, and had her arm broken. The man alone was unhurt. In the next house were four more children, whose father and mother were also drunk. A neighbor broke in the door, carried out the children, and then dragged out the grown persons, otherwise this family also would have been lessened in number. The spectacle after the fire was a most sickening one, and will be long remembered by those who were present. At the same time it was one which should impress upon all a sense of the horrors of intemperance. The lives of the poor, innocent children were sacrificed for a few hours' brutal insubility of the parents.

VALUE OF INDUSTRIAL EXHIBITIONS.—Our Centennial exhibition gave American manufacturers plenty of evidence of the value of such displays in extending the market for their productions. The exhibition at Sydney, New South Wales, has proved similarly useful. The display there of some street motors by the Baldwin Locomotive Works has, we are informed by the Springfield Republican, brought orders for 27, in addition to those displayed at the exhibition.

Leaf-Variation in Acacia Trees.

[Written for the RURAL PRESS by W. G. KLEE.]

Of all the families of plants, the order of *Leguminosæ* or pulse family, perhaps, stands second to none in usefulness and number of members except the *Gramineæ*. Among its vast tribes we find the most diversified forms, from the tiniest little herbs that creep along the ground to the mighty tree of the forest. Our succulent clovers give us the best fodder for our domestic animals, and peas and beans are among the strongest food for men. From the pods of the tamarinds cooling drinks in the hot countries are prepared, and from the similar fruit of carob, mesquits and screw bean we obtain in the most arid regions food for man and beast. From the indigo and campeche tree we get our dyeing materials, and, finally, from some of the acacias we receive the best of gum, tannin, as well as the hardest of woods. But, putting aside all these direct useful properties, evident to every man, this remarkable family is of special interest to the botanist.

That those readers who are little familiar with the subject of this article, the heterophyllism* of the acacia tribe, it becomes necessary to review in short some of the characters of the pulse family. In spite of its large size, this family is what might be termed a natural one—that is, its limits are pretty well defined, though divided in three suborders—the *Papilionaceæ* or pea family, the *Cæsalpiniceæ* or brisletto family, and the *Mimosæ* or acacia family. Though each has its special characters, they are all known by the fruit, which is termed a legume or a pod that is formed by one pistil which dehisces or splits in two valves. It must, however, be remarked that there exist legumes that, owing to their peculiar development, as the screw bean, the carob, etc., do not open at all. But another feature that may be said to be one of their chief characteristics is the compound leaf. A compound leaf in its strictest sense is a leaf which has two or more distinct blades, but, as later shall be explained, we may even term a leaf with one blade compound, if it is articulated or jointed to the stalk. The bipinnate, or compound leaf, with only two leaflets, is rare. It occurs in a tropical tree named *Bauhinia*, and is foreshadowed in the common red bud or *Cercis occidentalis*. The ternate or trifoliate leaf is the familiar leaf of the clover tribe, and the beans and peas have a truly pinnate leaf. In the honey locust we have it double pinnate, and in some *Mimosæ* the leaflets become so numerous that it becomes a difficult task to count them. Some leguminous plants, on the contrary, as for instance the so-called broom (*Spartium*), displays when young three foliate leaves, but later produced leaves have only one of these, and the plant becomes gradually leafless, the green stems performing their office. In various Australian plants, as for instance the *Templetonia*, a shrub with scarlet pea flowers, not uncommonly planted, there never appears more than one leaflet. In the *Parkinsonia*, a thorny shrub of southern California, we have a compound leaf which has its mid rib very much widened and the leaflets very inconspicuous, and very often drop off, seemingly, without hurting the mid ribs that remains on for a long time afterwards. I have dwelled on these, as it may perhaps seem trivial particulars, that some later idea may be better understood, and shall now pass to the direct subject of this article.

Many are familiar with the golden, blooming, fragrant acacia, planted as it is everywhere in one of its endless forms. Here it is *mollissima*, with its dark bluish foliage, or *dealbata*, covered with fine silvery bloom that, as a mighty tree, shades the house; or it is *latifolia*, with its stiff upright foliage flourishing on the poorest spot in your garden; or it is *armata*, with its little leaves and big thorns, that ought to be, if it is not, part of your hedge; or it is *verticillata*, with the sharp leaves arranged in a whorl; or it is perhaps *calamifolia* or *squamosa*, with its long needle-shaped leaves; or it is perhaps *cul-triformes*, with its triangular, bluish foliage and slender branches burdened down with golden yellow flowers; or perhaps still another of this

vast tribe. They are all acacias; their flowers and fruit (pods) tell us; but where is the compound-leaf like in *Mollissima*, and what resemblance do these sickle, needle or triangular vertically-placed leaves bear to the fine mimosa-like leaf of the former?

No doubt you have occasionally seen planted

ever, you find a peculiar development (Fig 4); the mid rib evidently has expanded and part of the leaflets have dropped off. In the one higher up (Fig. 5) there has only two remained suspended, until, finally, in Fig. 6, you have none left, and in Fig. 7 is seen the permanent leaf-form in the blooming twig. You have now seen

in *melanoxylon* when young can be seen on the old tree. The phyllodious group of acacia are almost all Australian, and add to the peculiar charm this country has to the botanist, and they were among the strange looking plants that astonished the early discoverers and caused the name of Botany Bay. In its most remarkable

able flora and fauna many naturalists have thought they found in Australia a remnant of a former period of the earth. The great botanist Sir Joseph Hooker, however, who has given the botanical part of this question a great deal of investigation, declares that he cannot find sufficient ground for the belief. But he dwells on one point that seems to speak for those views. He found by comparison that the western and eastern parts of Australia have comparatively few species in common. This is very strange, as no mountain chain separates them; but what is still more strange, western New Holland has many more genera in common with Africa than the eastern, and in the same manner the southeast has South American forms not found in the west. To meet therefore on the Isle of Bourbon, not very far from Africa (comparatively speaking) and on this side of Madagascar, with a phyllodious acacia of the peculiar Australian type, which is, as remarked, not found outside of that part of the world, is certainly very interesting; and when again we seem to find almost the same form in the Sandwich Islands, we naturally wonder

still more. There is a peculiar charm in pondering over the history of plants, hidden as it is in the dark of the past. We rejoice when finding in the grand volume of nature, pages where the letters still are plain and visible. Such a page is the *Acacia melanoxylon*, it lies open for you. Read the story which the plant relates.

You see before you the exile of another country. That world we once inhabited has almost disappeared. Where now the waves roll was once an immense continent larger than any now in existence. From India to far south in the Pacific it stretched, and from the shores of Mauritius to the Hawaiian Islands. It was the home of rich and luxuriant flora. In this immense country, dotted with large, clear lakes as those of North America, with rivers deep and swift, flourished together with beautiful tree ferns the great tribe of acacias, mingling their delicate foliage with the feathery crown of the cycades in the balmy air. In the grassy plain, now deserts of *spinifex*, there was an eternal spring. Huge kangaroos compared with which those of the present are but a weak progeny, found here abundance of food even to satisfy their enormous appetite. But alas, the genial climate of this region should not last. As the greater part of the continent gradually sank into the bosom of the sea, another was slowly raised and mountain chains were heaved up. The beds of rivers were changed and the beautiful clear lakes lost their affluents and filled with salt. They gradually became dry, and from their empty basin, heated by the tropical sun, the hot winds commenced to blow fury as from a furnace. Then our struggle commenced; death and disease thinned our ranks. The scorching wind and burning sun parched the delicate little leaves, and they fell to the ground, only the leafstalk remaining pointing heavenward for relief. It was in vain our innumerable flowers scattered broadcast their millions of seeds. The little plants brought forward their delicate little leaves, their inheritance from their fathers, all for naught. One by one they dropped. For a long time this continued until all but a few became leafless. Only my ancestors and nearest relations still battled on, until at last they also had to yield to the rigor of the climate.

But as the sea expanded and surrounded the island you now call New Holland, humid breezes brought relief to the well-nigh exhausted acacia, and they felt it. Their leaves once lost they had no power to recover, but the leaf-stalks commenced to expand each in their own peculiar fashion. Some became broad and huge, like wings; others became rounded and elongated, like a pine needle, others triangular shaped; while those who, in the hard struggle, had been forced on thorns, hardly managed

* Name of grass covering immense barren regions in the interior of Australia.

CONTINUED ON PAGE 124.



HETEROPHYLLISM OR LEAF VARIATION OF ACACIA TREES ILLUSTRATED.

in the garden or street a remarkably symmetrical acacia with straw-colored flowers and almost resembling the Monterey cypress in shape; *melanoxylon* is its name, and it is one of the most useful of its tribe. If it is a young tree, you will here receive answer to your question, in what relation the sickle-shaped vertically-

how gradually the compound leaf has developed to perfection, and how it just as gradually has emerged into a form as peculiar as that of any or all the forms I named before. Few are, however, the examples where as beautiful an illustration of the most remarkable phenomenon can be observed. In the most of the



LEAVES AND FLOWERS OF ACACIA MELANOXYLON.

placed leaves stand to the mimosa leaf. Possibly the two first leaves (Fig. 1) have dropped off. At this point all the acacias are alike. A bipinnate-compound leaf has succeeded the seed leaves; few of them ever produced more than two pairs of these. Higher up the stem you will find a more developed leaf with four divisions (Fig. 2), and still higher up you have the perfect leaf, almost like that of a mimosa or *Acacia mollissima* (Fig. 3). Close to this, how

species the *phyllodia*, as the vertical expansions are termed, succeed almost abruptly the pinnate leaf. Only two species, so far as I know, besides *melanoxylon* display this peculiarity; the one is *heterophylla*, a native of Isle of Bourbon, an African island, and *Kau*, a very close relation, almost identical with it, found on the Sandwich Islands. These two widely-separated forms bear during all their lifetime two kinds of foliage, and the change observed

*Heterophyllism from the Greek *heteros*, various; *phyllos*, leaf.

Manufacturing Industries of San Francisco.

Their Value, Number and Employees.

We give below a list of the various manufacturing industries carried on in the city of San Francisco, together with the value of the manufactured articles, and the number of hands employed. The statement has been prepared from the report of Assessor Badlam, as filed with the Board of Supervisors:

Artificial stone factories, 2; men employed, 115; value of manufactures, \$306,000.
 Axle grease, 2; men, 10; value, \$37,600.
 Barrels, 3; men and boys, 175; value, \$211,000.
 Bags, 5; men, women and boys, 207; value, \$1,903,000; number of bags made, 13,107,700.
 Bed springs, 3; men, 25; value, \$15,000.
 Bedsteads, 5; men, 200; value, \$130,000.
 Bellows, 2; men, 12; value, \$32,000.
 Bedding, 7; men, 325; value, \$780,000.
 Billiardis, 3; men, 20; value, \$23,000.
 Boot and shoes, 56; men, 2,700; value, \$1,675,000.
 Boxes (wooden), 6; men, 240; value, \$912,000; paper boxes, 5; men, 66; value, \$42,000; cigar boxes, 3; men, women and boys, 140; value, \$110,000.
 Brass foundries, 8; men, 200; value, \$510,000.
 Breweries, 33; men, 310; value, \$2,100,000.
 Brooms, 14; men, 80; value, \$150,000; handles, 2; men, 10; value, \$12,000.
 Brushes, 3; men, 30; value, \$72,000.
 Candles, 4; men, 145; value, \$490,000.
 Clothing, 12; men and women employed, 4,200; value, \$3,150,000.
 Cigar factories, 200; men, women and boys employed, 3,200; cigars made annually, 82,500,000; cigarettes made annually, 9,000,000.
 Cement pipes, 2; men, 170; value, \$350,000.
 Crackers, 4; men, 130; value, \$1,120,000.
 Chemicals, 3; men, 85; value, \$800,000.
 Carriages and wagons, 30; men, 180; value, \$330,000.
 Coffee and spice mills, 16; men, 130; value, \$1,167,000; lbs. of coffee roasted, 5,700,000; chocolate, 327,000 lbs.
 Corsets, 4; men, women and boys employed, 20; value, \$15,000.
 Coffins, 4; men, 30; value, \$110,000.
 Cordage and rope, 1; men, 110; value, \$500,000.
 Carriage springs, 1; men, 17; value, \$60,000.
 Cutlery, 2; men, 35; value, \$50,000.
 Dry docks (floating), 2; men, 15; capacity, 2,600 tons.
 Steam docks, 1; men, 6; cost, \$975,000.
 Electric works, 2; men, 40; capital, \$160,000.
 Fringe factories, 5; men and women, 52; value, \$75,000.
 Flour mills, 8; men, 75; 170,000 barrels of flour are made and 46,000 tons of meal, and 5,300 lbs. of Graham flour.
 Foundries, boiler and iron works, 15; men, 1,200; value, \$3210,000.
 Furs, 5; men, 55; value, \$270,000.
 Furniture, 18; men, 1,400; value, \$1,650,000.
 Gas works, 1; men, 400; capital stock, \$10,000,000.
 Glass works, 1; men and boys, 150; value, \$175,000.
 Glass cutting, 2; men, 18; value, \$50,000.
 Gloves, 5; men and women, 230; value, \$200,000.
 Glass, 2; men, 15; value, \$100,000.
 Gold refineries, 2; men, 50.
 Gutta percha and rubber, 1; men, 9; value, \$16,000.
 Hats, 13; men, 160; value, \$310,000.
 Hose, 5; men, 25; value, \$200,000.
 Harness, 60; men, 350; value, \$100,000.
 Ink, men, 9.
 Ice, 3; men, 350; value, \$90,000.
 Japanning and galvanizing, 2; men and boys employed, 16; value, \$21,000.
 Lead and shot, 1; men, 140; value, \$700,000.
 Lead and smelting works, 1; men, 116; value, \$760,000.
 Laths, 2; men, 10; value, \$22,000.
 Linseed, 1; men, 60; value, \$715,000.
 Macaroni and vermacelli, 6; men and boys, 33; value, \$140,000.
 Marble, 20; men, 220; value, \$550,000.
 Mat-hes, 8; men, 50; value, \$560,000.
 Malt houses, 6; men, 50; value, \$700,000.
 Mirrors, 2; men, 6; capital, \$150,000.
 Musical instruments, 2; men 16; value, \$10,000.
 Oil clothing, 4; men, 20; value, \$10,000.
 Oakum, 1; men, 20; value, \$40,000.
 Pickles and fruits, 11; men and women, 1,700; value, \$1,600,000.
 Powder works, 2; men, 62; value, \$300,000.
 Pumps, 2; men, 16; value, \$30,000.
 Rolling mills, 1; men, 310; value, \$1,104,950.
 Salt works, 3; men, 47; value, \$190,000.
 Safe and vault, 4; men, 40; value, \$60,000.
 Saws, 1; men, 30; value, \$100,000.
 Sashes, blinds and doors, 15; men, 1,400; value, \$4,800,000.
 Silverware, 3; men, 50; value, \$150,000.
 Shirts, 20; men and women, 1,000; value, \$500,000.
 Slippers, 25; men and women, 1,000; value, \$470,000.
 Soap, 21; men, 300; value, \$2,370,000.
 Sugar refineries, 2; men, 290; value, \$6,635,000.
 Tanneries, 43; men, 330; value, \$1,630,000.
 Tools, 11; men, 75; value, \$160,000.
 Type foundries, 2; men and women, 46; value, \$50,000.
 Vinegar, 2; men, 20; value, \$180,000.
 White lead factory, 1; men, 75; capital, \$250,000.
 Windmills, 2; men, 10; value, \$22,000.
 Woodenware, 1; men, 40; value, \$200,000.
 Willowware, 2; men, 8; value, \$6,000.
 Woolen mills, 1; men and women, 700; value, \$1,500,000.
 Wire rope, 1; men, 38; value, \$240,000.
 Wire works, 2; men, 40; value, \$60,000.

VALUE OF THE CARP FOR FOOD.—Some four years ago Prof. Baird engaged in the work of introducing in this country the best varieties of European food fish. A number of young carp, of the varieties known as the "leather carp" and the "minor carp," were imported, and in 1878 120 of these fish were removed to the Government carp ponds at the national capital, constructed especially for the purpose on the Washington monument reservation. The ponds cover about 12 acres, and the carp have multiplied to such an extent that it is possible now to begin the work of distributing them. The introduction and domestication of the new food fish will be of much interest and importance to all inland communities, as there is not a ditch, mill-dam or any hoggy, muddy spot which can not be converted into a pond in which they will thrive. The carps soon become tame and can be readily handled, and it is thought that in a few years they can be made as common an article of food as ducks or pigeons. Prof. Baird says that each of the female carp taken out of the pond will furnish from 250,000 to 1,000,000 of eggs, and by the artificial system of propagation, which insures the fertilization of all the eggs, 90% of them will be hatched.

INFINITESIMAL FIBERS.—The microscope shows a variation in the thickness of human hair from the 1-250th to the 1-600th part of an inch; but, notwithstanding such fineness, it is a massive cable in comparison with some other

Address of Hon. A. A. Sargent.

The oration by ex-Senator Sargent at the exercises on opening day, is so admirable that we feel we cannot do our young men a better service than to give extracts in these columns. Senator Sargent—"the trained and skilled mechanic, who rose, step by step, from the printer's case to the Senate of the United States"—is a forcible illustration of the value and dignity of labor. But the example is not necessary; for in these modern times, as the orator well shows, the world's workers occupy the posts of honor:

Past and Future Development

We pride ourselves upon the advance that we have made over the ways of our fathers. We enumerate with satisfaction the myriad articles of comfort and convenience which we enjoy that they did not have, and display our opulence in the well-filled aisles of our industrial halls, in a collection of articles the names or uses of which would have been utterly strange to them. Some fanciful poet has recalled to earth, bent upon sight-seeing, and running over with questions, one of the old Puritans who signed the first New England charter on board the *Mayflower*. Under the guidance of a new-made acquaintance, he is given successive views of the telegraph, the railroad train in motion, gas-light, friction matches, and a multitude of other modern inventions, his amazement increasing until he can endure no more, and vanishes with the declaration that the world is turned so upside down no peace is left within it. Yet the progress of the world during the last 260 years has probably not been greater than it will be during the next period of that length. Imagination cannot divine the various forms of machinery and appliances by which man's mastery over earthly things will be extended; and yet experience forbids us to doubt or limit the results. Bulwer, in his "Coming Race," has sought to give some expression to the prophetic instinct that anticipates strange developments in the future from the restless inventive faculty of man. He causes his imagined beings to navigate the air by artificial wings, with scarcely an exertion. They have power of instant and desolating destruction, by means of a lightning-like fluid called *vril*. So potent is it that wars and even discords have ceased; for a child, by its use, could destroy a city or an army, and contest is useless. Nations must repose in each other's good faith, not upon force, where so fatal an instrumentality is within reach of all. But imaginings, even in the mind of a master of fiction, are slow to discover the fields that invention will conquer in the great hereafter.

The Homes and Modes of Life of the Common People in Olden Times.

The descriptions by old authors of the hovels and modes of life of the commonality in their days cannot now be quoted lest decency be offended. Erasmus described these things with more vigor than delicacy. Holingshead, in producible phrase refers to the rude way of living of his generation. There was scarcely a chimney to the houses, even in considerable towns; the fire was kindled by the wall, and the smoke found its way out by the roof, or door, or unglazed windows; the houses were nothing but wattle plastered over with clay; the people slept on straw pallets, and had a good round log under the head for a pillow, and almost all furniture and utensils were of wood. I will not describe the rush-covered floors, where dirt was the chief and obtrusive characteristic. In view of such a picture, let him who will declaim against the progress of invention, the arts and refinement. If these are accompanied with some discontent, they certainly remove many of the reasons for it.

Labor-Saving Machinery.

I believe it is not now considered, except by a few among the more ignorant, that labor-saving machines are injurious to the working classes. It is generally known that such appliances enormously increase employment for the laborer, while enabling him to perform the work of many. Cheapness, caused by facility of production, vastly increases the market for the product, by bringing it within reach of wider circles of people. Thus human comfort is increased, while the workingman is as fully and profitably employed. The construction of the machines also develop new industries. These things are understood by the industrial classes, and few besides demagogues and the densely ignorant dispute them. The world has made a great advance since mobs destroyed Hargreave's spinning jenny, the Jacquard loom and Timoniere's sewing machine. A million persons are now employed in constructing and working machines, and find ample employment in it, where ten thousand persons found such pursuits yielding only a scanty subsistence before invention had added to human wants and resources. It would seem that no one but an enemy of his kind would wish to turn the world back to the rude implements and processes of our ancestors.

Honor to the Laborer.

The tendency of modern civilization is to honor the inventive worker, and to bestow upon him the praise heretofore reserved for the successful warrior. Nations and monarchs have vied with each other in assembling such at their capitals, and in bestowing high award for excellence in mechanic arts.

Former Oppressions and Contempt for Labor.

This recognition of the dignity and value of labor is entirely modern. Not many ages ago the artisan was a serf, or, if nominally free, the prey of great and petty tyrants. It is a long stride in England from the condition of Gurth, horn thrall of Cedric the Saxon, to the modern barber ennobled by the king for his inventions. There is as great a step between the expulsion of the Huguenot artisans from France and the giving, by republic and empire alike, of medals and ribbons to such workers, and glorifying them as the strength of nations. The extent and importance of the successive immigrations to England, caused by the blind cruelty of the ruling powers of the continent, are well set out in Lecky's recent admirable history of England in the eighteenth century. When the news of the intended entry of the Duke of Alva into the Netherlands was known, more than 100,000 persons in a few days abandoned their country. Great numbers of them took refuge in England, and they were followed in 1572 by a crowd of French Huguenots, who had escaped from St. Bartholemew, and in 1585, on the occasion of the sacking of Antwerp, by about the third part of the merchants and workmen of that city. A century later the revocation of the edict of Nantes produced a new immigration of French protestants variously estimated at from 50,000 to 100,000. Several thousand Germans, chiefly from the Palatinate, went over in 1709; many others in 1732, after the persecutions in Salzburg; and toward the middle of the century a renewal of persecution in France was followed by a fresh French immigration. In this manner the commercial classes in England were at length thoroughly pervaded by a foreign element. Spitalfields was almost wholly inhabited by French silk manufacturers. A colony of French protestants settled in Edinburgh, where they introduced the manufacture of cambric. Forms of industry before entirely unknown in England were introduced there. Cloth makers from Antwerp and Bruges, lace makers from Valenciennes, cambric makers from Cambray, glass makers from Paris, stuff weavers from Meaux, potters from Delft, shipwrights from Havre and Dieppe, silk manufacturers from Lyons and Tours, paper makers from Bordeaux and Auvergne, woolen manufacturers from Sedan and tanners from Touraine, were all plying their industries in England. The manufacturers of silk, damask, velvet, cambric and baize, of the finer kinds of cloth and paper, of pendulum clocks, mathematical instruments, felt hats, toys, crystal and plate glass, all owe their origin in England wholly or chiefly to Protestant refugees, who also laid the foundation of scientific gardening, introduced numerous flowers and vegetables that had before been unknown, and improved almost every industry that was indigenous to the soil. What England thus so largely gained was lost by France and the Netherlands. In the former country the arts were nearly stamped out, and the primal causes of the revolution were set in motion. It is true that these artisans were not expelled from France because they were such, but notwithstanding that fact, they were coldly received in England, and occasionally mobbed, from the insular prejudice of the population. The age was not wise enough to appreciate the value of the worker.

The Toiler in the U. S.

In this land the laborer and artisan have least reason to be discontented with their lot. While the fluctuations of business may affect them, as they do all other classes, the laws and customs of society are such as to give to them every protection, facility and deserved honor and reward. He is certainly not a friend to the toiler who seeks to overthrow the institutions here enjoyed, or destroy the conditions which secure to the possessor either inherited or earned wealth. I know such projects are not the product of American soil, and are not in harmony with our traditions. They interfere with the rights of laborers, they threaten the public peace, and tend to inaugurate a reign of mob violence and misrule. Unless checked, such ideas may lead to serious misfortunes, and to none greater than to the class whose name is profaned as the agent and proposed beneficiary.

The Doctrine of Agrarianism.

The doctrine that property is robbery is false, and its practical enforcement would paralyze enterprise and destroy every vestige of national and individual prosperity. It would alike deprive the artisan of the product of his labor and the capitalist of the proceeds of his investment. Barbarism would be invited to reign where civilization now rules. Wealth and honors are an ever-alluring reward held out to successful workers. Deprived of such incentives, society would become stagnant. Agrarianism may find an account in substituting for the daily earnings of the world a distribution of past accumulations; but these would soon be devoured, and the impoverished multitude resume its labors or perish. Meantime the hand on the dial of progress would have been put back a dozen generations. That state of society is best which respects equally the interests of those who have and of those who would acquire, which holds in just equilibrium the rights of capital and labor.

Cheap Labor Means Squalid Living.

I am far from believing that the best has yet been said and done to reconcile the interests of these two great elements. It is possible that the future may develop a co-operative system by which the wages of the laborer shall be an

assured part of the profits of capital, in those enterprises of capital where profit is the object. As at present developed, the objection seems to be that labor cannot wait for good seasons, while capital can, and may starve in those times of depression when no profits are made. However this may be, and however the enlightenment and humanity of the future may solve the great problems of social and industrial life, one thing is clear to my mind—that is, that it is not to the interest of society to cheapen labor. Cheap labor means squalid living, limited education, degradation and want. The laborer is worthy of such hire as shall enable him to maintain the self-respect and decency of an American citizen. Any circumstance depriving him of this, whether the presence of slavery, the influx of Mongolians, or foreign competition in home markets, should awaken the solicitude of statesmen and lead to remedial measures commensurate with the evil.

Address at the Opening of the Mechanics' Fair.

The opening address of the Fifteenth Industrial Exhibition of the Mechanics' Institute, was delivered by Mr. Cornwall, President of the Institute. It was well received by the large and appreciative audience. The following are portions of the address:

Custom has served to make it necessary for the President of the Mechanics' Institute to deliver a brief inaugural address at the opening of each industrial exhibition held under the auspices of the Institute. We have met here to-day to conduct the preliminary exercises incident to the opening of our fifteenth exhibition at the Pavilion on Eighth, Market and Mission streets. The first meeting of the mechanics of San Francisco for the purpose of organizing the association now known as the Mechanics' Institute, was held at the office of the Tax Collector in the City Hall, on the evening of the 11th day of December, 1854. G. K. Gluyas presided. The committee appointed for the purpose reported on the 6th day of March, 1855, a constitution, which was adopted; and on the 29th day of March, 1855, a permanent organization was effected, with Benjamin Haywood as President. On the 24th day of April, 1855, the proper certificate was filed in the office of the County Clerk, by which the Institute became a body corporate under the laws of the State. At the end of the first year of the existence of the Institute, March 5, 1856, there had been expended \$1,106.86, and a balance of \$21.49 remained in the treasury. Two hundred and eighty-two members were enrolled, but only 92 had paid their quarterly dues. The library consisted of 437 volumes. During the succeeding 10 years the Institute struggled on bravely, occasionally holding a fair, with varying success, but always making valuable additions to its library. From 1866 to the present time the Institute has steadily increased the size and improved the character of the library, and in other ways enlarged its ability to do good. At this time it is possessed of unincumbered property valued at about \$257,000, with no indebtedness except about \$3,000 unpaid taxes.

The library contains 29,000 volumes, of which 14,000 compose our reference library, which is undoubtedly the most complete and valuable collection of scientific works on this coast. It is but just for me to say here, that for this remarkable progress, and for the successful establishment of the Institute on a firm and secure basis, San Francisco is more indebted to the intelligent and unselfish labors of Andrew S. Hallidie, who was its President and leading spirit for many years, than any other person.

Among the things now in contemplation by the patrons and friends of the Institute to increase its usefulness, is the establishment of an apprentices' department, where regular and frequent meetings of apprentices may be had for the purpose of investigation and debate upon mechanical and other subjects, and the institution of a system of lectures and classes for technical education, where skilled workmen and learned teachers may explain the methods by which the hard things of life are made easy, the confused clear and the doubtful certain. By these and kindred means, the increasing thousands of idle youth growing up in this city, many of whom, because of idleness, are drifting into vicious ways, may be diverted into channels of intelligent mechanical industry, and grow into useful and respected citizens, with happy homes, thus adding to the aggregate wealth and prosperity of the country. It has been said by some who object to this course, that there is no room for more mechanical labor here, that the market is over-stocked; and that we cannot successfully compete with mechanical products shipped from the eastern side of the continent, because labor there is cheaper. I have sometimes thought that the difficulty lay more in the indifferent way in which many of our manufactories are conducted, and in the absence of those close and systematic economies, which are essential to success in all manufacturing enterprises; and I have observed, that in most instances where by patient, intelligent labor and skill, the highest excellence has been achieved by the San Francisco mechanic, he has driven out of the market the kindred wares of Eastern or foreign product. It is true that, owing to our comparatively isolated position, the mechanics of San Francisco have heretofore been practically limited to California, Oregon and Nevada for a market

in which to compete for the sale of their products, but by the building of the Southern Pacific railroad into Arizona the field has been greatly enlarged, and the proposed extension of the Southern Pacific and connecting roads into and through Mexico will soon open up a vast and productive field for enterprise, into which the industrious mechanics and resolute manufacturers of San Francisco can send their machines and wares for successful competition and sale, if they are so made and finished as to do credit to their craft.

AMERICAN VS. ENGLISH MECHANICS.—An English manufacturer traveling in America for the purpose of inspecting various industrial establishments, recently wrote: "I spent some hours recently at the Cleveland rolling mills. They have a wire mill attached for drawing nothing but Bessemer steel wire, of which they turn out 75 tons per day, and have one room with 1,000 small blocks, each man tending 32 blocks, whereas in England we consider a man that runs eight blocks of steel is a wonder. So much for your country. I saw it with my own eyes, and was never more astonished."

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

CRANGERS' BANK
Of California,
SAN FRANCISCO, CAL.
Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.
Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY, President
JOHN LEWELLING, Vice-President
ALBERT MONTPELLIER, Cashier and Manager
FRANK McMULLEN, Secretary

DIRECTORS:

G. W. COLBY, President
JOHN LEWELLING, Vice-President
J. V. WEBSTER, Alameda Co.
URIAH WOOD, San Benito Co.
J. C. MERYFIELD, Solano Co.
THOMAS McCONNELL, Sacramento Co.
I. C. STEELE, San Mateo Co.
SOLOMON JEWETT, Kern Co.
C. J. CRESSEY, Stanislaus Co.
SENECA EWER, Napa Co.
A. D. LOGAN, Colusa Co.

The Bank was opened on the first of August, 1874, for the transaction of general Banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,
Cashier and Manager
San Francisco, Oct. 15th, 1879.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 100. Game Authors 15c. Lyman & Co. Clintonville, Ct.
Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

Educational.

W. E. CHAMBERLAIN, JR.

THOS. A. ROBINSON



Life Scholarships, \$70.
SEND FOR CIRCULAR.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,
Washington Corners, Alameda Co.

KINDERGARTEN SCHOOL.

717 Turk St., S. F.

Children Boarded at Reasonable Terms.

MRS. H. SEMLER,
Principal.

MME. ZEITSKA'S

FRENCH, GERMAN AND ENGLISH

INSTITUTE FOR YOUNG LADIES.

Number of Boarding Pupils Limited.

For Circulars address MME. B. ZEITSKA,
922 Post St., San Francisco.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,
302 Montgomery St., rooms 1 and 2, San Francisco.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,
AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address

BOERICKE & TAFEL,
Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,
Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

Rent paid two and a quarter years buys one.

MASON
AND
HAMLIN
ORGANS
BEST CABINET OR PARLOR ORGANS
IN THE WORLD; winners of highest
distinction at EVERY WORLD'S FAIR FOR 13
YEARS. Prices, \$51, \$57, \$66, \$54, \$108, to
\$500 and upward. Also for easy pay-
ments, \$5 a month or \$6.38 a quarter
and upward. Catalogues free. MASON
& HAMLIN ORGAN CO., 154 Tremont
St., Boston; 46 East 14th St. (Union
Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

SUNNY SIDE APIARY.

Pure Italian Queens and Bees, tested and untested. Young Queens ready April 1st. Also, Wintered-over Queens. Purity and safety guaranteed. Comb foundation, smokers, knives, bee-books, etc. Sample Premium Hive. Address with stamp.

JOS. D. ENAS,
Sunny Side, Napa Co., Cal.

Stock Notices.

E. W. WOOLSEY & SON,
Importers and Breeders of THOROUGHERED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminent required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY
CALVES FOR SALE.

From First-Class

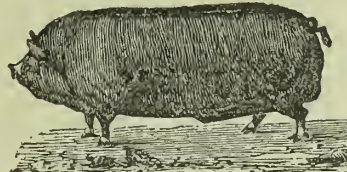
AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00
Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

FOR SALE.

THOROUGHBRED

POLAND CHINA SWINE

Of all ages, from 6 weeks to 3 years of age.

Being desirous of closing out my stock of SWINE, I will sell for the next 10 days Choice breeding Stock of any age desired, at low figures. Also a few trios of

Black Cochins Chickens,

Three to four months old at \$5 per Trio.

T. C. STARR,
San Bernardino, Cal.

August 9, 1880.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

300 Choice Rams
FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,
Stockton, Cal.

B. K. BLISS & SONS
HAND BOOK.
A COMPLETE GUIDE FOR
THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

Lands for Sale and to Let.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N., R. 6 W., M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 20th, 1880.

FARMING LAND

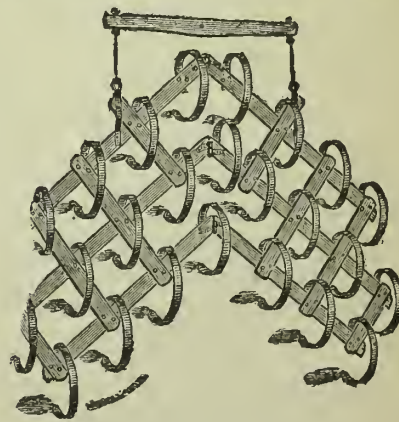
For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,
202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,
Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

VICTORY



THE CALIFORNIA
Spring Tooth Harrow
AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING to PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO.,
900 & 902 K St., Sacramento.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

Leaf-Variation in Acacia Trees.

[CONTINUED FROM PAGE 121.]

to produce foliage enough to hide them.

But in our hard battle we lost forever our original leaves, and we are only permitted to bear them in infancy. In the second year we have to cast them away, and it seems almost like a dream that we ever had them, so that we scarcely realize it. Our many relations (some 220) have already forgotten that they once lived in the loveliest country on earth, and they do not know what those few leaves they bring forth in childhood mean; and you, wise men, if it were not for us, you would be as ignorant as they are. The land that saw our struggles and hardships, where we found refuge, is becoming the home of another race. Assisted by man they gain a foothold, until their deadly shade deprives us of the life-giving sun. We must have bright, strong sunlight. In bright California we have still found another home. In the rocky hills and barren sand we prepare the place for others, until in due time here also we shall be driven out.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

HEATING FURNACE.—John L. Trefren, Santa Cruz, Cal. Patented August 3, 1880. No. 230,837. This invention relates to certain improvements in air-heating furnaces, such as are used for furnishing heat to churches, halls or private dwellings. The fire-box, or box stove, is made of corrugated iron castings, which gives it a great heat-generating power, and it is inclosed in a heating chamber; outside of this chamber is another chamber, and outside of this again are the outer or inclosing walls, forming another chamber. Each of these chambers opens into a central one above. When only one or two rooms are to be heated, the supply of air to the outer chamber is cut off, and it then answers as a sort of jacket to the central chamber and prevents radiation of heat. A heater constructed in this manner is very economical in fuel, and a comparatively short time only is required to generate heat.

SHEEP SHEARS.—David E. McKee, Potter Valley, Mendocino county, Cal. Patented August 3, 1880. No. 230,712. This invention consists in interposing between the hinged handles a supplemental hand-lever hinged to one side of the handle, and having a swinging link or arm hinged to the other side of the handle, a spring being provided to throw the hinged handles open. What is known as the "hand-hold" is not so wide as when both sides of the handle have to be grasped, and the work of using the shears is materially reduced.

STREET CAR.—Walter N. Hawley, S. F. Patented Aug. 3, 1880. No. 230,774. This car consists of three longitudinal compartments, the outer ones of which may be sub-divided into as many sub-compartments as may be desired by transverse partitions, while the central compartment forms a narrow continuous passage from end to end of the car. The side compartments are closed in and provided with windows, and each side compartment can have a central door-opening for ingress and egress.

PICTURE-HOOK.—John T. Haveland, S. F. Patented August 3, 1880. No. 230,701. This invention relates to certain improvements in that class of devices known as "picture-hooks" or "hangers," and it consists in the combination with a curved plate, hook or hanger, on a roller or pulley, over which the supporting-cord passes, and which, by turning freely upon its axis, allows the picture to be adjusted to hang freely.

BET SUGAR PRODUCT.—The continent of Europe now produces from beets more than one-fourth of all the sugar of all kinds made in all parts of the world. France makes 451,000 tons; Germany, 290,000; Austria, 205,000; Russia, 150,000; Belgium, 80,000; Holland and Sweden, 35,000—in all, 1,211,000 tons. France has about 500 sugar factories, and about as many distilleries for beet spirits and for beet sugar molasses. In this country capitalists are awakening to the importance of this branch of manufacture, and already immense establishments have been organized in some of the Eastern States. The prairies of the West afford the finest field for the cheap production of the beet.

We call the special attention of sheep raisers to the card of Mr. Eugene Avey, of 320 Sansome St., which appears in another column. He is a well-known wholesale dealer in sheep and lambs, and also sells wool on commission, on which he makes liberal advances. Mr. Avey is one of our pioneers, both in the sheep and wool line, having been engaged in the business in this State for over 25 years. We have no doubt that any business entrusted to him will be promptly and carefully attended to.

In the Paris Postoffice recently was found, in a panel adjacent to the letter box, a letter which had been posted 50 years ago, and which found the person to whom it was addressed still alive.

The Percheron Horse.

The following is a complete translation of pages seven and eight of a work entitled "The Percheron Horse," by the distinguished French author, Charles Du Huijs, in his report to the French government:

"Almost everything that has been written about the horse may be reduced pretty much to—complaining that there does not exist a breed which unites in an elevated degree high moral to physical qualities, and to modestly seeking and teaching the means of obtaining such a breed.

"It is reasonable that such sentiments should surprise us here, in the heart of France, where, for a long time, a race of horses has flourished which may be said to fill the requirements proposed, in every way. The proof of this statement is easy: a hasty sketch of the principal characteristics of the breed suffices to furnish it. To no ordinary strength, to vigor which does not degenerate, and to a conformation which does not exclude elegance, it joins docility, mildness, patience, honesty, great kindness, excellent health and a hardy, elastic temperament. Its movements are quick, spirited and light. It exhibits great endurance, both when hard-worked and when forced to maintain for a long time any of its natural gaits; and it possesses the inestimable quality of moving fast with heavy loads. It is particularly valuable for its astonishing precocity, and produces by its work, as a two-year old, more than the cost of its feed and keep. Indeed it loves and shows a real aptness for labor, which is the lot of all. It knows neither the whims of bad humor nor nervous excitement. It bears for man, the companion of its labors, an innate confidence, and expresses to him a gentle familiarity, the fruits of an education for many generations in the midst of his family. Women and children from whose hands it is fed, can approach it without fear. In a word, if I may dare to speak thus, it is an honorable race. It has that fine oriental gray coat, the best adapted of all to withstand the burning rays of the sun in the midst of the fields—a coat which pleases the eye, and which, in the darkness of the night, allowed the position of former times to see that he was not alone—that his friend was making his way loyally before him. It is exempt (a cause of everlasting jealousy among the breeders of other races), always exempt from the hereditary bony defects of the hock; and where it is raised, spavins, jardon, bone-spavin, periodical inflammation and other dreaded infirmities are not known even by name.

"This truly typical race would seem a myth did it not exist in our midst. But every day we see, every day we handle this treasure—the munificent gift of Providence to this favored region, to cause agriculture, that nursing mother, to flourish, and with agriculture peace and abundance.

"I need not name this breed. Every one from this incomplete sketch has recognized the fine race of steady and laborious horses bred in the ancient province of Perche (so justly entitled "Perche of good horses"), plowing in long furrows the soil of Beauce, and thence spreading itself over all France, where its qualities render it without a rival for all the specialties of rapid draft. Hence it is that all our provinces envy us the possession of the race, and even foreign countries seek after it with an eagerness amounting to a passion."

INCUBATOR AT THE FAIR.—The Eclipse Incubator is being exhibited in actual operation at the Mechanics' fair by the agent, G. G. Wickson. He has a very attractive arrangement for showing the numerous chicks which are now hatching out. There are two pretty pens, each inclosing an artificial mother, one of them being covered with a miniature tent of gay colored canvas, through openings in the sides of which the chirping orphans run back and forth, much to the amusement of beholders. Two incubators are employed, and the hatching is timed so as to bring out a succession of chicks, ducklings, etc., during the fair. The exhibit naturally attracts much attention.

CABBAGE TEST-PAPER.—A useful test-paper may be made by boiling a pound of the leaves of red cabbage in one pint of water for some time, and then straining the blue liquor through muslin. Evaporate to about half its bulk; place layers of white blotting-paper in the liquid, and then hang them up to dry. Acids change the blue color of the paper to red, and alkalis turn it green. This is a very good substitute for litmus paper.

INSURANCE ITEMS.—We have received a copy of *Insurance Items*, a monthly sheet prepared for the use and information of the agents of the Fireman's Fund Insurance Co., of California. It is a bright little journal full of good sense on the subject of insurance and well calculated to entertain as well as instruct.

MEMPHIS, Tenn., has lost 8,000 in population in ten years, and is the only city in the Union that has decreased, although some cities have remained almost stationary.

LINDSAY MUSS has been messenger at the office of the Secretary of the Navy for more than half a century, having been appointed under John Quincy Adams, July 15th, 1823.

Highland Springs.

A brief visit to this popular health resort impressed the writer favorably for several reasons. The springs are favorably situated in one of the healthiest hill and tableland districts in Lake county. It is completely encompassed by little hills and by valleys, with grand mountains in distant view. Morning and evening rides, really charming, are to be had in the vicinity. The hotel and cottages look commodious and comfortable, with shady groves attached. A large number of bath rooms are arranged along the ravine handy by, supplied with natural tepid water flowing down from springs on the hillside. Several of these springs are recorded as having produced remarkable cures of different disorders, according to their variable qualities. The Soda spring, nearly in front of the hotel, pleased our taste best. It holds its taste and properties well when bottled. It is quite palatable and refreshing. Properly placed for sale in the San Francisco market, it might well be expected to rapidly gain popular favor. The springs have been comparatively well patronized, and with the advent of flush times we believe, with the proprietor, that he will again number his patrons by the hundred. The altitude of the place is 1,700 ft. above the sea. Its distance 16 miles from the railroad at Cloverdale. The road hence affords a picturesque ride via the Blue lakes. Uncle Sam has just established his Highland P. O. here. It is four miles from Kelseyville and seven miles from Lakeport, the county seat. Distance to Soda Bay on Clear lake, eight miles. S. D. Shartzer and Mrs. J. C. Goods are the owners and present occupants of the place. They own a large and valuable farm surrounding the springs.

A CLEVER CONTRIVANCE.—Last year a clever musical contrivance was exhibited in the Sea Beach Palace at Coney Island, N. Y. (which was at that time described in the *Evening Mail*), which consisted of a number of reeds, producing different notes, on the mouths of which stout paper, perforated in such a manner as to produce various airs, was passed, the wind being driven through the pipes by a bellows, and both the bellows and the rolling and unrolling of the strips of perforated paper being worked by a single pedal. This idea has recently been adapted to the needs of perambulating musicians in London, the instrument being carried on a light truck, and the whole affair worked by a single crank, like a hand-organ.

EXTRAORDINARY MILEAGE.—Mr. Watkey, master of machinery of the New York Central and Hudson River railroad, reports that locomotive No. 569, running between Syracuse and Buffalo, with two crews of men, made in 10½ successive months the extraordinary amount of 95,052 miles.

At Odessa, three weeks ago, were married two mites of creatures, the man being 30 years old and weighing 19 pounds, and the woman 22 and 13 pounds in weight.

Quinine and Arsenic

Form the basis of many of the *Ague Remedies* in the market, and are the last resort of physicians and people who know no better medicine to employ for this distressing complaint. The effects of either of these drugs are destructive to the system, producing headache, intestinal disorders, vertigo, dizziness, ringing in the ears, and depression of the constitutional health. *AYER'S AGUE CURE* is a vegetable discovery, containing neither quinine, arsenic, nor any deleterious ingredient, and is an infallible and rapid cure for every form of Fever and Ague. Its effects are permanent and certain, and no injury can result from its use. Besides being a positive cure for Fever and ague in all its forms, it is also a superior remedy for Liver Complaints. It is an excellent tonic and preventive, as well as cure, of all complaints peculiar to malarious, marshy and miasmatic districts. By direct action on the liver and biliary apparatus, it stimulates the system to a vigorous, healthy condition.

FOR SALE BY ALL DRUGGERS

FRESH attractions are constantly added to *Woodward's Gardens*, among which is Prof. Gruber's great educator, the *Zoögraphon*. Each department increases daily, and the Pavilion performance is more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the *PACIFIC RURAL PRESS*, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading note at Stockton. Prices moderate. JAS. CAVEN, Prop'r.

J. G. COLMERN is requested to report to this office from Humboldt Co.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

PAY IN ADVANCE and get the *RURAL PRESS* for \$3 a year.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Aug. 18, 1880.

Barley seems to be enjoying about all the life there is in the grain trade, and prices seem to be working hard to escape from their low level. Very small advance has, however, been gained thus far. The chief trouble with Wheat seems to be the large amount there promises to be of it in nearly all producing regions. The Report of the Commissioner of Agriculture at Washington, just received by telegraph, announces that the general crop of the U. S. is to that of last year as 98 is to 97. This, of course, means a large surplus for export, and though the telegram below tells of disasters to the English crop, there promises to be fully enough to fill all possible lacks.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice
	Cal. Wheat
Thursday.....	9s 9d to 10s 2d
Friday.....	9s 9d to 10s 2d
Saturday.....	9s 9d to 10s 2d
Monday.....	9s 9d to 10s 2d
Tuesday.....	9s 9d to 10s 2d
Wednesday.....	9s 9d to 10s 2d

The Foreign Review.

LONDON, Aug. 18.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: The general fine weather has been of the utmost value, but Wheat has been greatly damaged by mildew. Most of the samples are below expectations. Barley, which will be the heaviest crop of the season, has likewise deteriorated in color and quality by the wet weather of July, all good Barley having been more or less laid. Reports about Oats are more favorable. Root crops have improved. A large part of the later Hay crop was got in during the past week, and will be about the only portion of the crop of 1880 which has been made in good condition. A continuance of fine weather is the one thing needful to enable farmers to make the best of what must be a deficient harvest, at any rate for Wheat. The probable early deliveries of new English Wheat and heavy shipments from America, have restricted trade at Mark Lane and the provincial markets during the week. Some indication of future values may be shown this week, but it will be some days before the arrival of the new crop will be sufficient to furnish reliable grounds upon which to form an opinion. Taking everything into consideration, there is little hope for the farmers of high prices the coming season, as harvest prospects in Northern Europe are far more promising than last year, while America has probably eclipsed all previous yields. Business has been confined to the supply of immediate wants, of which the millers obtain on rather easier terms. Maize is unaltered. In Oats a fair business was done, at a slight reduction in prices. Sales of English Wheat last week were 13,902 quarters at 44s 4d per quarter, against 18,594 quarters at 49s 6d per quarter, during the corresponding week last year. Imports into the United Kingdom, during the week ending Aug. 7th, were 172,020 cwt of Wheat, and 237,122 cwt of Flour.

New York Dried Fruit Markets.

NEW YORK, Aug. 14.—Foreign Fruits continue quiet. Valencia Raisins are quoted at 3½¢; prime Layers, 3½¢; 2.05. Prunes are very dull; old, 3½¢; new, 6¢. Currants are more active and higher; new, 5½¢. Dried Apples are dull and weak, and there are no new offerings.

Eastern Grain and Provision Markets.

NEW YORK, Aug. 14.—Business in the Merchandise markets is gradually increasing, though the season is not yet sufficiently far advanced to impart to the markets the degree of animation looked for at a later period. Prices, as a rule, are firm, and there are but few or no indications of speculative advances. Breadstuffs rule moderately active at very irregular prices, but on the whole the tendency has been downward, owing to favorable crop reports from almost every quarter. Provisions are active, and prices are very steady.

CHICAGO, Aug. 14.—The grain market has been quiet during the greater part of the week, and the flurry in Corn for two or three days, caused by well authenticated reports of drought in the great Corn growing belt of Illinois and Kansas, has served to stir up the dormant element on "Change" to an unusual degree. Wheat and Oats sympathized fully with the extraordinary advance in Corn, which amounts to about 3½ cents per bushel. There was a reaction of 1 cent at the close. Provisions, under the skilled control of the largest operator on "Change," remain strong, and the tendency, especially for Pork, is continually upward. The Directors of the Board of Trade to-day fixed \$14.50 as the Price at which sellers of Mess Pork could call the margins of buyers of September contracts. This has no very practical bearing on Mr. Armour's corner in Pork, and it will probably proceed. Sales for the week were: Wheat, September, 86¢@89¢; Corn, 35¢@36¢; Oats, 22¢@25¢; Corn, \$15.80@16.95; Lard, \$7.30@7.35. The closing cash prices of Wheat were: 89½¢@89½¢; Corn, 37½¢@37½¢; Oats, 25¢; Rye, 69¢; Barley, 75¢; Pork, \$16½@17½; Lard, \$7.70.

Eastern Wool Markets.

NEW YORK, Aug. 14.—Wool remains quiet; sales of 80,000 lbs of California, private.

BOSTON, Aug. 14.—The Wool market is very quiet. Though prices show no material change, the tendency is downward. Stocks are increasing, and most holders are free sellers at current rates. Manufacturers are indifferent about purchasing, evidently waiting to see the market show more life before operating freely. The total sales are largely decreased, as compared with those of last week. For washed fleeces, the tendency of prices is decidedly in favor of buyers, and at the close the demand for Combing and Delaine fleeces was active, and full prices were obtained for this description. California Wool there is very little inquiry for. Medium unwashed Wools are in moderate request. Pulled Wools are dull, and prices have settled down. There is no movement of any importance in foreign Wool. Sales include Ohio, Pennsylvania and West Virginia fleeces, XXX and medium at 45¢@48¢; Michigan X and medium, 40¢@45¢; medium Wisconsin, 40¢; Coarse No. 2 fleeces, 37¢; combed and delaine fleeces, 45¢@51¢; Kentucky combed, 38¢; fine unwashed combed and delaine, 37¢@38¢; coarse Missouri combed, 32¢; New Valley Oregon, 33¢; Texas, 21¢@38¢; Territory, 25¢@30¢; Indiana unwashed medium, 35¢; unwashed and unmerchantable fleeces, 26½¢@35¢; Spring California, 26¢@37¢; Fall do, 19¢@24¢; scoured, 47¢@48¢; tub washed, 40¢@49¢; super and X pulled, 40¢@60¢; Australian and New Zealand, 45¢@48¢; Montevideo, 38¢. The total sales for the week were 1,271,200 lbs, of which 1,026,800 lbs were domestic.

BAGS.—The combination price is still 11¢ for locally-made and 11½¢ for Calcutta. At auction Tuesday, 100 bales were put up, and 10 sold at \$9.90 @ 100, and the rest were then withdrawn.

BARLEY.—There has been active trade during the week, large lots being taken for export. Prices are firm, and a slight advance has been gained. We note sales: 6,500 sacks choice Feed, for export, 85¢; 3,900 do do, for export, private rates; and 800 do dark old Coast do at 74½¢ @ ctl.

BEANS—There is no change.

DAIRY PRODUCE—The advance gained last week has been maintained. Sales have proceeded regularly, and there is nothing new to-day. Cheese is reported as not above 14c by some dealers, but fancy-brand Cheese is selling at 15c, or is being held at that.

EGGS—Eggs have advanced 2½¢ doz. There are still large lots of foreign Eggs arriving, which prevent a sharp advance, which would probably occur in fresh Californias if the market was not otherwise supplied.

FEED—Ordinary grades of Hay take a little lower range this week. Bran and Corn Meal are 50c lower on the ton.

FRESH MEAT—Lamb has advanced ½¢ for the choicest. Live Hogs are cheaper, 5¢ 5½¢ lb being the range to-day. Other Meats are unchanged.

FRUIT—There has been much fluctuation during the week. Apples are much reduced and dull. Apricots are also very low. Grapes are cheaper than a week ago, but are selling better than on Monday. Peaches have taken the same course, except that the advance to-day has brought them above last week's rates. Pears are much cheaper, but Plums and Prunes are higher than at the last of the week. Blackberries are abundant and lower; Raspberries have done better, and Strawberries are scarce. Limes are much higher, the market being supplied with Mexicans.

HOPS—There have been a few small lots of new Hops sold at 32¢ 35¢, but they are no criterion of the ruling prices. By next week something more significant in the trade may be expected.

OATS—Oats are quiet and unchanged.

ONIONS—Both Red and White Onions are lower this week. Reds do not go above 87½¢ cwt, and Silverskins have but one price to-day, viz., \$1 cwt.

POTATOES—Potatoes have taken a turn upward, the best Early Rose having reached 80¢ cwt.

PROVISIONS—There is an active trade in Cured Meats. California medium Bacon is higher, and some Eastern has been advanced to 16¢ lb.

POULTRY—Fowls are doing a little better than last week. Young Turkey Gobblers sometimes sell at 10¢ lb, but there are few arriving.

VEGETABLES—Our list shows quite a number of changes in current values, but there is nothing notable in the trade.

WHEAT—There does not seem to be much appetite for Wheat on the part of shippers, and the trade amounts to but little this week. Most of the trade is by the millers, who are a little more liberal in their views than the shippers. We note sales: 1,600 sbs gilt-edged new Milling at \$1.55, an extreme figure; 50 tons do, \$1.50; 350 sbs fair do, \$1.45; 500 do smutty, \$1.25; 250 do superfine, \$1.20; and 70 tons do, \$1.10 cwt.

WOOL—The market is dull and prices are for the most part nominal. Receivers say that large lots cannot be disposed of except at concessions. Our list shows a few slight changes in Northern Californian and Oregon Wools.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., August 18, 1880.	
Apples, basket, 50 @ 75	Pitted, 15 @ 17
do, box, 50 @ 125	Prunes, 12½ @ 13
Apricots, box, 25 @ 50	Raisins, Cal, bx, 1 @ 150
Bananas, bx, 25 @ 40	do, Halves, 175 @ 200
Blackberries, chst, 25 @ 30	do, Quarters, 200 @ 225
Cherry Plums, bx, 30 @ 40	do, Eighths, 225 @ 250
Citrons, Cal, 100 @ 100	do, 100 @ 100
Cocoanuts, 100, 700 @ 800	do, Halves, 225 @ 250
Crab Apples, bx, 1 @ 50	do, Quarters, 250 @ 275
Figs, black, bx, 100 @ 125	do, Eighths, 275 @ 300
Grapes, 50 @ 75	

VEGETABLES.

Asparagus, bx, 75 @ 100	Beets, cwt, 10 @ 100
Broad Beans, 10 @ 125	do, String, 14 @ 24
do, Stockton, 10 @ 125	do, Alameda, 10 @ 125
do, Lima green, 3 @ 4	do, Fountain, 2 @ 25
do, Wax, 10 @ 125	
Cabbage, 100 lbs, 5 @ 50	Cantaloupes, crt 1 25 @ 150
Carrots, 100, 100 @ 100	do, 100 @ 100
Cauliflower, doz, 5 @ 75	do, 10 @ 100
Chile Peppers, sk, 40 @ 50	do, Bell, 40 @ 50
Cucumbers, box, 50 @ 60	Egg Plants, bx, 50 @ 60
Garlic, New, lb, 4 @ 5	Green Corn, doz, 5 @ 10
Green Peas, lb, 3 @ 3	Lettuce, doz, 10 @ 10
Mushrooms, lb, 1 @ 1	Parsnips, lb, 1 @ 1
Rhubarb, bx, 50 @ 60	Squash, Marrow, 10 @ 125
do, 10 @ 125	do, Summer, box, 10 @ 25
Tomato, box, 75 @ 85	do, Vacaville, 20 @ 25
do, Sacramento, 40 @ 40	do, Stockton, 35 @ 40
Turnips, cwt, 50 @ 60	Watermelons, 800 @ 1250

DRIED FRUIT.

Apples, sliced, lb, 7 @ 8	Apricots, 17 @ 20
Blackberries, 23 @ 24	Citron, 9 @ 10
Dates, 9 @ 10	Figs, pressed, 7 @ 8
do, loose, 4 @ 6	Peaches, 18 @ 20
do, pared, 9 @ 10	Pears, sliced, 9 @ 11
do, peeled, 9 @ 11	

LUMBER.

WEDNESDAY M., August 18, 1880.	
CARGO PRICES OF REDWOOD.	RETAIL PRICE.
Rough, M., 14	Pickets, Rough, 15 00
Surface, 24 00	do, Fancy, 22 50
Rustic, 24 00	do, No. 2, 18 00
do, No. 2, 18 00	do, No. 2, 18 00
Flooring, 24 00	Surface & Long Beaded, 30 00
do, No. 2, 17 00	Flooring, 25 00
Beaded Flooring, 28 00	do, No. 2, 17 00
Refuse, 20 00	Rustic, No. 1, 25 00
Half-inch Siding, 16 00	Battens, lineal ft, 2 00
Half-inch Surfacing, 24 00	Shingles, M., 2 00
Refuse, 18 00	
Half-inch Battens, 16 00	RETAIL PRICE.
Pickets, Rough, 11 00	Rough, M., 18 00
Rough, Pointed, 12 50	Fencing, 18 00
Fancy, Pointed, 18 00	Laths, 3 50
Shingles, 1 75	

RETAIL GROCERIES, ETC.

WEDNESDAY M., August 18, 1880.	
Butter, California, 25 @ 45	Chico, 8 @ 12
Chico, 25 @ 45	Yeast Pwdr, doz, 1 50 @ 2 00
Cheese, 25 @ 45	Cand. Orangers, doz, 0 @ 50
do, Eastern, 25 @ 45	Syrup, S. F. Gold, 75 @ 102
Lard, California, 18 @ 20	Dried Apples, lb, 10 @ 14
do, Eastern, 20 @ 25	Ger. Prunes, 12½ @ 14
Flour, ex. fam, bbls, 0 @ 00	Figs, Cal, 9 @ 15
Corn Meal, lb, 2 @ 3	Peaches, 11 @ 10
Sugar, wh. crsld, 12½ @ 13½	Oils, Kerosene, 50 @ 60
Light Brown, 8 @ 9	Wines, Old Port, 3 50 @ 50
Coffee, Green, 23 @ 35	French Claret, 1 00 @ 2 50
Tea, Fine Black, 50 @ 100	Cal, doz bot, 3 00 @ 4 50
Finest Japan, 55 @ 100	Whisky, O. K, gal, 3 50 @ 5 00
Candles, Adm'te, 15 @ 25	French Brandy, 4 00 @ 8 00
Soap Cal, 7 @ 10	

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., August 18, 1880.	
BEANS & PEAS.	ONIONS.
Bayo, cwt, 95 @ 105	Filberts, 17 @ 18
Butter, 10 @ 15	Red, 75 @ 87½
Castor, 25 @ 30	Silver Skin, 21 @ 00
Pea, 25 @ 35	
Red, 95 @ 105	POTATOES.
Pink, 95 @ 105	Petaluma, cwt, 1 @ 1
Small White, 100 @ 110	Tomatoes, 1 @ 1
Lima, 50 @ 60	Humboldt, 1 @ 1
Field Peas, blk eye, 25 @ 50	Kidney, 1 @ 1
do, green, 10 @ 25	Peacbblow, 1 @ 1
	Cuffey Cove, 1 @ 1
	Early Rose, new, 75 @ 80
	Half M'n Bay, new, 40 @ 50
	Alvarado, red, 1 @ 1
	Sweet, lb, 17 @ 2
	POULTRY & GAME.
	Hens, doz, 5 50 @ 7 00
	Roosters, 5 50 @ 7 00
	Broilers, 3 50 @ 4 50
	Ducks, tame, doz, 4 00 @ 5 00
	Mallard, 1 @ 1
	Sprig, 1 @ 1
	Teal, 1 @ 1
	Wild, 1 @ 1
	Geese, pair, 2 00 @ 2 25
	Wild Gray, doz, 1 @ 1
	White do, 1 @ 1
	Turkeys, 16 @ 19
	do, Dressed, 17 @ 18
	Snipe, Eng, 1 @ 1
	do, Common, 1 @ 1
	Quail, doz, 1 @ 1
	Rabbits, 100 @ 1 25
	Hare, 175 @ 2 00
	Venison, 7 @ 10

FEED.	PROVISIONS.
Bran, ton, 12 @ 00	Cal. Bacon, extra, 11 @ 11½
Corn Meal, 25 @ 00	clear, lb, 11½ @ 12
Hay, 9 00 @ 14 00	Medium, 12 @ 12½
Middlings, 17 @ 00	Light, 12 @ 12½
Oil Cake Meal, 30 @ 00	Lard, 10 @ 11½
Straw, bale, 40 @ 50	Cal. Smoked Beef, 12 @ 12½
	Shoulders, 8 @ 8½
	Hams, Cal, 12 @ 12½
	Dupe's, 15 @ 15½
	Reliable, 15½ @ 16½
	Whitaker, 15 @ 16
	Royal, 15½ @ 16½
	Palmetto, 1 @ 1
	H. Ames & Co., 1 @ 1
	Armour, 1 @ 1

FLOUR.	SEEDS.
Extra, City Mills, 50 @ 25	Alfalfa, 10 @ 12
do, Country Mills, 50 @ 25	do, Chile, 4 @ 6
do, Oregon, 50 @ 25	Canary, 5 @ 6
do, Walla Walla, 50 @ 25	Clover, Red, 14 @ 15
Superfine, 300 @ 400	White, 50 @ 55
	Cotton, 20 @ 20
	Flaxseed, 24 @ 3
	Hemp, 3 @ 10
	Italian Rye Grass, 30 @ 1
	Perennial, 30 @ 1
	Millet, German, 10 @ 12
	do, Common, 7 @ 10
	Mustard, White, 3 @ 5
	Brown, 14 @ 2
	Rape, 3 @ 8
	Ky Blue Grass, 20 @ 25
	2d quality, 16 @ 25
	Sweet V, 20 @ 25
	Orchard, 20 @ 25
	Red Top, 15 @ 15
	Hungarian, 8 @ 10
	Lawn, 30 @ 50
	Mesquit, 10 @ 12
	Timothy, 10 @ 10

GRAIN, ETC.	WOL. ETC.
Barley, feed, cwt, 75 @ 55	Crude, lb, 5½ @ 5½
do, Brewing, 85 @ 95	Refined, 7½ @ 7½
Chevalier, 40 @ 50	
do, Coast, 100 @ 35	
Buckwheat, 300 @ 400	
Corn, White, 12½ @ 32	
Yellow, 12½ @ 32	
Small Round, 12½ @ 32	
Oats, 20 @ 50	
Milling, 55 @ 60	
Rye, 12½ @ 37	
Wheat, No. 1, 47½ @ 52½	
do, No. 2, 40 @ 45	
do, No. 3, 1 @ 1	
Choice Milling, 1 @ 15	

HIDES.	WOL. ETC.
Hides, dry, 18½ @ 19	
Wet salted, 10 @ 10½	

HONEY, ETC.	WOL. ETC.
Beeswax, lb, 22 @ 25	
Honey in comb, 12 @ 13	
do, No. 2, 1 @ 1	
Dark, 7 @ 7½	
Extracted, 7 @ 7½	

WOL. ETC.	WOL. ETC.
Oregon, 25 @ 30	
California, new, 35 @ 42½	
Wash. Ter., 25 @ 30	
Old Hops, 6 @ 10	
NUTS—Jobbing.	
Walnuts, Cal., 12 @ 15	
do, Chile, 8 @ 10	
Almonds, hbl, lb, 8 @ 10	
Soft sh, 16 @ 18	
Pecans, 14 @ 15	
Peanuts, 16 @ 17	
do, free, 20 @ 23	

LEATHER.

(WHOLESALE.)

WEDNESDAY M., August 18, 1880.	
Sole Leather, heavy, lb, 30 @ 32	
Light, 25 @ 25	
Jodot, 8 to 10 Kil, doz, 36 @ 46 00	
11 to 13 Kil, 50 @ 55 00	
14 to 16 Kil, 50 @ 55 00	
Second Choice, 11 to 16 Kil, 50 @ 55 00	
Simon Ulmo, Females, 12 to 13 Kil, 52 @ 55 00	
14 to 15 Kil, 50 @ 55 00	
16 to 17 Kil, 50 @ 55 00	
Simon, 18 Kil, 50 @ 55 00	
20 Kil, 50 @ 55 00	
24 Kil, 50 @ 55 00	
Kips, French, lb, 1 00 @ 1 37½	
Cal. doz, 1 00 @ 1 37½	
French Sheep, all colors, 12 @ 15 00	
Eastern Calf for Backs, lb, 1 00 @ 1 25	
Sheep Roans for Topping, all colors, doz, 9 00 @ 10 00	
For Linings, 6 50 @ 10 00	
Cal. Russet Sheep Linings, 3 00 @ 5 50	
Boot Legs, French Calf, pair, 4 50 @ 5 50	
Good French Calf, 4 75 @ 5 25	
Best Jodot Calf, 4 75 @ 5 25	
Leather, Harness, lb, 35 @ 40	
Fair Bridle, doz, 45 @ 66 00	
Skirting, lb, 33 @ 37	
Welt, doz, 30 @ 36 00	
Buff, ft, 17 @ 20	
Wax Side, 19 @ 20	

BAGS AND BAGGING.

(JOBBER PRICES.)

WEDNESDAY M., August 18, 1880.	
Eng Standard Wheat, 11 @ 11½	45 inch, 9½ @ 10
California Manufacture, 40 inch, 9 @ 9½	
Hand Sewed, 22x36, 11 @ 11½	Wool Sacks, 47½ @ 50
22x40, 12 @ 12½	4 lb do, 52½ @ 55
23x40, 13 @ 13½	Machine Sewed, 50 @ 50
24x40, 14 @ 14½	Standard Gunnies, 1 @ 14
Machine Sewed, 22x36, 10 @ 11	Reed Baks, 7 @ 7½
Flour Sacks, halves, 8 @ 10	Twine, Detrick's A., 35 @ 35
Quarters, 5 @ 5	" A. A., 37 @ 37
Eighths, 3 @ 4	" Lonesdale, Ex., 40 @ 40
Hessian, 60 inch, 14 @ 14	Stand, 36 @ 36

Signal Service Meteorological Report.

SAN FRANCISCO.—Week ending August 17, 1880.

HIGHEST AND LOWEST BAROMETER.						
Aug. 11	Aug. 12	Aug. 13	Aug. 14	Aug. 15	Aug. 16	Aug. 17
29.897	29.974	29.971	29.917	29.800	29.795	29.895
29.820	29.895	29.913	29.800	29.668	29.683	29.795
MAXIMUM AND MINIMUM THERMOMETER.						
63	61	64	64	73	64	62.5
53	53	53	54	55	53	54
MEAN DAILY HUMIDITY.						
80	83.3	80.7	81	72.7	83.7	82.7
PREVAILING WIND.						
SW	SW	W	W	SW	W	W
317	320	209	298	222	364	316
STATE OF WEATHER.						
Clear.	Fair.	Fair.	Fair.	Clear.	Clear.	Clear.
RAINFALL IN TWENTY-FOUR HOURS.						
Total rain during the season, from July 1, 1880, in.						

Commission Merchants.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

PAGE, MOORE & CO.,

WOOL AND GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Traders' National Bank, N. Y.; Eli Wanger & Barry, Rochester, N. Y.; C. W. Reed, Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, FELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

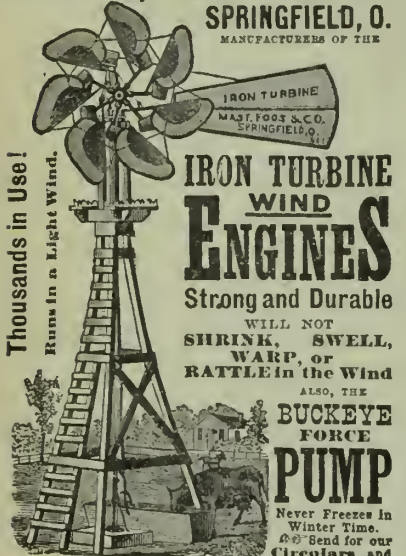
Wool and all Kinds of Live Stock.

405 & 407 Montgomery

A NEW SCHOOL SONG BOOK!
JUST OUT.
SONG BELLS!
A New, Complete and Most Attractive.
Collection of School Songs,
By L. O. EMERSON.
Send 30 Cents for Specimen Copy.

BOOKS FOR SCHOOLS, SINGING SCHOOLS, CHOIRS,
AND GOSPEL TEMPERANCE MEETINGS.
Welcome Chorus (\$1.00). For High Schools.
Song Bells (50 cts). For Common Schools.
White Robes (30 cts). For Sunday Schools.
Temple (\$1). For Choirs and Singing Schools.
Voice of Worship (\$1). Choirs and Singing Schools.
Johnson's Method for Singing Classes (60 cts)
For Singing Schools.
Temperance Jewels (35 cts). Gospel Temp. work.
Temperance Light (12 cts). " " "
OLIVER DITSON & CO., BOSTON.
C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.
SPRINGFIELD, O.
MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES
Strong and Durable
WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind
ALSO, THE **BUCKEYE FORCE PUMP**
Never Freezes in Winter Time.
Send for our Circulars and Price List.

To D. E. GOLDSMITH,
General Agent for the Pacific Coast.
425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN
IMPROVED GALVNZED IRON, PORTA-
BLE COMBINED
FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfac-
torily. It is a perfect Drier, and as a Baker has no su-
perior. It is simple in construction. A child 12 years old
can run it as successfully as an adult. It is Fire-proof.
It is economical, requiring but little fuel. It has the ap-
proval and hearty endorsement of nearly all the leading
fruit and agricultural journals of the country, and the
god-speed of all who have used or seen it operate.
PRICES—\$47 50, \$63, \$130.

Over 12,000 Now in Use!!!
Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

OIL PORTRAITS.
— The Best —
At Lussier & Hill's New Studio,
No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

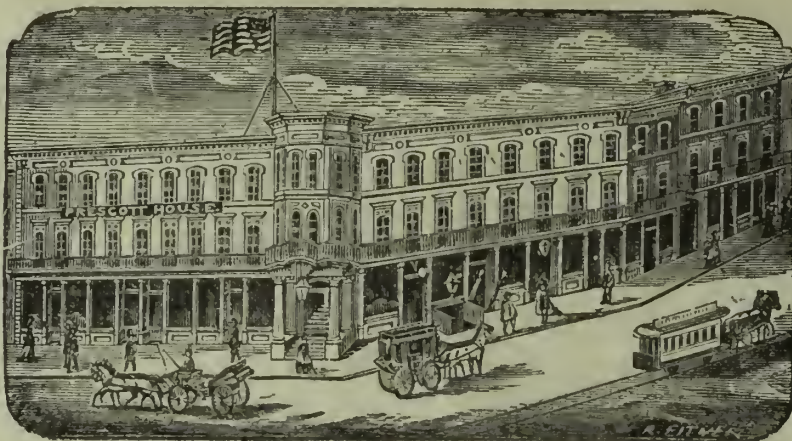
Portraits in Oil at all prices from \$15 to \$1,000, to suit
the customer. Satisfaction guaranteed in all cases.
P. S.—Special attention is called to our Portraits from
Photographs of deceased persons.
Come in and see our work, everybody.
San Francisco, Cal.



Calvert's Carbolic
SHEEP WASH,
\$2 per Gallon.
After dipping the Sheep, is use-
ful for preserving wet hides, de-
stroying the vine pest, and for
wheat dressings and disinfecting
purposes, etc. T. W. JACKSON,
S. F., Sole Agent for Pacific Coast.

SADDLES, HARNESS, WHIPS, LEATHER,
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer
in All Goods in this line.
Send for Catalogue

Prescott House.



S. W. Corrier Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the
Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and
all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America.
AMMUNITION of all kinds in quantities to suit.

In consequence of spurious imitations of
LEA AND PERRINS' SAUCE,
which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.
Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throu-
hout the World.

To be obtained of CROSS & CO., San Francisco.

RECORD OF SUPERIORITY.

1878—AWARDED		1879—AWARDED	
J. H. STROBRIDGE, First Premiums:		J. H. STROBRIDGE, First Premiums:	
Pen 5—Breeding Ewes.....	\$22.50	Pen 5—Breeding Ewes.....	\$22.50
Pen 5—Yearling Ewes.....	22.50	Pen 5—Yearling Ewes.....	22.50
Pen 5—Ewe Lambs.....	22.50	Pen 5—Ewe Lambs.....	22.50
Pen 3—Ram Lambs.....	22.50	Two-year-old Ram.....	22.50
Yearling Ram (1st and 2d).....	38.50	Yearling Ram.....	22.50
Two-year-old Ram.....	22.50	Ram and five Lambs.....	30.00
Ram and five of his Lambs.....	30.00	Pen of 3 Ram Lambs.....	22.50
Sweepstakes:		Sweepstakes:	
For best Ram of any age or breed, and five of his Lambs.....		For best Ram and five of his Lambs, of any age or breed.....	
75.00		75.00	

THOROUGHbred SPANISH MERINO SHEEP.
We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda, Co., Cal. E. W. PEET, Agent.

SEEDS.

ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.
POP CORN.
115, 117 and 119 Kinzie Street. CHICAGO, ILLINOIS.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)

50 New Style Cards. Lithographed in bright colors, 10c.
60 Ag's Samples 10c. Conn. Card Co. Northford, Ct.



The Excelsior Animal Trap
Is Guaranteed to be the Best
GOPHER TRAP
Ever invented. The Gopher
raises the light trigger with
his head or dirt without the
least alarm. Ask your dealer
for it. Agents wanted. Sent
by mail for \$1. By express,
C. O. D., for \$9 per doz. Ad-
dress, G. W. JOLLY, Paraiso
Springs, Cal. Pat. apd for

AND NOT WEAR OUT.
SOLD by Watchmakers. By mail, 30 cts. Circulars
FREE. J. S. BIRCH & CO., 38 Dey St., N.Y.

50 Perfumed Snowflakes, Chromo, Motto Cards, name in
gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

DEWEY & CO'S
SCIENTIFIC PRESS
Patent Agency.



PATENTS obtained promptly; Caveats filed expeditiously
Patent re-issues taken out; Assignments made and re-
corded in legal form; Copies of Patents and Assignments
procured; Examinations of Patents made here and at
Washington; Examinations made of Assignments re-
corded in Washington; Examinations ordered and re-
ported by Telegraph; Rejected cases taken up and Pat-
ents obtained; Interferences Prosecuted; Opinions re-
ndered regarding the validity of Patents and Assign-
ments; Every legitimate branch of Patent Soliciting
Business promptly and thoroughly conducted.
Our intimate knowledge of the various inventions of this
coast, and long practice in patent business, enable us to
abundantly satisfy our patrons, and our success and
business are constantly increasing.
The ablest and most experienced inventors are found
among our most steadfast friends and patrons, who fully
appreciate our advantages in bringing valuable inven-
tions to the notice of the public through the columns of
our widely circulated, first-class journals—thereby faci-
litating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.
Office—202 Sansome St., N. E. Cor. Pine, S. F.
A. T. DEWY. W. B. DEWY. G. H. STROGO.

M. W. DUNHAM
Just Imported 36 Head
FOR HIS OAKLAWN STUD OF
Percheron-Norman Horses.
ANOTHER IMPORTATION
Arrived April. 1, 1880.



Largest and Most Complete Establishment
of the Kind in the World.
More than 200 Stallions and Mares
Imported from Best Stud Stables of France.
Winners of First Prizes in Europe and America, awarded
First Prizes and Gold Medals at the Universal Exposition
at Paris, 1878, over all. First Prizes and Grand Medals at
Centennial Exhibition, 1876.
The public appreciation of its merits is indicated by the
great demand for stock from every part of the country.
During the past twelve months, the provinces of New
Brunswick, Canada, and the States of New York, Penn-
sylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin,
Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana,
Colorado, Nevada, California and Oregon, and Utah,
Washington and Idaho Territories have drawn supplies
from its Stables.
100-page Catalogue—finest thing of the kind ever issued;
25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,
Wayne, DuPage County, Illinois.
B. B.—All Imported and Pure Native
Bred Animals Recorded in Percheron-Nor-
man Stud Book.

MONEY TO LOAN.
In sums of \$2,000 and upwards on Good, Productive
Farms at fair rate of interest. Money also advanced on
Wheats. Apply to **A. SCHULLER,**
209 Sansome St., S. F.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc.
15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

Agricultural Articles.

W.H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.

Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.

Also TOP DRAPEL for Header Spout. This Draper prevents the wind from blowing the straw away and wasting wheat. No reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.

WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned in a run in babbitted boxes.

Positively self regulating with no collaring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over crude knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

HAY PRESSES.

GOVE'S PATENT

Centennial and Eagle Improved Presses,

For Farmer's use. Capacity, 10 to 15 tons per day. Combining strength and durability. Easily moved. Will be sold low for the cash

Price, \$175.

For Circulars or Orders address JOHN H. GOVE,
Eureka Warehouse, Box 1,122, or of DAVID N. HAW-
LEY, 201 and 203 Market St., cor Main, S. F.

TRADE



MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

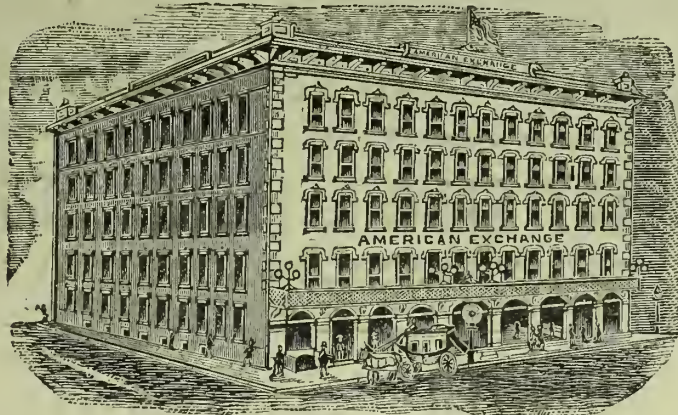
50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

RICKARD & DURDEN'S

Anti-Scale Compound.

FOR THE PREVENTION AND REMOVAL OF

INCRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having demonstrated the value of this invention, and its applicability to different qualities of waters, we now offer it to Engineers and Steam Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

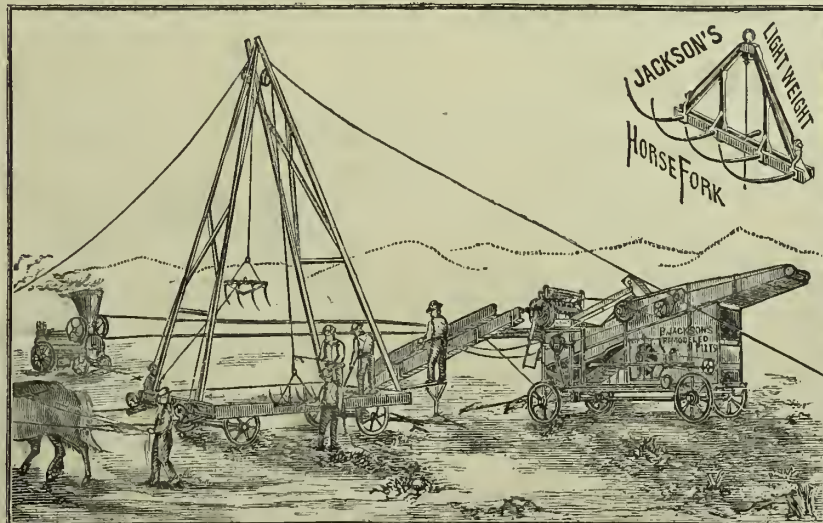
BERRY & PLACE MACHINERY CO.

323 & 325 Market Street, - - - San Francisco.

JACKSON'S AGRICULTURAL MACHINE WORKS,

Established at Woodland, 1872, moved to San Francisco, 1879.

HARVESTING MACHINERY A SPECIALTY.



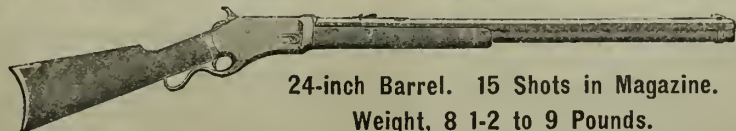
BAILEY'S PATENT SPREADER, for Elevators or Feeders, spreads the grain more evenly than men will. Absolutely preventing large bunches from going into the cylinder, thereby saving labor, grain, damage to the machinery and increasing its capacity. Sold on trial. Price, \$60.

Manufacture WINDMILLS at popular prices. They are noiseless, anti-friction, SELF-REGULATING, durable and ornamental, have less number of parts and greater power than any other mill. Be sure and see it before purchasing else where

THE JACKSON LIGHT-WEIGHT FORK excels any Fork yet invented for either headings or hay. The heavy Forks were thrown away in the field last season because of the superior strength and lightness of the Light-weight. Orders solicited for Foundry Castings, Pattern Work and all kinds of Machinery. Special attention to the Headley Straw Burner and Engine Governor.

Buy and sell second-hand Threshers and Engines. See them before purchasing new. Prices and terms to suit the customer. Address BYRON JACKSON, 6th and Bluxome Sts., San Francisco.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

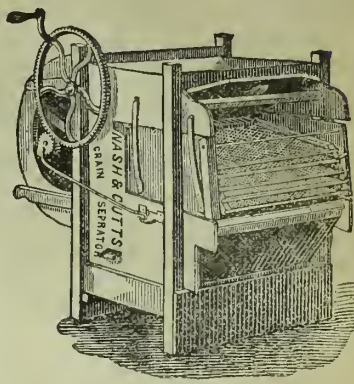
416 Market St., San Francisco.

STILL AHEAD!

Trade

Mark.

"The Improved
Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly. Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is also successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

44 We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with holly Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

\$1,000 REWARD

FOR ANY WASHING MACHINE that will wash cleaner, quicker, with less labor and wear and tear of clothes, than the ROBBINS FAMILY WASHER AND BLEACHER, patented October 3, 1871. No rubbing required. It is the best in the world, and cannot get out of order. GOOD AGENTS WANTED, BOTH MALE AND FEMALE. Send for descriptive circulars and testimonials. Price, \$4 00, delivered at SAN FRANCISCO, SACRAMENTO, MARYSVILLE or SAN JOSE.

BISSELL MANUFACTURING CO.,
50 Barclay St., New York.

DO

NOT FAIL to send for our Price List for 1880, FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,800 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St. - SAN FRANCISCO.

HOPE FOR THE DEAF

Garmore's Artificial Ear Drums

PERFECTLY RESTORE THE HEARING and perform the work of the Natural Drum. Always in position, but invisible to others. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular.

Address JOHN GARMORE & CO.,

8 W. Corner 6th & Race Sts., Cincinnati, O.

The New Beekeepers' Text Book.

By A. J. KINA. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct



Volume XX.]

SAN FRANCISCO, SATURDAY, AUGUST 28, 1880.

Number 9

Steam Digging in England.

Is the turning plow doomed? Is the power required to turn and overturn the soil a useless waste of force? Shall it be found after all that the soil is right side up? There are certainly experiments in progress which indicate that possibly there may be a revision of judgment and a change in practice in preparing the soil for the seed. At all events the results thus far obtained are interesting to consider. In our "Agricultural Notes" last week we had a paragraph from a Santa Rosa exchange to the effect that Dr. Simms was gaining fine crops with his new style of non-turning plows about which we had an interesting controversy last year. We hope ere long the doctor will give us a detailed account of his season's experience.

A different style of cultivation, but similar in the fact that it aims to pulverize without overturning, is now being tried on a large scale in England, as a substitute for steam plowing. It is styled a digger and is composed of a number of short spading forks propelled by steam which thoroughly pulverizes the soil. More than 30 years ago an English writer published a pamphlet on the art of cultivation in which he set forth that the true style of cultivation was that of the mole, or as would be even a more forcible simile to Californians, that of the gopher, which with the action of its claws rasps the packed soil and makes the mold as fine as the most diligent cultivator could desire. It is said that the steam digger approaches nearer to the idea of claw culture than any machine which has yet been produced. It was awarded a medal at the late meeting of the Royal Agricultural Society at Carlisle, and the figures of the society's consulting engineer show that this style of digging is done with less power than the turning of the modern plow. The record of the test proved that digging 6 in. deep at the rate of nearly one acre and a quarter per hour was accomplished with an expenditure of 28 indicated horsepower; of which 16 horse-power was requisite for propelling the machine, so that only 12 horse-power was actually required for the cultivation. A most interesting comparison was then affected, by trying how much power one of Fowler's four-furrowed steam plows required to do the same work, and it was found that, in tilling 6 in. deep at the rate of one acre and a quarter per hour, the plow required 44½ horse-power when turning the soil, and 18½ horse-power when drawn forward without working, so that 26½ horse-power was requisite in absolute tillage. No more conclusive evidence could surely be afforded that takes far less power to rasp or cut the earth direct as in diggings than to cut and turn over according to the action of the common plow. This, too, is only what might reasonably be supposed by everybody capable of reasoning on the matter. By the plow action, the soil, after being forcibly sliced off, is lifted and overturned, and if it can be better tilled without this lifting, there must be a gain in mechanical force.

Of course the attainment of the desirable results reported from England depends upon the use of steam appliances, which are not within reach of the ordinary farmer and not adaptable to use in all locations. But if there is so much gained in power by the new style of working the soil, why cannot the system be adapted to animal power and thus brought within reach of all? The idea is commended to the attention of our progressive inventors.

AGRICULTURAL INVESTIGATORS.—We have been overlooked this summer by two Frenchmen sent to examine our agricultural systems and resources, and now an English investigator is among us taking notes. The *Chico Record* says: "John Clay, Jr., Royal Commissioner of Agriculture, appointed by the British government to examine the agricultural interests of the United States, arrived from St. Johns yesterday afternoon, and is now a guest of Gen. Bidwell. This distinguished foreigner expressed his great astonishment at the wholesale manner in which farming is done in this section of the country."

In Ireland the crop prospects are good, and the demand for laborers is brisk.

The Crab Grass of the South.

Those of our readers who came hither from the Southern States will probably recognize the grass shown in the engraving on this page. It is variously known as "crab grass," "crop grass" and "finger grass," its botanical name being *Panicum sanguinale*. It is said to be a native of Europe, but naturalized in this country long ago, and thought by some to be indigenous. It flourishes in the north to some extent, and is

missioner of agriculture, in his valuable report on the cereals, grasses and forage plants of that State, gives a high character to crab grass. He says: "It is a fine pasture grass; although it has but few base leaves and forms no sward, yet it sends out numerous stems, branching freely at the base. It serves a most useful purpose in stock husbandry, and northern farmers would congratulate themselves if they had fields of it to sustain their animals when clover fields and meadows are parched up with summer heat. It makes a sweet food and horses are exceed-



CRAB GRASS—*Panicum Sanguinale*

regarded chiefly as a weed, coming in as it does on land cultivated in hoed crops, and occasioning much labor to eradicate it. At the South, however, it is pronounced one of the most valuable grasses. It is an annual, but a very free seeder, and therefore clings to the soil quite persistently. It endures the fiercest summer heat, and remains green when other grasses are parched by drouth. This habit entitles the grass to trial in this State, for if proved to be adapted to prolonging our pasture season farther into the dry season, it would be a boon to the dairyman. Prof. Killebrew, Tennessee com-

ing fond of it, leaving the best hay to eat it up." The persistence of crab grass is notable. In the southern corn fields it comes up rankly among the stalks. A South Carolina farmer alludes to it as "a familiar enemy and friend. For three months everything is under whip and spur to keep it down, and then when you have an idea that your fodder is going to be short, you are hunting around in your stubble and rich spots to see if you cannot save a little crab grass hay." We are not aware that this grass has been tried on this coast. If it has we trust our readers will report results.

New York Anti-Tramp Law.

The tramp evil in this State is now considerably reduced by the numbers of men, sometimes prone to roam, who are now busily employed in the grain fields. And yet there is a certain number of the genuine tramp genus who go about begging and stealing, and refusing to work, although many farmers are short-handed and need their help. In the winter in this State there is, of course, a percentage of deserving and willing men among the tramping brigade; but at this time of the year every man who has strength and disposition, can find plenty to do in almost any farming neighborhood. Nor is opportunity to labor at other seasons of the year nearly so small as some claim. There is a growing demand for men during the growing as well as the harvesting season, and men who will be reasonable in requirements need not go idle.

As the time for the return of the tramp evil will come ere long, and as there will also be a group of law makers in session at Sacramento, there will, doubtless, be new acts proposed to reduce the burden of the peripatetics. We notice that there has just gone into effect in New York State an anti-tramp law, which is certainly vigorous, and will be likely to drive the nomads from the highways of the Empire State. This new law provides that "Every tramp, upon conviction as such, shall be punished by imprisonment at hard labor in the nearest penitentiary for not more than six months, the expense during such imprisonment not to exceed one dollar per week per capita, to be paid by the State." This, certainly, does not mean very high board for tramps. One dollar a week would, however, procure what might be called a corrective diet.

By this New York law we have a definition of what the term tramp really means, and as the word is new, an authoritative definition is valuable: "All persons who rove about from place to place begging, and all vagrants living without labor or visible means of support who stroll over the country without lawful occasion, shall be held to be tramps within the meaning to this act."

The New York law has a kindly eye upon the thousands of defenseless housewives who have been frightened within an inch of their lives by burly heggars coming into their kitchens and ordering their dinners provided. The law prescribes that entering habitations against the command of the owner or occupant, threatening personal injury, or in fact threatening or committing any mischief which does not amount to criminal offense under other laws shall, in the case of a tramp, be considered a felony, and the tramp shall be punished with confinement at hard labor for not more than three years. Any person resident in the county is empowered to arrest a tramp and take him before a justice of the peace for trial.

The law provides that no blind person nor any youth under 16 years of age, can be considered a tramp. It also provides that any one may tramp as much as he likes within the county in which he resides. The new law is ordered posted conspicuously along the public highways of the State. It is quite probable that tramps will be scarce, and farmers' kitchens free from invasion in New York State so long as this law is in force.

HYDRA-HEADED WHEAT.—In several parts of the State we hear of wheat growers having heads of wheat "in which several small ears grow out from the core of the main ear." Such wheat is interesting, but there is nothing new about it. In the University collection of wheat grown from European seed, there are several varieties which have such a habit of growth.

RECIPROCITY WITH OREGON.—Oregon producers of eggs, apples, onions, etc., persist in worrying our growers of these articles by shipments which cause low prices in our markets. There is, however, a turn-about in affairs, for we ship Oregon much produce of different kinds, and Portland is now almost wholly supplied with California butter.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Colusa County Notes.

EDITORS PRESS:—Now that the heading season is over, one can draw a long restful breath, take a walk to the top of the hill, view the surrounding country and note the prospect. Our perch is one that commands a view of the northern part of the county, in the vicinity of the thriving towns of Willows, Germantown, Orland, and near the river, Princeton, Jacinto, etc. As far as the power of vision extends the whole country is covered with immense stacks of grain, which fade away in the dim distance, lost in the mirage, and the "mists of the valley." The damage done to the grain crop by the disastrous north wind was very serious on some kinds of land, but among the hills the loss is not so great. Had the yield of wheat been as great as its early promise indicated, the land would literally have groaned under the burden of wheat. As it is now it is to be hoped that farmers will be able to get their grain all boused before the first rains, though judging from the few threshers now employed and the amount of work to be done, it will be very late in the season before this can be accomplished.

The long summer has nearly passed away, and though the rays of old Sol have come down mercilessly on the unprotected roof of our habitation, we have not felt the intense heat we expected in this treeless region. Grateful breezes from the south have, at times, brought us refreshing coolness. Under the influence of its gentle power we try to forget the days when the north wind blew "great guns," and the shingles rattled on the roof of the house, and the air was filled with dust and gravel and small pebbles. Let us forget, we say, and, indeed, we have found it a good thing all through our life to try to forget unpleasant things, yet from the frequent need, we are inclined to think the habit has a tendency to dwarf the memory.

One interesting peculiarity of this part of the county I must note, though the peculiarity, I believe, is not confined to this section. For the first time in my life I have become intimately acquainted with the little but powerful pestiferous insect known as the "black gnat," and for a small thing I do think it is the mightiest nuisance that was ever made. They are immensely small for the damage they can do; black and small and insignificant-looking, yet a few of them can put a drove of horses to rout. They recognize and put into force the mighty law of co-operation; and had *gnat force* been employed against the Union army at Richmond, the result of the siege might have been different and the history of the country different. Grant might not have been victor, nor President; might not have traveled all over the world and been courted, flattered and finally "boomed." We say "might have," for, knowing so well their effective power, we could not doubt the result, were the force only used. But when it comes to expressing our disgust for the black gnat, what shall we say of the thing, whether "bird or fiend," that attacks us in the solemn stillness of the night? It comes with wings outspread, airily and full of business, when Morpheus has gently enveloped our senses, and we are doubtless dreaming of a ramble in the wildwood, of singing brooks, of clover banks and violets and things. It is just at this inspiring moment that "Mr. Muskeeter" comes, singing his siren song, around our innocent pillow, swoops down and sucks the life-blood from our cheek. We could find it in our hearts to forgive the motive and also the deed, if that was all; but the repetition of the thing is what is most exasperating. Of course, at the unexpected attack we rouse up, slap our cheek, groan and turn over, and—well, as soon as we are fairly asleep again the attack is renewed and continued without cessation until morning. We hardly know how to account for the unusual presence of mosquitoes among the hills, unless it is that there are so many near the river that they are crowded out, and have winged their way here for more room and fresh air. In viewing the persistence of the black gnat and the sneaking meanness of the mosquito, we think that one would have been enough for one place; and for practical purposes calculated to work out any great good, we are at a loss to see why either should exist. MRS. M. STAFFORD.

Near Germantown, Aug. 11th.

THE INDUSTRIAL PROGRESS OF THE UNITED STATES.—The astonishing progress of this country since the war is the subject of remark by the *Baltimore Gazette*, which cites a well-known statistician as authority for the statement that in the 14 years since 1865 the aggregate production of wheat and barley has trebled; corn, cotton and tobacco more than doubled; oats increased nearly 140,000,000 bushels; potatoes nearly doubled, and hay increased nearly one-third. The cotton crop of 1878 and 1879 was the largest ever raised. The ten crops from 1852 to 1861, raised by slave labor, numbered 34,995,440 bales. The ten crops of 1870 to 1879, inclusive, raised by free labor, numbered 41,454,743 bales. In tobacco, also, the South has achieved a gratifying increase in the annual yield. "The possibilities of our agricultural interests," in the language of Mr. Porter, "are as yet an unknown quantity."

THE VINEYARD.

Growing the Currant Grape in South Australia.

Our exchanges bring accounts of an essay on currant grape growing, read before the Royal Agricultural Society of South Australia, by Thos. Hardy, who is the leading experimenter with the Corinth grape in that colony. We take from that essay portions describing Mr. Hardy's practice:

In the planting I hope to do this season I shall open up a double furrow at every 12 feet from end to end of the land, and then have holes dug in the furrows at six feet apart to receive the rooted one-year-old plants, which I have already grown for the purpose. These holes need not be more than the square and depth of a spade, and in ordinary land can be done by contract at 4s. per 100 holes. I shall plant a currant vine at every 24 feet, in the rows, and between every currant vine three others of Sweetwater and Doradillo, the object of this being to get a return from these for the purpose of distillation while the currant vines are growing and coming into bearing. After the planting is completed the land will have to be plowed to the vines, and possibly after that one or two scarifyings or harrowing with a scarifier-harrow across the rows will complete the first season's labor. Early in the winter following I expect to have to plow the land from the vines and to have the sticks which cannot be taken by the plow dug down with pronged hoes, and in the spring to plow again, this time of course to the vines; this with the necessary harrowing and cross-harrowing to keep down the weeds and clearing away the weeds round each vine will be all the labor needed. I never prune vines one year planted, as I have found they do far better unpruned; and the second year it is just as well not to use the knife, but simply shorten the shoots in with the garden shears. The following or third winter after planting is time enough to begin to prune to form the stock. Young vines that are pruned in close earlier than this are liable to be blown to pieces with the wind, causing a great check to their growth, and to make a thing pay one must always study to get what is wanted without any unnecessary expenditure of labor. I do not expect to have to provide for trellising until the sixth or seventh year, and during that time would allow the currant vines to have pretty much their own way. About that time it will be necessary to provide for trellising, and I find that posts at a chain apart, if good straining posts at the ends are provided, will be close enough. For the next two or three years a single wire of No. 4 or 5 size at the top of the post may be enough to carry the growth of the currant vines, taking care to carry up two shoots from about a foot from the ground, training one each way on the wire. At about the ninth or tenth year, when the currants will begin to bear something worth looking after, it may be advisable to dig up a vine on each side of every one of them, and run in two more wires, one at about 16 inches from the ground, and another intermediate between that and the top wire. These wires may do of No. 8 size of good wire; and I propose to fasten all wires to intermediate posts with a wire staple passed through a hole bored in the posts and clinched at the back. By this means a defective post can be removed, and a new one put in without any trouble, and the extra expense of doing it this way instead of running the wire through the post in the usual way will be but trifling. As soon as the bottom wire is in, the shoots, which were before this trained along the top wire, should be brought down to the bottom wire, taking care that near the vine they form a bow higher than the wire; this will ensure their breaking strong in growth there, to form arms for the upper wires. My reason for allowing two shoots to grow will now be apparent. Any one conversant with long pruning of vines will know that an upright shoot will have all the growth from topmost buds, but if bent down in the form of a bow, with the end as low as the stock it proceeds from, nearly all the buds will break at the same time, and grow about equal in vigor. I expect about the tenth year that the remaining vine between each currant vine would have to be removed, as the currant vines will then profitably occupy all the space. Of course after the first wire is put up the cross working of the vineyard will have to be abandoned, but it will be found a great saving of expense in working the land both ways for the first seven years. In good land, and where a market can be got for grapes for the still, a vineyard planted in this way ought to pay its way after the first four years, and leave after six years a surplus, to be reckoned against preliminary expenses, and at ten years the vineyard should have cleared itself. Where grapes for distillation or inferior wine may not appear to promise to be profitable, the Muscatel raisin grape may be planted instead between the currant vines. They will give a crop in five years, and if the locality is suitable for drying them into raisins would pay better and give more employment; but raisin-drying can under the present appliances only be carried on, on the plains. The grape ripens too late in the hills, and the greater moisture in the air there is all against its being done profitably.

The distance I have named of 12 ft. between the rows of vines may seem large to some, but all our experience goes to prove that close plant-

ing of vines has been one of the greatest mistakes made by our early cultivators. A distance of 12 ft. renders cultivation easy; carts can pass up and down to receive the fruit, or to take manure when necessary, and fewer cross-paths are needed; and I have no doubt, barring phylloxera or other diseases, that a vineyard thus planted will last double the number of years, bear better fruit, and more of it, after the first 10 years, than any close-planted vineyard. Any observant person may see that in all old vineyards the outside rows look healthy, bear good fruit and plenty of it, whilst those in the center are yellow and withered, and the fruit often burnt up before it is half ripe.

The pruning of the Zante currant vine is easily learned. It consists mainly in cutting out old wood and leaving long-bearing rods of the last year's growth, and the more horizontal these rods are carried the better the crop. The Corinth currant will bear spur pruning better than the Zante, and the arms may be left permanently a good length, and spurred at suitable intervals. I consider the Corinth currant much superior in flavor to the Zante, but hardly think it as good a bearer, although my trial of the two this season, as before stated, seemed to show to the contrary. I do not suppose that a farthing a lb. more could be got for the one currant over the other, so that the difference in flavor is hardly worth considering.

The drying of the currants is easily accomplished. Fortunately they ripen on the plains by the end of February or beginning of March, and can be dried often in five or six days; and I have never lost a lb. yet in drying from the weather. I put them out on trays, and if rain threatens they are piled and covered up, but otherwise are allowed to remain out at night as well as by day. In general I get my currants dried off before I begin to lay out for raisins, and the two—where the Muscatel can be dried—may always be carried on well together. The cleaning of the currants before boxing is easily and well done by passing them through a winnowing machine. One that has done duty for a wheat grower for many a year serves my purpose admirably, both for currants and raisins.

The only drawbacks that I can see to the cultivation of the currant vine is their liability to take the oidium; but that can be got over by the timely use of sulphur. The chances of the phylloxera being brought here is a more serious consideration. It would be well for anyone contemplating the planting of currant vineyards to raise vines from cuttings of American grapes, of which, fortunately, we have a few already in the colony, and to graft to them the currant in the beds where they are struck. As a currant vineyard, according to my plan of planting, will only require 150 vines to the acre, it would not take many years to raise sufficient plants to put out hundreds of acres in this way; and as it is known that the phylloxera will not attack the native vines of America, this would seem a safe and facile way of being prepared for the enemy. Of course it would be possible to graft existing vineyards to the currant vine, but I do not advocate that course for various reasons. Old vineyards are, as a rule, too much impoverished to give a fair chance of success. The expense of grafting is considerable, and the chances of the grafts taking well vary greatly, especially in some seasons. The white ant is also very liable to get into the stock of old grafted vines, and when they have once found a lodgment the vine soon dwindles away. Again, we are not sure that the currant vine will succeed on all other stocks. I have never tried it, and do not know any person that has. I think it by far the best plan to begin at the beginning and plant one-year-old plants, and by that means ensure the uniform starting of the vineyard; and where it is decided to replant old vineyards the vines should be thoroughly grubbed out, or they will give no end of trouble afterwards, and the land well manured and cropped for a year or two with garden stuff or hay before planting again.

"HAVANA" CIGARS FROM PAPER.—The straw paper manufacturers of the Chatham portion of Columbia county, N. Y., have for many years been aware that their product has nearly all gone South, and been used in Cuba as fillers for cigars. None of them manufacture specially with this end in view, although their paper is well adapted for "bogus" cigar making. The paper used for the purpose indicated is of the lightest weight (7 to 7½ lbs.) it is possible to make. There is one mill in the county located at Queebey (town of Canaan), which manufactures the straw paper expressly for wrappers—not fillers. The Queebey Paper Co.'s paper mill is situated on a creek but a short distance below a lake, and being at the head of the stream, the water is of much greater purity, and hence their ability to produce the desired article of paper. The straw paper used in filling the Havana cigars is saturated with a decoction prepared from the stem and refuse of Havana seed leaf, mingled with which are extracts of liquorice root, senna, etc. The paper is so skillfully stamped to resemble the tobacco leaves, the very veins of the leaf being perfectly imitated, that it can seldom, if ever, be detected from the genuine article.—*Paper World*.

TO DETECT STARCH IN SUGAR.—It is said sugar adulterated with starch may be detected by a very simple test. A little pure sugar is taken in the mouth and when dissolved is replaced by a little of the suspected article. If the latter contains starch, glucose or chloride of tin, a distinctly bitter taste will be present.

HORTICULTURE.

Santa Cruz Berries.

EDITORS PRESS:—I send you by express to-day a few raspberries, blackberries and an apricot, which I want you to pass judgment on and report. I think they will compare favorably with berries from other parts. The raspberries were grown by Mr. C. C. Miller, of Santa Cruz, and you will find some of them to measure three inches around. We are not certain about the name—wish you would tell us. The blackberries and apricot were grown by Mr. L. M. Corum, Santa Cruz. The apricot measures 7½ inches around and weighs 4½ ounces. It was the only one ripe on the tree; we send but the one. M. P. OWEN.

Soquel, Santa Cruz Co.

[The berries were very good, and were put on exhibition at the Mechanics' fair, where they were much admired while they lasted. The apricot was also a good one, but there were larger ones shown beside it at the fair.—Eds. PRESS.]

San Luis Obispo Apricots.

EDITORS PRESS:—I send you to-day a specimen of apricots grown on our place. The trees are very young, having been set out but three years. The last two winters' frosts have been rather a drawback upon young orchards here. But considering the fact that apricots can be grown in comparatively few localities, and the high price the fruit commands in market, I think these are worthy of note, in point of size and flavor. I should like to see this industry started in our county—feeling sure it would succeed. MRS. E. W. STEELE,

San Luis Obispo.

[The specimens are Moorpark and very creditable fruit. We have placed them on exhibition at the Mechanics' fair, in the name of the grower.—Eds. PRESS.]

Olives in Australia.

We learn from the Melbourne *Argus* that at the Botanic Garden in that city, samples from no less than 11 new varieties of olives have been gathered this year for preserves, namely: Piccoline, a small, round-fruited variety, maturing towards the end of May; Blanquet, a beautiful oblong-berried variety, yielding a good oil, and ripening about the middle of June; Verdale, bearing a dark violet, roundish fruit, yielding a superior table oil, and ripening in May; de Malte, a fine large oval-fruited variety, very free bearer, ripens about the end of June; Cornichon, a poor bearer as yet, having large oval fruit, ripening about the middle of June; de Nyons, a splendid olive, bearing an oblong elliptic fruit as large as an Orleans plum, very prolific, ripening during the earlier part of June; Benevay, large roundish fruit, shy bearer as yet, ripens about the middle of June; Sauron, a feuilles de Saules, with fine large oval berries, a very prolific bearer, ripens towards the end of June; Boutignan, producing small round berries, rather shy bearer, a good pickling variety, ripens during the latter part of June; Cailion, a beautiful oval fruit, free bearer, ripening towards the end of June; and de Crimée, round-fruited variety, as large as the common damson, which ripens about the end of June. Of the above-named varieties, eight have come into bearing for the first time this year, viz: Verdale, Blanquet, Piccoline, Cailion, de Crimée, Cornichon, Benevay and Boutignan. The other three—viz, Sauron, a feuilles de Saules, de Nyons and de Malte—bore fruit last year, and the increase in the second year's crop is very great, so much so that samples of oil will be available from each of them. Of course the remarks as to the quality, bearing capabilities, etc., of the new varieties given here in detail are based on observations made during the present and last seasons, and must not be taken as an indication of the real merits of the kinds.

Bells for Birds.

A western New York fruit grower tells the *Tribune* how he succeeded in driving the birds away from his fruit, which may be of value to some of our readers who have small areas to protect. He writes: In my perplexity I consulted an old gardener, who told me to try hanging a bell in the middle of the patch, and ringing it occasionally. "If you could invent some way to ring it all the time," said he, "you could keep them away easily enough. They are afraid of a bell, and not much afraid of anything else." This gave me an idea, which I immediately acted upon. I had a small "continuous ring" electric bell, with which I had been experimenting. This I put into an empty cigar-box, turned on one side to protect the bell from the weather, and set it in the middle of the strawberry bed. Then I ran wires from the bell to a small battery at the house, and the problem was solved. The bell rang continuously all day, and not a bird would venture after the fruit. Occasionally one bolder than the rest would perch upon the fence and eye

the bed with a wistful expression, but the mysterious rattle of the bell down among the vines was more than he was willing to face, and he ended by going to my neighbor's berry-patch for his dessert. After the strawberries were gone, I transferred the bell to my raspberry patch with the same success as before, securing about three bushels of fine berries, when I should not have had enough for my table if the birds had been allowed free access. I have no doubt that the birds could be kept away from cherry trees in the same way.

The battery which I used was made from materials accessible almost anywhere. Pieces of sheet lead, and zinc such as is used under stoves were cut 3x5 inches, and one end of each piece turned up about half an inch. One pair of these was put in an ordinary tea-saucer, with a piece of heavy brown paper between so that they would not come in contact. To the ends that were bent up short pieces of copper wire were attached. Three saucers were prepared in this way and connected by joining the wire from the zinc of one cell to the lead of the next; the wires that were left free in the first and last cells were connected with the bell. The battery was set going by filling up the saucers with rain water and dropping into each a little blue vitriol (sulphate of copper) broken into small pieces. A battery of this kind will not cost more than 15 cents, and will run 12 hours without much attention. The zincs, however, will need renewing every day. Of course, a cell or two of Grodz's or of a gravity battery would require much less attention when the cost was of no account. The expense of running such a battery as I have described is not more than three cents per day, and when the possession of ripe early berries is the main object, the money laid out in the purchase of an electric bell will prove a good investment.

THE STOCK YARD.

Short Horn Notes.

EDITORS PRESS:—As you expressed a wish in your conversation with me the other day to have for publication the answers I had given to the following questions, copied from a letter received by me from the Sandwich Islands, I now give you, answered in substance, if not exactly in words:

I read sometime ago of a Short Horn cow, owned in California, giving 34 quarts of milk a day. Have you cows that will do as well, if so, how much would a young bull 8 or 9 months old be worth out of such a cow, and what would be the price of one from a cow giving 25 quarts a day?

It is quite possible for a cow to give 34 quarts a day; many Short Horn cows have been known to give as much. The most milk I ever had a cow of mine give was 32 quarts a day, measured three days consecutively, and that is the most milk I ever saw measured from a cow. From the same cow I had previously measured 18½ quarts at one milking. Cows that give from 18 to 24 quarts a day are far above the average of this country, and there are probably more dairies in the country without any cows that will, when at their best, give the larger quantity, than there are with any such cows. I have several cows in my own herd that give from 24 to 28 quarts a day when they calve in grass time. I am rearing a bull calf now, from a cow that is now giving 25 quarts of milk a day, two months after calving and without any green food. Such calves are worth \$100 and upwards at from 6 to 9 months old.

Is the milking strain of Short Horns wholly distinct from the Short Horns bred for beef?

They are, in a manner, distinct, but the distinction has been brought about mainly by usage; those designed for producing meat being fed and trained from calfhood to lay on flesh, for generation after generation, till the habit of converting the largest possible proportion of the food consumed into flesh has become natural to them. But the treatment of calves intended for dairy cattle is, or should be, quite different. They should have bulky, yet nutritious food, in order to develop a capacity for consuming and digesting large quantities of food when they become milkers. My own practice is to feed my heifer calves on such food as the dairy cows are being fed on, up to the time they are old enough to turn out to grass, or till the time when the grass becomes good enough for them to do well upon. They are thus kept in good growing condition without any danger of the fat-producing powers being unduly developed to the injury of their natural milk-secreting capabilities.

Can one depend on milking Short Horns to breed nothing but milkers.

Yes, as far as anything connected with breeding animals can be depended on that comes within the bounds of human control. On reference to my private herd register, I find that in the 5 years ending December 31, 1876, of the heifers I bred during that time, I kept 80 till they were milkers in my own herd, and all were good milkers except two. I am aware that such a small proportion of poor milkers is rare, but in my case the calves were all out of good milkers, and got by bulls of choice milking families, always discarding those calves I think not suitable for my purpose.

A friend of mine has a letter from a person in San Francisco who will send grade Short Horn heifers and guarantee them to give 6 gallons of milk a day and make over 12 lbs. of butter per week, if well fed and kindly treated, after they have had their third calf. Do you know of any one able to send heifers—grades—as good?

I do not, and I have no hesitation in saying that any man who undertakes to give such a guarantee with a lot of young heifers is a person of very little experience—or none at all. If I sold a cow that was giving 24 quarts of milk a day with me, I would not guarantee her to give 20 quarts a day with another man in a strange place, because cows seldom do as well the first year after a change of location, and with people who are strangers to them—the cows. Cows are seldom at their best for milking till after they are six years old, after that age the Short Horn breed of cows give both more and richer milk than when younger.

How old do you think calves ought to be when shipped to Honolulu?

About six months, or from that to 12 months; but, in my opinion, the younger they are the better for them and the shippers. Young things are more easily handled and stand the sea voyage better than older animals, at least, that is my experience; then, too, they are more easily acclimated and get used to the country, the people and their ways by the time they become breeders and milkers. ROBT. ASHBURNER.
Baden Station, San Mateo Co.

THE STABLE.

Saddle Horses.

The *American Stockman* has some interesting chat about saddle horses, from which we quote as follows: To the man who travels over the face of the earth, migrating from country to country, nothing will appear as more extreme in the manners of the different people he comes in contact with than their various methods of riding horses. While the Arab is the ancient ideal of a perfect horseman yet our own country probably furnishes as great variety and styles of horsemanship as all the nations of the world put together. Let us take a hasty glance at the different patterns our country affords: In Mexico, Texas and the extreme southern States the style of riding is quite unique. On the other side of the Mississippi river a suitable costume is quite indispensable. The bridle is armed with a curb-bit of terrific leverage. The saddle bears an immense pommel to ease the strain of the lariat or the elbows of the sleepy rider. A common buckled girth would never do in such scientific riding. The broad hair band is tightened with a cunning twist from a long loose strap that has been "sprung" upon until the band is as tight as wax. We are all, at least in pictures, familiar with the broad sombrero, alashed breeches and large silver spurs with their attached "jingles." This rider in his appointments and horsemanship is certainly worthy of much admiration, for he always looks "at home" and graceful when he tries to be, even on the most veritable plug of a mustang. It is seldom, however, that his charger calls forth anything but a feeling of pity from the educated horseman. The native breeds of those sections is a long way off from the ideal saddle horse of the Middle States. In Tennessee, Kentucky and Virginia we probably see the art of horsemanship both in its relation to horse and rider carried to a higher standard than in any other part of the world. Here we find the horse bred for generations under the most enlightened rules of breeding, and with the sole purpose in view of making him the perfection of a saddle horse. In physical features he is a model for the artist. In gaits his variety is infinite—a rapid walk, fox-trot, rack, trot, lope and run, changing from one motion to the other at a practiced signal from the rider. In temper perfect, quick and comprehensive. This is a point that no one but the practiced rider can appreciate. The bridle lines are actually useless with him. A slight bending of the body forward informs him you wish the gait quickened; settling firmer back in the saddle intimates to him to slacken the gait, a slight bending of the body in the saddle, with a little pressure of the opposite knee, and perhaps an unconscious motion of the bridle hand in the direction you wish to turn is all the management he needs. The lines are never pulled to turn him right or left, but pressed against the side of the neck opposite the direction you wish to turn. Leaning forward in the saddle puts him in a fast walk or fox-trot. To put him in a rack the bridle reins are pulled taut, while the heels bring the spur pressure to his sides. To make him trot, the reins and heels are let loose, the hands pressed upon the withers, and the body slightly raised in the saddle until he gets settled in his gait. To make him canter or lope, settle in the saddle and wave one hand in the air. These are not the inventions of a single individual, but the universal custom among those who train saddle horses in the States named.

We now come to the rider of this perfected saddle horse. He sits his seat with an easy comfortable grace that shows his familiarity with it from earliest boyhood. The stirrups are so long that his toes barely rest with ease in them, while his heels turn slightly outward, relieving his appearance of extreme awkwardness that is so often seen in riders whose toes point at right angles with the horse's sides. These horses are thoroughly bitted when young and thus taught to carry a high and stylish head, so that when in full motion, with the favorite gait, a rack, and bestrid by this superb rider, the whole makes a picture that challenges our highest admiration.

THE DAIRY.

Co-operative Butter Making.

A new style of co-operative butter making has been introduced in Oneida county, New York, which has some excellent points and may, with some adaptations, prove of value in some communities on this coast. The new system has been put in operation by C. H. Curtis, of Waterville, and is described in the *Farmer and Dairyman*. We outline the essential points of the system:

The building is about 20 by 30 ft. on the ground, and a story and a half high. The upper story is divided into a kitchen, two bedrooms and a large pantry for the use of the foreman and his small family. The first floor is the room for churning and cleaning. It contains at present four churns. These are run by a small steam engine, located in a room at one end. The supply of water comes from a deep well. Beneath this floor is a cellar devoted to working and storing butter. The whole is but a few steps from the railroad depot, and therefore convenient of access and for shipping. The establishment is now working up the cream of about 250 cows, and is run by the foreman and his wife. It has a capacity for disposing of the cream of 1,000 cows, and cost a little less than \$1,000, or \$1 to a cow, for building, well and apparatus—which, it will be seen, is an exceedingly economical outlay. The building, which is to be used only in summer, is simply boarded up with matched stuff, the living rooms overhead being lathed and plastered.

Gathering Cream.

A man has a contract for making the butter, gathering the cream and furnishing coloring, so far as any is needed, for two cents a lb. He gathers the cream every other day. The patron raises the cream in any way he chooses, and may skim as he chooses, putting in more or less milk with the cream to suit his fancy. The trouble is, however, to get him to put in enough for easy churning, though there is no good reason for stinginess in this direction. Each patron's milk is churned by itself, the buttermilk worked out and the butter weighed. The number of lbs. of fresh butter is entered on the record book, and by this a division of net receipts is made pro rata; or, if the patron prefers, he may furnish his own package for packing, pay two and a half cents per lb. for making and take the butter churned from his cream, disposing of it as he chooses. The buttermilk is all returned to the patron in the can in which he sent his cream to the factory, when the next mess of cream is sent for. So the milk being left with the patron and the buttermilk returned to him, there is no cause for complaint on this score; and as he gets credit for the number of lbs. of fresh butter churned from his cream, there is no injustice done. If the butter is all right, it is massed and packed with the rest, and sold on the general market, all sharing pro rata. But if his butter is inferior, it is packed by itself, and either sold on its merits, or handed over to the patron for three cents per lb. if the factory furnishes the package, or two and a half cents per lb. if the patron furnishes it, just as he may determine. In this way a uniformity of texture and quality is maintained, and the reputation of the "Buttercup Creamery," as it is called, is kept up. The size of the package adopted is 50 lbs. net, the ash Welsh tub being used.

Advantages of the System.

Among the advantages is the dispensing with Sunday work. So far, everything has been worked up on Saturday, and the first gathering of cream made on Monday. But should cream be left over, with a cool cellar to keep it in, no harm would come to it. Every man has his own, no more, no less. There is no loss in raising cream or churning by the mixing of the product of different breeds, except what may be done by the patron himself, as his cream is churned separately; and then, whatever of cream may be left in the buttermilk, in consequence of his having a mixed herd, is returned to him every other day. No one who takes pains and produces good milk and cream suffers because others produce poor articles; nor does any negligent patron, producing poor milk and cream, get an advantage by pooling with his neighbors who furnish better articles. This inequality and injustice prevails in all cheese factories and creameries, where either the milk or the cream is pooled by the lb. or measure, and a division made pro rata on this basis. The only drawback to the new system is that it requires a few more churnings and the handling of a few more batches. But as ample power and facilities are furnished for churning, this is a slight objection in comparison with the perfect equity secured. Thus far there has been no trouble in massing the butter after churning, and maintaining uniformity of texture, quality and color. But with unskillful management and carelessness, there might be trouble in this direction.

Rules and Regulations.

These are strict and somewhat peculiar. Hence we include them as not only a matter of interest, but as likely to do some good in quarters where they may be read:

As all the patrons of the Waterville Buttercup Creamery are earnestly wishing and hoping for gilt-edge butter, and the good prices which none but first-class goods command, therefore

thoughtful and cordial attention is invited to the following points, which are believed to be necessary in order that the skill of the butter maker may enable us to reap the desired results:

First—Kind care, clean quarters, abundance of good nutritious food and plenty of clear, clean, good water, such as we would drink ourselves—not stagnant or muddy, or so situated that the cows can stand in it or make it bad.

Second—The cows should not be worried by driving with dogs, or beaten when they are milked, but treated kindly, as a parent would a child. In milking, the udder and side of the cow should be brushed, and great care taken to keep the milk clean. Never should the milker wet the teat or hand while milking.

Third—The milk should be cooled and set as soon as possible in a cool, clean, airy place, and all the pails, pans, cans, or other utensils, should be kept scrupulously clean by washing in warm and scalding with hot water. Wooden milk pails should never be used.

Fourth—The best time to skim is just as the milk begins to change, because this gives the ripest cream, the most and best butter. But in no case should the cream be left on till the milk becomes downright sour or loppered. The cream should be kept in a cool place and stirred at least three times a day, and as much oftener as you please.

Fifth—It is conceded by the best butter makers that the finest flavor of the butter is obtained by churning considerable milk with the cream. Enough milk should be taken with the cream to make the bulk of the cream one-third of the whole—that is, one gallon of cream should be taken from three of milk, or sweet milk may be put in the cream when it is taken from the farm, to make the required bulk. As the buttermilk is returned there is no loss.

Sixth—As neglect of any of these precautions injures our goods and the credit of our creamery, it has been thought wise never to place our Buttercup stamp on any but perfect butter. Therefore, any butter which is below that standard of excellence will be packed by itself and sold on its merits for those who own it. But our butter maker is sure that, with proper attention to these cautions, no butter will fail of the desired mark.

FLORICULTURE.

Popular French Roses.

The *Journal of Roses*, published in France devoted exclusively to roses, has had the happy idea of organizing a sort of plebiscite to obtain opinions as to the best of roses. Eighty-five lists were sent in, and from these was made the following list of 50 having the most votes:

La France.....	79
Barone Adolph de Rothschild.....	76
Paul Neron.....	76
Gloire de Dijon.....	72
Souvenir de la Malmaison.....	72
Jules Margottin.....	70
Marechal Niel.....	70
Baronne Prevost.....	67
Gen. Jacqueminot.....	62
Captain Christy.....	60
Belle Lyonnaise.....	47
Eugene Appert.....	47
Louis Van Houtte.....	47
Anna de Diesbach.....	47
Aimee Vibert.....	44
Souvenir de la Reine d'Angleterre.....	43
Charles Margottin.....	42
La Reine.....	42
Victor Verdier.....	42
Charles Lefevre.....	41
Comtesse d'Oxford.....	39
Madame Boll.....	39
Gloire de Ducher.....	36
Madam Falcot.....	36
John Hopper.....	35
Madame Lacharme.....	34
Cecile de Chabrilant.....	33
Louise Odier.....	33
Marquise de Castellane.....	33
Celine Forester.....	32
Elizabeth Vigneron.....	32
Boule de Neige.....	31
Madame Victor Verdier.....	30
Therese Levet.....	30
Geant de Batailles.....	29
Rose du Roi.....	29
Triomphe de L'Exposition.....	28
Elise Boelle.....	27
Lord Raglan.....	27
Camille Bernardine.....	26
Duchesse de Cambaceres.....	26
Lamarque.....	26
Marie Van Houtte.....	25
M. Boncenne.....	25
Ophirie.....	25
Alfred Colombe.....	24
Empereur du Maroc.....	23
Jean Pernet.....	22
Madame Scipion Cochet.....	22
Chromatella.....	22

The figures show the number of votes given to each.

A CAR ON RUNNERS.—A car has been patented with skates instead of wheels, intended for elevated railroads. It uses grooved instead of T rails. The primary object of this device is to avoid the deafening roar of the cars in passing through such streets as those in the city of New York. The rapid rotation of the wheels causes the rapid vibration of the whole framework of the road, thereby making the noise and tending to loosen the rivets and shake down the superstructure; all of which would be obviated by the skates and the special rails. This special rail should be of polished steel, presenting an edge of three-eighths of an inch surface. The skate need not be over 30 inches long; and the lubrication of grease (not oil) should be the least possible. Experience alone can demonstrate the best adaptations and adjustment, as in the case of all new inventions.

PATRONS OF HUSBANDRY.

Correspondence invited from all Patrons for this Department

Grange Reunions.

Healdsburg Grange.

It gave one pleasure last Saturday to see, as we did, the boxes and baskets of choice provisions and fruits, covered with snowy tablecloths, and decorated with fresh and fragrant flowers, on their way up stairs to the ante-room of Grange Hall; and after the morning meeting, it did us more good to see the generous tables and the healthy, social faces surrounding them. It was not an unenjoyable feature to have the Grand Master come too, as he did, in the afternoon to give words of wisdom and good cheer. As a social institution the local Grange is grand and should be cherished, it seems to us, and perpetuated. From Santa Rosa and Bennett Valley there attended Mr. and Mrs. Coulter and Mr. and Mrs. Carr, and from Cloverdale Mr. and Mrs. Jacob Heald, all active and able workers in the good cause.—*Flag*.

Santa Rosa Grange.

There was an interesting meeting of the Santa Rosa Grange, August 12th, at their hall in this town. The meeting was addressed by B. R. Spilman, Worthy Master of the State Grange, who was introduced by the chairman, and presented many truths of importance to the Patrons of Husbandry, urging the education of the young people in the Grange and the need of farmers to manage the agricultural affairs of the nation.

The morning session was closed to outsiders, but all were made welcome in the afternoon. The feast was just such as the ladies of this Grange can furnish, comprising all the luxuries of the season. That all appreciated their labors none can doubt, judging from the enjoyment of the partakers. Luscious fruit, cider, wine, cakes innumerable, pies in abundance, meats of all kinds, jellies and other sweets, as well as substantial.

Many were in attendance from sister Granges. Bennett Valley members always assist with their presence, aid and attention. Some names may have been omitted among so many, but not intentionally: There was the smiling face of the old pioneer, W. H. Rector of Mark-West Mill, S. M. Martin and wife of Two-Rock, A. Lacque and daughter, N. Carr and wife, I. De Turk, K. A. Temple, Miss Lumsdale and Miss Dalzell, Joe Talbot, J. Lyman, S. T. Coulter, wife and daughters, G. W. Davis and son, F. G. Hahman (who nodded approval), Julius Ort and daughter, A. J. Mills, wife, sister and daughter, G. N. Whittaker, wife and son, Theodore Staley, Master of Santa Rosa Grange, Wesley Wood and wife of Fulton, Mrs. John Adams, Mrs. Lynchburg Adams, C. P. Teague and wife, P. Bremmer and wife, B. R. Spilman, Worthy Master of the State Grange, from Butte county, Mrs. Dowell and daughter, E. W. Davis and others.—*Republican*.

Worthy Master's Visiting List.

Bro. Spilman will speak at the following places at the times indicated, meetings to commence at 10 o'clock A. M.: Rio Vista, Friday, August 27th; Bird's Landing, Saturday, August 28th; Dixon, Solano county, Tuesday, August 31st.

The Revised Manual.

A Maryland Patron writes to the *Grange Bulletin*, describing the character and value of the new manual. We quote as follows:

Those who have perused Bro. Kelley's "History of the Patrons of Husbandry," know how hastily much of the Manual now in use in the subordinate Granges was written, and those who have examined it most carefully are painfully aware of the faults of punctuation, grammar, of quotation, of style, and the redundancies in which it abounds.

So manifest were these things that the National Grange in 1873 appointed a committee to revise it, who, at the Charleston session, in 1875, made their report, embodying "the result of many meetings, and much thoughtful and careful labor, extending through two years." They added, "The importance of having a well digested and harmonious ritual will not be questioned." And after referring to the fact that "its ground plan may be likened to a farm in various stages of improvement in the four seasons of the year," they thus conclude: "And corresponding to these again are the exercise of the great graces or virtues; Faith, in the spring of the year and human life; Hope, during the summer of the cultivation of soil, of mind and of the affections; Charity, outflowing from souls made grateful and loving by God's goodness; and Fidelity to every duty in the Order and Home, during the season for general enjoyment and improvement."

From various causes the Revised Manual, thus beautifully portrayed, was not published until the present year, and now, by the action of the National Grange, it is made the "authoritative and official manual" of the Order, and consequently under the law as laid down in the Digest, page 125, it would seem that no other edition can be legally used in the subordinate Granges.

So striking are some of the changes introduced that we conceive no Grange which loves the lessons taught in the manual, or appreciates even in a remote degree its lofty teachings should be

willing to do without it. Certainly all those who believe that the Order should be progressive, that its aims are to raise its members to a higher plane of thought, will not do without it. Neither will those who have seen how lightly its secrets have been kept, and how little some have esteemed their duties as members, when outside the gates, fail to furnish their Granges with this new edition.

An observant member of the Order will not have failed to have noticed how much the prosperity and success of the Grange depends upon the zeal, promptness, and efficiency of the sisters. Perhaps their real place in the Grange has never been fairly understood, for we know at the foundation of the Order it was proposed to confine them to a single degree, just as an outside "degree" is conferred on Mason's wives, or the "degree of Rebecca," upon those who are Odd Fellows. Indeed, it is a matter of history that nearly all the portion relating to them was composed last, and that but for Bro. Anson Bartlett, of Ohio, who had no small share in the composition of the present manual in use, they would not have had an equal part given them with the brothers.

We believe the present edition of the manual will bring out more prominently woman's position in the Order. Certainly the "installation ceremonies" as given in this new edition favors the idea, particularly the charge to Ceres, which says: "We place women in their presiding positions as our Patrons, to show our respect for her and our regard for agriculture. Therefore, also, we aid her to enlarge her sphere of thought and action and to elevate her aims and character; and we ask her in return to grace our meetings with her presence and counsels, and thus refine our manners and improve our lives." And who that has been in many subordinate Granges, or in a State Grange, that will not acknowledge that woman's presence enlivens the proceedings and takes off the bitterness and acrimony which too often follow discussions in other bodies.

Looking then at the new edition and comparing it with the last or fifth, we find many changes, not a few additions, which, while adding beauty, grace and utility to the old, do not impair familiar form or change the foundations. The old building is there, but its architectural appearance is enhanced in many ways until it has become worthy of the great Order who hold the plow, raise the bread, and the fruits which sustain the life and maintain the health of the world. As such, it should be heartily welcomed, and given an immediate place in every prosperous active Grange whose motto is "upward."

"Patron," Not "Granger."

"Patron" is the proper name to give a member of our Order—a "Patron of Husbandry." Its meaning is (see Webster) "an advocate, a defender, one that especially contemplates or supports, or aids to advance"—a Patron of the Arts, a Patron of Husbandry.

"Granger" is only once used in anything like standard English works, and there means a farm bailiff—one who directs farm laborers and collects rents of farm tenants, a sort of constable. How inappropriate to apply it to men and women independent in thought and action, and owners of the soil they till! Then the term is inappropriate. As well call a member of a church a churchier, of a lodge a lodger, of a chapter a chapterer, of a division a divisioner, etc.

While we may occasionally use the word in conversation, let us be very careful not to encourage its misuse by writing it, especially in our articles for the *Visitor*. In using the word patron let us pronounce it properly—with the "a" long. The same in regard to matron.—*C. L. Whitney in Michigan Grange Visitor*.

RIVER TARIFFS ON GRAIN.—Mr. Montpelier, manager of the Grangers Bank, has prepared another valuable table of trade statistics. It is a schedule of the river freight tariffs charged for the transportation of grain from the wheat-growing districts to the various shipping points in and around San Francisco. These figures are valuable to compare with the railroad rates in Mr. Montpelier's earlier table.

BOTANICAL COLLECTIONS.—We have in this State several tireless collectors of botanical specimens, but the largest botanical depot in the world is said to be at Statesville, N. C., where the firm which controls it has now in stock 1,700 varieties of roots, herbs, barks, seeds, flowers and mosses and all sorts of plants for herbariums, in quantities of from 50 to 35,000 lbs. of each kind. They pay the collectors, who are mainly Cherokees, either in cash or goods, and last year disposed in this way of \$400,000 worth of merchandise, shipping 1,800,000 lbs. of roots and "yarbs."

THE Edison telephone connects the British Parliament buildings directly with the London newspaper offices, so that the debates can be reported and put in type an hour earlier in the morning than heretofore. It was but lately that the London *Times* was printed on a Yankee press; now it is a Yankee that helps on the chin music in Parliament, and we half suspect that they have a Yankee type printing machine connected with it, one that is claimed to set up 100 lines an hour, instead of 40 by hand labor. Really, Brother Jonathan can now help the old man considerably.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

ALVARADO SUGARIE.—*Reporter*, Aug. 21: Beets have begun to come in to mill. Steam will be got up next week to test the new machinery, but work will not be commenced upon the beets before the first of next month. Syrup has been shipped from the mill to San Francisco the last few days. It is to be distilled.

BUTTE.

THE APPLE CROP.—*Chico Enterprise*: While we have had reason to believe that the apple crop of this section would be very large this season, a report comes to us that the codling moth has made its appearance in some of the largest orchards, and that the yield will necessarily be curtailed. The codling moth is a native of Britain, and takes hold upon the eye of the fruit when forming, and weakens the stem, so that the fruit falls before coming to maturity. We are told that some of our famous varieties of winter apples are already covering the ground in some of the orchards on Butte creek.

COLUSA.

BUSY.—*Sun*, Aug. 21: At every station along the whole length of the railroad through Colusa, Yolo and Solano counties, carpenters are engaged in building more warehouse room, while the cars are as busy as possible carrying wheat to the bay. The steamboats are straining every nerve to get the wheat away as fast as demanded, and the steamboat whistle is now almost as familiar at Colusa as the striking of the clock.

FINE MELON.—We have been presented by Mr. Tournoux with a watermelon of very delicious flavor, which weighed 74½ lbs. This is a fair sample of California's productions.

TALL CORN.—Ira Woods brought to our office, this week, a stalk of corn, 10 ft. high, on which there were seven ears.

HUMBOLDT.

THE OAT CROP.—*Times*: The bottom lands of Humboldt will produce from 85 to 100 bushels per acre, and the average market price is \$1.35 per cental. Oats succeed on the hill land as well as on the bottom land. It is interesting to notice how largely the cultivation of oats has increased in Humboldt county during the past five years. In the year ending July, 1875, 34,898 sacks of oats were shipped from that county; in 1876, 39,906 sacks; in 1877 (a year of short crops), 31,375 sacks; in the last year, ending July, 1880, 42,161 sacks have been sent to San Francisco markets. These numbers represent the surplus over the home demands of stables, logging camps, etc., which each year require a large quantity. The total value of the 42,161 sacks shipped during the past year is estimated at \$73,683.

KERN.

CARP.—*Kern Co. Californian*, Aug. 20: We learn that there are a great many little fish in the carp pond. It is to be hoped that these are the young of the fish that were deposited there a few months ago. The raising of carp is now becoming quite a common thing throughout the State, and is generally successful. It is noticeable that in the advertisements of real estate and of farms for sale in the papers of Lake and Inyo counties, a pond, well stocked with these fish is often mentioned as one of the appurtenances and as an additional inducement to the purchaser. It is also gratifying to learn that some citizens of Kern county have engaged in this kind of pisciculture, on their own account. A brother of Mrs. Perry Wilkes, it is said, has a fine pond on his place which is quite a success, and that enterprising agriculturist, Mr. John Barker, has one made after the most approved form; the water is just the right depth and is made to come in at one point and flow out at another, in just enough quantity to keep it fresh without making too great a current (for the fish love stillness and quietude), and there is a shallow place where they come and sun themselves and feed, or spawn. There can be no doubt he will make a complete success.

MENDOCINO.

HOP PICKING.—*Ukiah Press*, Aug. 20: The hop picking season is upon us. Picking commenced this week in some fields, and it will be general in this section next week.

ROUND VALLEY.—Harvesting is well nigh over. The crop is an average one, and in some instances in excess of former years. The Willis ranch, farmed by George Duncan, averaged a fraction over 34 bushels per acre. This is an exceptionally good average for wheat. Mr. Duncan attributes his success to the effectual drainage of the land. The crop was indeed a small one, consisting of scarcely 20 acres; but the system of drainage employed applies as well to 100 acres as 20.

POINT ARENA.—The farmers are up to their shoulders in grain, caring for crops, which promise an abundant yield. There will be a large surplus for shipment this year, something we have not been able to say for the three years preceding. The wheat crop, of which I spoke in a former letter, still gives promise of unusual excellence, the kernels being exceeding plump.

MERCED.

COTTON.—*Stockton Independent*: Several years ago Col. Strong, now deceased, inaugurated the cotton-growing industry in South San Joaquin. He succeeded in raising some excellent staple. The Buckley Bros. also tried their hands at cotton growing, and their efforts were rewarded with fair success for a time. They

abandoned the pursuit, however, on account of other industries claiming their whole time and attention. W. A. Grade is now pursuing the same industry at Hopeton, where he has 200 acres of cotton that promise well. Specimens have recently been exhibited in San Francisco, and have made a favorable impression upon persons skilled in such matters. That cotton can be successfully raised on an extensive scale in California, more particularly in the southern portion of San Joaquin valley, has been over and over again satisfactorily demonstrated by the experiments tried by Col. Strong, who zealously devoted his time and means to the introduction of the industry into California. His experience in cotton growing in the Southern States led him to believe that it only required skill and perseverance to raise as good in certain sections of this State as ever was produced in the best cotton States in the South. Mr. Grade's venture this year will be watched with interest by many people who would be pleased to see productive industries multiplied on the Pacific coast.

MONTEREY.

IRRIGATION IN THE SALINAS VALLEY.—*Democrat*, Aug. 21: Does it pay to irrigate wheat lands in our valley? The following figures, furnished us by Mr. J. S. Armstrong, prove that it does. Last year he irrigated 70 acres of his lands, lying about 3 miles west of town, in preparation for plowing and seeding the same in wheat. The water taken from the slough which passes through his place, was applied but once, at a cost of \$1 the acre, the labor of distributing it being done by Mr. Armstrong and his son. During the same season he seeded without irrigation a tract of 80 acres of land similar in location and quality. The outcome is the following: From the 70-acre tract he has harvested 1,730 bags, averaging 140 lbs. of plump grain, good as the best grown in this part of the valley. Fifteen acres of the land, in a field by themselves, yielded 398 of the bags. From the 80-acre, non-irrigated tract the yield is 936 bags, averaging 130 lbs., and the grain being decidedly inferior in quality. The totals are 242,200 lbs. from the irrigated, and 121,680 from the larger and non-irrigated tract. The water is obtained without difficulty, and, as is needless to add, these results have satisfied Mr. Armstrong as to the propriety of its application.

NAPA.

STEAM CRUSHING.—*St. Helena Star*, Aug. 20: Beringer Bros. will crush grapes this season by steam, having ordered the necessary machinery of John L. Heald of Vallejo. The power they already have is the large boiler now in use in the distillery. They will use one crusher, with a capacity of 80 tons a day. Instead of setting the crusher over the fermenting tanks, as formerly, and dropping the juice and pomace thence directly into them, it will now be set over a car with a tank on it that can be dumped, and when full it will be rolled to the various hatchways and its contents dumped into tanks below as desired.

GRAPE PRICES.—*Yountville Cor. Register*: Thomas Dwyer sold his grapes this week, having obtained the best price of any one yet—prices being \$25 and \$27.

SAN JOAQUIN.

A NEW HARVESTING MACHINE.—*Independent*, Aug. 17: The working capacity of D. Houser's new combined header and thresher was put to a practical test yesterday on the farm of Capt. Moss, a few miles south of the city. Many farmers were present throughout the day to see it in operation. It has a self-regulating feeder, and the working force required to operate the machine consists of 3 men and 10 horses. It can harvest easily an average of 25 acres per day, and performs the work well.

WHEAT RECEIPTS.—The water front was thronged yesterday with country teams hauling wheat to the warehouses. Wheat is coming in from all directions. Over 70 cars came to the water front Monday, and 49 came forward yesterday. It is estimated that the Farmers' Co-operative Union, which controls storage room for 35,000 tons, is receiving about an average of 1,000 tons per day, and Baggs & Son 600 per day. It was reported yesterday that all the available storage in the city had been engaged. It is a fact that storage has been engaged several weeks in advance, and payment tendered for the same from the moment the engagement was concluded. In the course of a few weeks every warehouse in the city will be full, and many farmers will be under the necessity of increasing the size of their granaries, or otherwise providing storage on their own premises. The yield is much larger than anticipated, quality much better, and prices much cheaper. Farmers generally believe that better prices will be ultimately obtained, and they are inclined to trust to the future rather than accept the present rates. A wheat blockade seems to be inevitable.

SCARCITY OF THRESHERS.—*Herald*: There never was a time when there was so great and general scarcity of threshing machines in California as there is this season. The complaint reaches us from all sections of the San Joaquin valley. It was first heard from the west side, then from the east side in Stanislaus, and now it comes from every neighborhood in this county. In conversation to-day with a gentleman who has just returned from a trip through the New Hope section, we learned that the heading and stacking of wheat has been completed, and stacks of wheat dot the horizon in all directions, but it is very seldom that a thresher is seen. Very much wheat will stand in the stack all winter, on account of the lack of threshers. All this indicates an unpre-

cedented yield of wheat for California. It seems quite likely that the highest estimates of the crop will be those nearest accuracy.

SAN MATEO.

PESCADERO.—Cor. *Times and Gazette*, Aug. 21: This year, in speaking of those prospects around us, should be, we think, a happy one, for the wheat yield itself is full much better this season along our coast than it has been known to be for many years, and free from rust. In places the returns will average 30 and 40 bushels per acre. The grain crops here, of all kinds, will be fine. Flax too is very good; however, among the later crops of this there is to be found some rust. Finally, of the hay we cannot speak more promising than to add its storage this year will far exceed that of many a long past harvest.

SUTTER.

WHEAT YIELDS.—Banner, Aug. 20: Ira Woods, in No. 70, had 20 acres of wheat, Pride of Butte, which threshed 75 bushels to the acre. He had also a field of Proper, which averaged 48 bushels to the acre. Joseph Hardy, of this county, has in store at the Farmers' warehouse, in this place, some of the finest wheat raised in the country. It is of the Tozell variety, with which Mr. Hardy has been experimenting for a couple of years. He gathered over 50 bushels to the acre off 35 acres.

TEHAMA.

EDITORS PRESS:—Threshing goes bravely on, though many of our small farmers and some of our big ones are patiently waiting for the threshers to come round. H. W. Brown, who has a fine crop to thresh, is waiting his turn; his tenants, C. Hesse and L. Carlson, are in the same boat. It will be late in the season before many will get through. It is a very anxious time with them now. From W. J. Rains, who has been working in the harvest fields of Sam. Wilson—who farms about 10,000 acres, all of which was in grain this year—I learned Mr. Wilson has finished gathering in his magnificent crop. His farm is partly in Colusa county. Mr. Rains lives in the Cottonwood district, and he has been up among the farmers, and finds them all well satisfied with their yield. Mrs. Ludwig, whose land borders on this county, has harvested a good crop; so have her neighbors, Jake Forster and Mr. Nichols. Their farms are in Shasta county. J. M. Cook, who farms on this side of Cottonwood creek, on a very fair grade of grain-bearing land, has harvested a fair crop. John Barry, the witty son of Erin, has finished threshing a very decent crop. His farm is improving yearly. T. M. Underhill, who farms a very pretty place on one of the forks of Cottonwood creek, has a very fair crop; and C. Owens, on the North Fork of Cottonwood, has a very excellent yield. These farms up through the "Bald Hill" country are a good distance from market, and they do not aim to raise wheat. Hogs, cattle and poultry are the mainstay of these small ranchers, though on Dry creek, in the northwest corner of Tehama county, there is a large body of land of a peculiar "hummocky" formation, with rich adobe soil, that 15 years from now will send thousands of sacks of grain to market. The land belongs to the J. N. Montgomery estate, and has been used for years as a sheep range. Geo. W. Hammon, a brother of A. J. Hammon, came in from the fine ranch of the latter yesterday, where he has been heading. The ranch is on Coyote creek, and has the first wheat crop on it this year. When it is threshed I expect to hear good results, as it was as fine a stand of grain as the county could produce. It is 1,600 acres or so in extent, and Geo. Hammon assisted in heading it; he was running a header steadily for 45 days. Lew Schultz, who owns one of the most prolific farms in the county, was in this city today. He has just got through threshing his magnificent crop. He had in 1,000 acres to grain and threshed 13,100 sacks—11,400 sacks of wheat and 1,700 sacks of barley. The wheat averaged over 135 lbs. to the bag. One 250 acres on the Thomas grant, which he purchased of the heirs of R. H. Thomas, he got 4,200 sacks, which is a splendid yield. Mr. Schultz is one of our most industrious farmers, and believes in farming his land thoroughly and judiciously. E. J. Lewis and M. Bohn have finished threshing, and Blossom's fine outfit has moved from the Lewis ranch to the Ashurst & Foster farm, rented by G. W. Conard & Sons. Over 5,000 sacks of grain were harvested on Judge Lewis' farm, the "Snowflake" turning out splendidly. Albert Blanchard, of the firm of Blanchard Bros., who farm 400 acres or so on Dry creek, between Elder creek and Thomas' creek, reports the farmers around his neighborhood all through heading and waiting for the separator. John Middleton, of the Reservation country, came in with a load of his grain, which he sold to our local miller, who seems to be purchasing largely at private prices. Wheat arrives every day, and all day, from every direction. The heavy wagon trains are making sad havoc in our roads. The approaches to our city are in a deplorable condition. Garden truck is falling off; peas are out long ago; string beans, the second crop is nearly gone; corn is getting scarce. Fancy 10 cents for a dozen small ears of green corn! Peaches are 2½ cents per lb.; plums, 2½ cents. Fruit at all times commands a good price at this point. Blackberries sold at 5 cents per lb. this year; cheaper than ever before. Tomatoes are scarce, owing to the late spring. Apples and pears are plentiful, but the valley apples do not last long, and the mountain apples will not be in the market for some time. We depend upon

the orchards of Shasta county for our winter apples, and generally get excellent ones. Grapes have been in the market some time, but not the choicest varieties. White and common Mission grapes are plentiful. We have several fruit stores in town, all doing a mixed trade. John Chinaman nearly monopolizes the vegetable industry of our county, to our sorrow and disgust. Fennell & Sons are shipping from the depot at Tehama from 8 to 13 carloads of wheat a day. They will have over 135,000 sacks of grain. They have not all of their fine crop cut yet.—FELIX, Red Bluff.

YUBA.

FISH PONDS.—Marysville Appeal: George Betts, who resides about three miles above Brownsville, in this county, has two fish ponds covering about one and a half acres of ground. They have been stocked with carp and catfish during the past year or two, which have increased rapidly in numbers. He reports the increase of carp almost unequaled, and expects in a year or two to furnish a sufficient quantity of both kinds of fish for market. The water is supplied by a brook along the course of which the owner expects, during the next year, to make eight other ponds, arranged so that the water can run from one to another, lowering or raising the quantity in each at pleasure. The ten ponds will cover five acres of ground.

NEVADA.

GAME LAW OF NEVADA.—Reno Journal: Prairie chickens, partridges, grouse, quail, pheasant (or ruffed grouse), woodcock, wild geese, brant, swans, any kind of ducks, sand hill cranes, plover, curlews, robins, meadow larks and bitterns may be shot from September 1st, to April 1st. Sage hens and snipe may be hunted from August 1st to September 1st. Insectivorous birds are always protected. All kinds of deer, antelope and mountain sheep may be shot (or shot at) from July 1st to January 1st.

NEW MEXICO.

ABUNDANT GRASS.—News and Press: The range prospects were never better throughout Colfax county than now. Plentiful rains have converted what during the long drought were parched plains and brown hills into the greenest and most charming of landscapes. Old cattlemen say they have seldom known so good prospects for abundant fall and winter feed, and every one looks forward to a profitable ending of what, at one time, promised to be a disastrous season. A remarkable fact about the gramma and buffalo grass of this country is the rapidity of its growth. After the rains come in summer it matures in six weeks or two months. It seems by a long series of natural selection to have become exactly adapted to its climatic conditions, and to be able to lie dormant and apparently dead for two-thirds of the year and then suddenly revive and grow with great vigor during its short season of moisture.

Pianos and Organs at the Mechanics' Fair.

Prominent among the exhibits in the north gallery is the large case of brass and wooden musical instruments exhibited by Messrs. Kohler & Chase. We have never before seen a larger or finer exhibit of this kind than is now being made by this firm, nor one more artistically or tastefully arranged. In addition to those thus shown in the case, they also exhibit a number of most elegant pianos and parlor organs. The well-known reputation of this firm is a sufficient guarantee that whatever they offer the public is all that it is represented to be. Their Decker pianos are well known throughout the city, and there is scarcely a concert given here, where this instrument is not brought into requisition to furnish the instrumental accompaniments to the voice. In addition to the Decker instrument, they also keep constantly at their warehouses, No. 139 Post St., a general assortment from other manufacturers. In their exhibit may be seen elegant instruments from the establishment of J. C. Fisher, and also Mason & Hamlin, and Cluff & Warren's parlor organs. This exhibit gives a very good idea of the beauty, finish and quality of the instruments furnished by this firm, which is one of the largest and oldest musical establishments in the city. The head of the firm, Mr. Kohler, is now absent in the Eastern States and Europe, whether he makes almost annual trips, to buy at the largest markets, and to keep posted, by personal inspection and inquiry, as to the most approved goods of every description which enter into his extensive line of business.

AN INDUSTRIAL MUSEUM IN NEW YORK.

The American Chamber of Commerce, an organization having its headquarters in New York city, is about to open in that city what may be called an industrial museum. Authorized by the general laws of the State, the corporation has power to hire or build suitable rooms or halls for a permanent exhibition of samples, patterns and articles of American manufacture, models of American patented articles and agricultural, horticultural and mineral specimens from all sections of the country. Correspondence with the consuls and consular agents of the United States in all parts of the world has led to the determination of forming a museum of patterns and examples of foreign production, to enable American manufacturers to cater for the peculiar tastes and ideas of foreign populations, in order to compete successfully in their markets. It is intended to open the exhibition and museum in September next.

The Tuolumne Exhibitors at the State Fair.

EDITORS PRESS:—In your last week's issue you publish a letter purporting to have been written by J. A. Goodwin, of Tuolumne county, in reference to an exhibition of fruit which Mr. Goodwin says he made at the State fair, in 1879. I have no recollection of having received the letter, but if I did, it must have been received at a very busy time when finishing up fair matters, and laid temporarily aside and never taken up again—a thing that sometimes, but seldom, occurs in my office. Upon seeing the letter in the *RURAL*, however, I made an examination of the entry and award book of 1879 in the fruit department, and am not able to find either the name of Mr. Goodwin or Mr. Quinn, and their was no fruit entered on the books from Tuolumne county as having been exhibited at the fair. The only way in which I can explain this fact is that Mr. Goodwin supposed when he had delivered his fruit to the superintendent he had done all that was necessary for him to do, and that in the hurry of putting things in order it was never discovered that they had not been entered on the books. Then, when the committees received the books, finding no fruit in them credited to Mr. Goodwin, they of course made no report, and, consequently, Mr. G. saw no report in the press, and there is none in the annual report. I suppose that this may have been the state of facts, because I know that similar cases have occurred before. The entry clerk, instead of Mr. Goodwin, may have been in fault (certainly some one was), and at this late day it is impossible to determine where the fault does lie.

I am glad that the matter has at last been brought out, as it affords me an opportunity to say, through your widely circulated paper, to all exhibitors at the coming State fair, that they must in all cases see that their goods are on the entry book, and that they have a receipt for them before they are placed in position for exhibition; and to say to Mr. Goodwin, bring your fruit down again, and we will see that he and his fruit are properly cared for and adjudged of by the proper committees.

I. N. HOAG, Sec'y.

Sacramento, Aug. 24th.

WEATHERING OF STONES.—In a paper read by Prof. Geikie, before the Royal Society of Edinburgh, the author records the results of certain observations on the weathering of tombstones and monuments in graveyards, with a view of measuring approximately the rate at which atmospheric degradation takes place under natural conditions. The calcareous rocks (marble and limestones), as might be expected, yield quickly as a rule to atmospheric agents. In some cases slabs have been worn down a quarter of an inch in less than a century by the superficial solution of rain containing carbonic and sulphuric acids; in others they are found to have been disintegrated internally, so that the very substance of the marble crumbles away; and in a third series of cases, where the slabs have been inserted in a framework of solid stone, the expansion of the slabs has caused outward curvature and ultimate fracture. In sandstones the effects are more varied. Where the stone is flaggy or distinctly bedded, and the lamination is exposed to the action of the rain, or where the rock is not of homogeneous composition, the destruction has been very rapid, the flakes scaling off and leaving a raw, bare surface. Slabs of freestone and other unlaminated sand rocks Prof. Geikie, however, finds to be so enduring that the sharpness of the cut letters is scarcely blunted in the slightest degree by a century's exposure.

NEW VARIETIES OF TEA.—An English consul reports the discovery of two curious varieties of tea on the western frontier of China. In the monasteries on Mount Omi (or Ngomi) he was given an infusion of tea which is naturally sweet, tasting like coarse congou with a plentiful addition of brown sugar. It is only grown by the monks on the slopes of the mountain, and two days' further west its existence was unknown. The other variety, odd as it may appear, has the natural flavor of milk, or, perhaps, more exactly of butter. What is most interesting is the fact that it is wild tea, growing in its native elevated habitat without cultivation. This wild tea is found in the uninhabited wilderness west of Kiating and south of Yachow, at heights of 6,000 ft. and upward, and is a leafy shrub 15 ft. high, with a stem 4 inches thick. Every part of the plant, except the root, is used for making the infusion; the wood is chopped up and put into a kettle of water with the dried leaves and twigs, and being boiled yields a strongly colored but weak tea, possessing a buttery flavor, which gives it some resemblance to the Tibetan preparation.

THE COTTON-SPINNING INDUSTRY OF THE WORLD.—This industry, of the entire world, consists of 71,250,000 spindles, of which more than half (or 39,500,000) are operated by British manufacturers. The U. S. have 10,050,000; France has 5,000,000; Germany, 4,800,000; Russia, 2,860,000; Switzerland, 1,870,000; Austria, 1,800,000; Spain, 1,775,000; Italy, 900,000; Belgium, 800,000; India, 1,275,000; Sweden and Norway, 310,000; Holland, 230,000; and other countries, 80,000 spindles.

News in Brief.

ADELAIDE NEILSON was buried Aug. 19th in London.

The Spanish government will soon disband 14,000 men of the Cuban army.

GEN. ALBERT J. MEYER, chief of the Signal Service, died at Buffalo, Aug. 24th.

Two fine elks were killed in the hills adjacent to Camas valley, Or., lately.

COMPETENT authorities say that the Russian harvest is the worst since the famine of 1873.

SOME deep patches of snow are still lingering in the shady canyons along the Sierra City road.

SAN FRANCISCO has been selected as the place of meeting of the next Conclave of the Templars.

THE Pueblo Reduction Works, Denver, were struck by lightning and totally destroyed by fire Aug. 18th.

GEORGE GERARD, aged 18, fell 100 ft. in the shaft of the Oregon mine at Alta and received fatal injuries.

CAPT. MIGUEL AZCUEGUA, of a Mexican gunboat, was killed by the falling of a carelessly-mounted gun.

MRS. EMMA YOUNG, a great-granddaughter of Patrick Henry, is ill and penniless at her home in Washington.

It has been decided that Sara Bernhardt will have to pay duty on her wardrobe of 47 dresses when they arrive.

It is believed that the Egyptian cotton crop will be 2,500,000 lbs. less than that of 1876, and about 15 days late.

FRENCH dressmakers have discovered that the Jersey molds the figure too plainly and prefer the tailor-cut coat.

HENRY P. WIGGIN mowed in a field at Salem, Mass., the other day in which was paris green, and died of poisoning.

It is suggested that it might be well to carry big bouquets slung over the shoulder, pappoose fashion or ragpicker style.

A GIRL 14 years old threw herself out of a Paris window because her mother gave her a scolding. She was killed.

AYOUB KHAN, with his Heratense, has moved northeast from Candahar to oppose the advance of Gen. Robert from Cabul.

A MOB of 1,000 negroes attempted to lynch a white man in Kansas City, Aug. 22d, but were kept by him at bay until rescued.

EDWIN C. MIX, JR., was killed in New Orleans Aug. 19th by Ferdinand, Armand and Henri Devance for flirting with their sister.

Eighty cents per bushel is being offered for wheat in Jacksonville, an advance of 20 cents over the price at this season last year.

THE twin children of John Farley, living near Lowell, O., were found Aug. 21st drowned in a tub. The parents have been apprehended.

SENATOR BRUCE and his wife are at Saratoga at a stylish house kept by colored people for the better class of people of their own color.

THE Commissioners of the Freedman's Savings Bank have declared a dividend of 10%, making 40% thus far. They expect to pay another 10%.

ASA DOW, of Chicago, who has got caught in a pork corner, has refused to pay his margins on the ground that the quoted prices are fraudulent.

NEGOTIATIONS between the Anglo-American and French Transatlantic cable companies have resulted in a uniform tariff of two shillings a word.

A SENSATION has been created in Berks county, Pa., by the discovery of a lunatic who for 27 years has been incarcerated and chained by his brother.

THE family of the Duke of Argyll is said to embrace all sorts of pursuits from trade to royalty, his sons' wives occupying as various stations.

GUGLIELMO MOGNANI, of Stockton, has begun a suit against the railroad for \$100,000 damages for causing the death of his father on July 13th last.

TWO more enterprising boys, of San Diego, have set out for a three months' cruise about Guadalupe Island to hunt, fish and gather abalone shells.

JOHN THOMAS, a native of Albermarle, Va., is the father of 32 children. He has been twice married, and 21 daughters were born to him before a son.

THE street railways in the French provincial towns offer very cheap traveling. The average fare is two cents without a seat and four cents with one.

THE female students at Swiss universities have this year carried off nearly all the honors, not only in philosophy, but in chemistry and medicine as well.

THE question of moving the capital of Idaho from Boise to Blackfoot is being discussed. The latter place is located in Oneida county, within one mile of Snake river.

THEY enforced the rule the other day at a Cape May hotel against the admission of dogs, and one Philadelphia dame, who has a pug for a favorite, left in disgust.

DURING the year ended June 30th last 457,243 immigrants arrived in this country. In the year of the greatest immigration (1873) there arrived 450,803 immigrants.

MRS. TYLER, her daughter, Mrs. Lylic, and granddaughter were burned to death on Sunday night, Aug. 22d, in Marshall county, Ky., by the explosion of a coal-oil can.

AN Alexandria correspondent says: The second mate and 10 natives were lost from the steamer *Jeddah*. The captain's certificate has been suspended for three years.



A Summer Evening in the Country.

The evening sun was sinking in the west,
The sea one dazzling sheet of burnished gold;
The shepherd guides his bleating flocks to rest,
To shut them for the night within the fold;
Each blade and leaf is set with many gems,
Of dewdrops sparkling in the golden rays,
While from the midst of leafy branches hymns
Arise, from feathered throats, to God in praise.

The valleys seemed, with heavy falling dew,
Numerous lakes in miniature before my view;
The lowing kine, that slowly moved along,
Were answering back the happy milkmaid's song.
The farmer, seated by his cottage door,
Looked with contentment o'er the grassy moor;
His eye would rest betimes, with all a father's pride,
Upon his happy children, sporting by his side.

A murmuring brooklet ran along the glade,
A thread of gold it seemed before mine eyes,
And in the pool, beneath the leafy shade,
The speckled trout were sporting with the flies.
I stood entranced beneath a spreading tree,
My heart and soul were filled with thoughts of love;
E'en the rook's hoarse cawing seemed to me
A vesper rising to the throne above.

The minstrel lark, speck-like against the sky,
Pours sweetly forth his evening song on high;
Then, folding close his pinions to his breast,
Descending slowly seeks his humble nest;
While far and near the busy laboring bee
Gathers his store along the flowery lea;
The sun darts swiftly downward to his rest,
And night spreads forth her mantle east and west.

—T. H. Murphy in *American Cultivator*.

Meadow Lilies.

[Written by ALICE GRAY COWAN for the *Springfield Republican*.]

I pause a moment on the green hill's crest,
Below, the meadow lies in purple bloom;
Cloud shadows fit across its fragrant breast,
And the light zephyrs rock each purple plume.
Amid the grass the stately lilies rise,
Their glowing colors of the Orient tell;
Proudly they lift toward the radiant sun,
With silent face, each deep-hued perfect bell
In raiment rare. They neither toil nor spin,
As "lilies of the field" was not arrayed,
"In all his glory" that great Eastern king,
Such were the simple words our Savior said.
In his sweet "sermon" on the lonely mount,
To the rapt multitude who thither strayed.
Suisun, Cal., June, 1880.

Farm House Chat.

[For the *RURAL PRESS* by MARY MOUNTAIN.]

The "School Sketches" by L. J. D. have set my own memory upon the back track and also remind me of the promise made to *RURAL* readers two or three years ago that I would some time review the old times and tell them what I know of the ways and means by which Vermont boys and girls managed to get "a little more schooling" some 30 odd years ago.

Of course we all had our share of "district school" to begin with, and so strong was public sentiment on this point that no parent would be called respectable who would upon any pretext deprive a child of that chance for a start in education.

My remembrance of little girls at district school reaches far away to a time by no means brightened by such artistic and purely decorative performances as "fuzz mats" and oak-leaf edging, for always besides the lunch-basket we carried a calico bag that held the knitting or plain sewing, and very seldom a day that we did not have our stint of regular work to be done while at school.

Often it was a pillow-case, a shirt sleeve, a pantlet, an apron or the inevitable square of patch-work, and in case of knots, snarls or any difficulty with the work we marched up to the teacher's desk for help as confidently as with a hard word in spelling or geography.

And the teachers always helped us patiently and kindly; in fact many of them had far more skill and aptitude with the needle than with pens and books. For steel pens were not yet in use and every school-ma'am was expected to know how to convert a good wing into a great many serviceable pens; but all scholars must bring their own quill, and little home-made writing books in which the teachers must "set the copies." It would sometimes happen that a teacher had not the mechanical skill necessary to delicate whittling or shaping of the goosequill pens and when we had to apply to the father or big brother for this important manufacture great was the scoffing at the "school-ma'am who didn't know enough to make a pen."

This feather pen of my childhood floats up a throng of queer recollections that must not be indulged, for they might possibly interfere with the line marked out for "school sketches." It is the county grammar school or academy that I have in my mind, and a rare old place it was for honest head-work or the overflow of youthful mischief.

From scores of busy men and women now bearing the heat and burden of the day in a great West that was not dreamed of when we were young, would come warm responses if they were asked for testimony about the good times they had in "the old Stone Jug" at Brownington in the days of good old Father Twilight.

The academy itself was of the usual New England pattern, a plain, wooden building of two stories and a steeple, painted white; the lower story for the preceptor and his classes of boys and young men, the upper part for the preceptress and her young ladies, and a small room over the entry where were kept the wonderful planetarian and modest chemical apparatus.

Father Twilight was preceptor for many years and his big stone boarding-house was certainly the pride and the plague of his life.

Its pet name of course was "Stone Jug," and at that time I never doubted it was one of the finest and largest buildings in the world, with its three stories and a "sky parlor" in the roof, its many windows and wide window-seats finished into the thick walls.

The first floor was occupied by the Twilights and a few family boarders, for although the price of board was usually one dollar per week there were few who could afford to pay it, and it was decidedly the fashion for students to board themselves; and this was never considered a hardship or a work of special merit, it was simply customary.

So the second and third stories were divided into small rooms about 12 ft. square, a row upon each side opening into a common hall through the middle, and each room was furnished with a cupboard, bedstead, stove and table, all of the plainest, cheapest sort, and students were expected to bring from home whatever else was needed for their small housekeeping.

Spring and fall terms were the favorite seasons for flocking to the academy, and it was a great event in any household when one or more of its young folks were to be fitted out for a 12 weeks' absence from home, and it bore some resemblance to the setting forth of a modern party of campers.

Of course the best clothes were put in order, and the young ladies of those days had generally a Sunday gown of merino or thibet cloth, and for school-days a home-made flannel and a few plain calicoes or ginghams. An elaborate or expensive garment was not known or dreamed of among those academy girls, and jewelry was also among the things that were not, if we except an occasional finger-ring or string of gold beads inherited by some lucky girl from her grandmother.

Plain, untrimmed undergarments, a cloak of cotton-wadded alpaca or bombazine, a straw-cottage bonnet, a hood of silk or merino, calf-skin boots for the week and morocco shoes for Sunday—with all these a girl was fairly well-dressed and not at all behind the times. Shawls were not so plentiful as they became a few years later, and I remember the proud little heiress with a fortune of \$1,000 was quite distinguished from the common herd by a purple satin shawl and a boa and muff of superior white catskin.

The rooms for self-boarders seemed cosy and cheerful after the first day or two of confusion. From home had been brought a curtain for the window, comfortable bedding, a rug for the floor, some chairs, a looking glass, dishes, etc., and a big box of cooked food with other sundries that we were to cook as needed.

It was brisk work to manage our housework and lessons, for we were sure to take up as many studies as possible, knowing that farmers' girls could seldom expect more than one term at the academy, and that this was expected somehow to give them a lift on the road of life.

Our parent never failed to remind us that they had grown up without such expensive advantages, and in their day nobody expected "extra schooling" but the few young men who were trained for the ministry, law, or medicine; and among these favored few, farmers' boys had often pressed forward and taken their place in front ranks; but farmers' girls were hardly yet looked upon as proper subjects for education. Within my own memory the idea was so new and met with such opposition that many a night I used to cry myself to sleep in perfect despair of every being allowed to "go away to school," and when finally my turn came to go with an older sister it was like a trip straight into fairy land, and the charm was not at all broken by the stern realities.

For with all our work we found time for gay pranks, and to listen in unlawful hours to the traditions of former bold students of high renown in the annals of mischief.

What a thrilling adventure was that of the romping girl who thought to play ghost in the upper hall sacred to boys alone, and was chased by the noisy crew into the very arms of Father Twilight—out patrolling for rogues—always good at catching them, and good at forgiving them, too, after a gentle lecture upon the rules of "decorum." That was a majestic word with him, and none of his students are likely to forget the solemn and vast scope he gave to its meaning.

There were plenty of astonishing tricks that I supposed at the time were wholly original with Brownington students, but have found since that they are common property in everybody's memory of the old-fashioned academy or college days. We had but a half holiday each week—the afternoon of Saturday, and the forenoon of that day was devoted to composition and declamation; this latter accomplishment being considered at that time very important for young men. There was no graduating—no diplomas—no grading of classes; a certain range of studies was permitted and scholars made choice in a sort of go-as-you-please method and very few were beyond the higher branches of English. The whole expense of a self-boarder for the term would be no more than five or six dollars of direct cash payment—the food sent

from home would not be reckoned as expense. Money was not plentiful, and everything was ruled by the strictest economy.

An accomplished preceptress, warranted to teach French, music and drawing, could only command \$10 or \$12 per month, and for teaching district schools a young woman could get in summer from \$4 to \$6 per month, and in winter from \$6 to \$8, and "board around."

A young man was paid in winter from \$10 to \$12 per month and must also "board around."

ANOTHER "JINER."—Much merriment was caused at a meeting of the Council of the National Agricultural Society, held yesterday afternoon, says the *Melbourne Age* of May 12th, by an extraordinary letter, received from a person in Russia signing himself Count Alexander Lubawski. The following is a copy of the document:—"I desire to become a member of this society. My titles are printed above, and I would like you to examine them. I am a writer on rural agriculture, and of monographs on judicial studies. I am author of projects say—1st. For the introduction of the registration of lands in Russia (the registration of lands does not exist there). 2nd. To establish a new science of agricultural statistics. 3rd. To convene the first congress for horticulture. I am a member of 40 agricultural societies in St. Petersburg, Moscow, etc. I send herewith my portrait, covered with decorations. The following address, in French, must be written on the letter sent to me: 'Count Lubawski, Ville de Viazma, Province de Smolensk, Russia.' I have just been made a Count of Thessaly by H. R. H. the Prince of Sunderland, and also Count of the Saint Siege. In consideration of the above I humbly beg—1st, to analyze my titles (printed); 2nd, to introduce my name as a member of the Agricultural Society of Melbourne in the following style: 'Sir Earl Alexander de Lubawski, a nobleman of Russia, Counsellor of State, Knight Grand Cross, member of 335 societies.' Signed, Count Alexander de Lubawski." The Council were not moved by the recital of all these extraordinary dignities, and determined not to accede to the request contained in the letter. A vote of thanks was accorded to the Russian Consul for translating it into English. The photograph of the Count showed that he was decorated with about 30 medals.

A WOMAN'S AGE.—A case has just been decided before the Appeal Court at Metz, which shows how a lady's age is a matter entirely within her own control. Fraulein Catherine Mahl was engaged to a desirable partner to whom she had imprudently declared her age at six years less than it really was. As soon as the moment arrived for producing the certificate of birth, she was aware that her little deception would be discovered, and she feared that the match would be broken off. She therefore took the liberty of altering the official document so as to make it correspond with the statement already made. The ceremony took place, and the husband was duly united to a lady whom he believed to be quite a *jeune ingenue*. Unfortunately, the certificate, in passing through some office, happened to be very minutely examined by one of the clerks. The bride was charged with the offence of falsifying a public document, and condemned to spend, if not her pleasant honeymoon, at least three of the first months of her married life, in prison. She had the courage to appeal from the sentence, and caused the case to be argued before the court at Metz, which reversed the decision of the inferior tribunal, and acquitted the lady on the ground that she did not intend to commit an illegal act, but had been actuated only by "female vanity."—*Irish Law Times*.

FUN AT HOME.—Do not be afraid of a little fun at home, good people. Do not shut up your house, lest the sun should fade your carpets; and your hearts, lest a laugh should shake down a few of the musty old cobwebs that are hanging there. If you want to ruin your sons, let them think that all mirth and social enjoyment must be left at the threshold without, when they come home at night. When once a home is only regarded as a place to eat, drink and sleep in, the work is begun that ends in gambling houses and reckless degradation. Young people must have fun and relaxation somewhere; if they do not find it at their own hearthstones, they will seek it at other and less profitable places. Therefore, let the fire burn brightly at night in winter, and let the doors and windows be cheerfully thrown open in summer, and make the homestead delightful with all those little arts that parents so well understand. Do not repress the buoyant spirits of your children. Half an hour of merriment within doors, and merriment of a home, blots out the remembrance of many a care and annoyance during the day; and the best safeguard that they can take with them into the world is the unseen influence of a bright little home sanctum.—*Donahoe's Magazine*.

A MAN who wanted to see the rich proprietor of a large store, being told that he was "somewhere about among the clerks," asked, "How shall I distinguish him from the rest?" "By his shabby clothing; he is the worst dressed man in the lot," was the reply. The moral of this is that the rich man can look as he pleases, while the poor one must look as some one else pleases. Rich respectability may be shabby, but a poor man to be respectable must be neat. The virtue of riches is greater than that of neatness and overshadows it.

Apothegms that the Turks Find Comfort In.

A libation is better than a potation; wine is often better spilt than drunk.

A lie is a desperate cowardice; it is to fear men and brave God.

Lovers are apt to hear through their eyes; but the safest way is to see through their ears.

All young animals are merry, and all old ones grave. An old woman is the only ancient animal that ever is frisky.

It is better to do the idlest thing in the world than to sit idle for half an hour.

Drink never changes, but only shows our natures.

In the whole Hebrew dictionary there is no word to express nature and philosophy.

What a dread of death must some people have who would rather be dying than dead!

Man must be initiated in the mysteries of iniquity in order the more safely to pursue the paths of virtue.

Better to have one's feet dirty than his hands.

The more a person wants the less will do him good.

A kindness can never be cancelled—not even by repaying it.

Algebra is a metaphysics of arithmetic.

Desire in youth a passion—in age a vice.

To have respect for ourselves guides our morals; to have a deference for others governs our manners.

An epicure desires but one dish; the glutton would have two.

The four characteristics of mankind—to build a house, to raise a tree, to write a book and to have a child.

When a misfortune is impending I cry, "God forbid!" but when it falls on me I say, "God be praised!"

A man's fortune should be the rule for his sparing, not spending. Extravagance may be supported, not justified, by affluence.

A sober man when drunk has the same kind of stupidity about him that a drunken man has when sober.

HOSTESS AND GUEST.—A writer in the *New York Tribune* says: Many women permit themselves to be crushed under the burdens which a fancied hospitality imposes. They tax their strength, they tax their purses, they drain their resources of all sorts in the endeavor to make their guests happy. In doing this, it seems to us, they are doing a great wrong to themselves. No guest of proper feeling will be willing to allow this state of things. No hostess knowing what is due to herself as well as to others will fall into this error. Of course there is always a certain care felt by the hostess as to the comfort of her guests which cannot be thrown off, and it is not desirable that it should be. In some cases the hostess can furnish a pleasanter and more comfortable home to her guest than that guest can command elsewhere; in some cases a less comfortable home. But in every case the hostess may justly feel that whatever guest accepts her hospitality is bound to be content while accepting it with the best her hostess can do for her, and not only content but grateful—else the guest should change her quarters.

IMPORTED BONNETS.—The imported bonnets are invariably small, fitting closely to the head, and are trimmed with a profusion of flowers, gold lace and very wide, soft, twilled strings that tie behind. Few long feathers are seen, and little face trimming is used. A long Spanish bonnet scarf frequently covers the crown of the bonnet, and then is fastened to the sides, brought around under the chin, and caught together by a flower or jewel pin. Round hats show a strong touch of exaggeration. Popular taste runs riot just now where these articles of headgear are concerned. We have inverted saucers, soup dishes and extinguishers, all sorts of eccentric and wild-looking scoops, pokes and flares, with crushed-in crowns and spread-out brims, and other countless vagaries. As to trimmings, there are birds' nests made out of moss, filled in with giant gooseberries and mammoth strawberries and currants, which, if they were not artificial, would receive the first prize at the horticultural fairs.—*New York Post*.

A PHENOMENAL WOMAN.—Lady Susan Jallot, sister of the former Earl of Shrewsbury, and aunt of the last Catholic lord, died recently in the Dubois private hospital. She is described as a woman of homely manners, and masculine in appearance and conversation. Her stature was gigantic and her build heavy. She walked like a cavalry soldier, and had something of a beard. She had a strong temper, a hearty laugh, a warm heart and fine, prompt judgment. A Protestant member of a great Catholic family, she passed most of her life in France; but though voluntarily estranged from her relatives, there was a moment when she wrote to the Lord Chancellor claiming to be the guardian of the youthful Earl of Shrewsbury. Her passion was love for dogs and horses, three of which she groomed herself. She had sweet blue eyes and lovely auburn hair, which she arranged in falling curls.

ROMANTIC people watch the bathers playing in the water at Santa Cruz with their Black Crook dresses, and wonder what the wild wave are saying—*Picayune*.

Chaff.

IN driving a hen a woman is generally slow but shoo-herr

A WHITE hoy met a colored lad and asked him what he had such a short nose for? "I 'spects so's it won't poke itself into other people's business."

A GIRL who can put a square patch on a pair of pantaloons may not be so accomplished as one who can work a green worsted dog on a yellow ground, but she is of more real value in the community.

BURDETTE says that they call a locust tree and a high board fence and 23 beer tahles a grove, anywhere within 30 miles of New York. There are a few dozen of these kind of "groves" and "gardens" in the vicinity of San Francisco.

It would never do to elect women to all offices. If a female sheriff should visit the residence of a handsome man and explain to his jealous wife that she had an attachment for him, there would be a vacancy of that office in about two minutes.

It was very careless leaving the parrot in the parlor Sunday evening, but she never thought anything about it until Monday morning, when he roused the whole house by making a smacking noise and crying, "Darling Susie; darling Susie." He kept it up all day, too, and the old folks are much interested in the case.

AN absent-minded speaker named Yancy undertook to whisper something of importance in the ear of old Mr. Reynolds, Saturday, but in his absent-mindedness neglected to remove his cigar, the fire end of which was driven right into the gentleman's ear. Mr. Reynolds jumped straight into the air about six ft., and coming down split Yancy's nose by a well-directed blow. Yancy picked himself up, and started for home, declaring in his rage that he'd be hanged before he'd tell old Reynolds what he was going to.

A SMART young man asked a gentleman from Cape Cod: "What's the difference between you and a clam?" thinking that the Cape Codger would say he didn't know, and then the young man would pity him for not being able to see any difference between himself and clam, but the thing didn't work. The Codger took the young man and brushed a path across the street with him, and then, after crowding him in an empty fish barrel and yanking him out again, said: "A clam wouldn't be a playing with you this way. That's the difference 'twixt me and a clam." The young man had no more questions to ask.

HOME-MADE FEATHER DUSTER.—A feather duster is an article, the convenience of which every housewife appreciates, but it is often too expensive for many farmers to buy. For all such, some hints as to how a duster of equal utility and durability to a store one may be made at home from feathers that would otherwise go to waste, may be useful. If beauty is not sought any round stick of the proper size, such as the end of a broom handle, will serve for the handle of the brush. If one happens to have an old duster handle that can be used once more, with a saw make a series of grooves or deep notches in the lower end of the handle. By the aid of a hammer the lower portion of each quill should be so flattened as to pass into the grooves. As fast as the feathers are put in they should be tied with strong twine; and as the work proceeds glue should be added, then the feathers, followed by the twine and glue, may be added until the end is completely covered and the duster is of sufficient size, after which the finishing row of large feathers, selected for the purpose, is placed around the whole and tightly bound with twine. Outside of the base of this last row of feathers a neat strip of leather may be glued, to both improve the appearance and render the feathers more secure. A brush thus made will serve all the purposes of a purchased one, and if the work is carefully and thoroughly done it is neat in appearance.

CRYSTALLIZING GRASSES.—For an ordinary collection of grasses and ferns sufficient for two bouquets or a basket, take a pound of alum and a gallon of water; boil until dissolved, and when cool, having tied the grass in small bundles, pour the solution of alum into a glazed jar or basin and, placing sticks across the rim from side to side, suspend the bunches from these so that they hang down and are immersed in the water; then put the jar in a safe place where it will not be disturbed for several hours or perhaps during the night. Do not expect that the solution becomes solid, for it may be 12 or 15 hours—perhaps even longer—before the deposit commences; this depends upon the temperature of the room and other causes. Frequently those crystals most slowly deposited are the most perfect and brilliant, so we may see that "patient waiting is no loss." If you should grow impatient, however, and there is any cause for haste, add more alum, dissolving a quarter of a pound of alum in a very little boiling water, and add it to that in the jar. When the grasses, etc., appear sufficiently coated, remove and hang them up to drain and dry off. Slender grass should not be too heavily crystallized, as it causes it to bend too much to appear graceful. However, all this will be learned by experience. Sometimes it is desirable to give the crystals a frosty appearance. This is done by placing them before the fire where they will dry rapidly—this will give them that white look, like crushed ice or frosted snow.

Young Folks' Column.

A Smile.

[Written for RURAL PRESS by ELLA M.]

A smile. What is a smile? As defined by Webster, it is a peculiar contraction of the face, expressive of pleasure or kindness; and also of slight contempt. A smile of pleasure or kindness is quite distinguishable from one of contempt. I suppose all of us have seen enough of each to know the difference between them, and an explanation would be quite unnecessary. A smile will usually tell a person's disposition sooner than anything else. How nice it is for a person to have a smiling, pleasant countenance, and how much better we feel to see and meet such, than a glum, cross and morose face; the latter we are afraid to approach, lest the person snap at us in some way; but the former! it is a treat; we love to be in constant company with the owner of the cheerful smile.

How pleasant it is, when sick or lonely, to have some friend, with a bright, beaming, happy face, enter our room; it makes sickness and pain more endurable, and loneliness is soon banished by their presence. A smile brings sunshine, as it were, and I think may properly be termed "personal sunshine." It seems a person with a bright face is always happy and gay. But you ask how can a person always keep a smiling face, surely they are tried as sorely as the rest of us; then how is it we look cross, and do not feel like looking at anyone? Or do they have any sorrow? Both questions are easily answered. The reasons are these, briefly speaking: A cheerful disposition for the first; next, they have many troubles, perhaps many of them more trials than we; but they have a different nature than we, say you? No, not that; it is this: They look at the bright side of things, not like many girls sent to school from home—think it all darkness and desolation from the home fireside.

But here allow me, my readers, to relate a little story; it is of a friend of mine, while we were yet school girls: This friend, when first sent to school, was homesick (a most terrible disease). She could not study; thought it mean to send anyone to school so far from home. Well, she went to school about two years, the whole time homesick, too, and at the expiration of that time graduated with great honors. And now she says: "I would give anything to be at school again; I did not know which side was bright, but now I see." Yes, now she sees, but, like many of us, too late. She advises me to look at the bright side (I never do look at the dark side though), and adds: "Hereafter I am going to practice what I preach, and try to look on the sunny side"—one sensible resolution at last! While at school she could not smile, but always welcomed those who did. Many fathers, mothers, husbands and wives look at things in the same light this silly girl did, but she at last came to her senses, and I do hope they will look at things in a brighter light hereafter, too. Let us try to bring sunshine into our lives and try to benefit others in a similar form, and teach those who cannot smile, the method of so doing.

Davisville, Cal.

[We are pleased to receive short, bright essays from our young readers. They will stimulate each other to efforts at composition, and the exercise is a valuable one.—EDS. PRESS.]

Susie's "Two Mites."

Our superintendent believes in giving. He thinks every one can give something to those more wretched than himself. So one day he told our poor children of other children far worse off than themselves, because they had no school, and no teachers to tell them about Jesus. "Now," he said, "next Sunday I want you all to bring something." He told them how the Savior would receive the smallest offering, and how kindly he spoke about the poor widow who had only two mites to bring.

Well, "Missionary Sunday," as it was called, came, and with it came the children with their strange offerings. We could hardly help laughing at the curious collection, but some of the gifts were not only curious but touching, and everything that was brought showed at least the giver's "willing mind." Among the gifts was a little girl scarcely four years old, barefooted, with face unwashed, hair uncombed, and with a thin dress pinned about the neck. She handed a basket to the superintendent.

"Well, Susie, what have you here?"

"My present, sir. But you mustn't let them get out."

The children crowded up nearer at this, and we all began to wonder.

"Is there anything alive in the basket?" he asked, smiling.

"Yes, sir; two mice," said little Susie, smiling back in her pleasure. "I caught 'em. We've got lots of 'em at our house."

There was a laugh all around the room as the superintendent exclaimed, "Two mice!" What do you suppose we can do with mice? we are overrun with them now."

Susie did not move or speak for a moment; then her bosom heaved, and the tears came into her eyes.

"If Jesus was here, he'd a took 'em," she said.

The superintendent was moved by her simple words, and asked very gently, "What made you think of bringing them, Susie?"

"You said the other day that a poor woman brought two mice to Jesus, and he said it was more than any of 'em."

Then he remembered telling the children about the widow and her two mice, and in a minute saw little Susie's mistake.

But taking her up in his arms, he said very tenderly, "Jesus is here to-day, little Susie, and he says just the same to you."—*Parish Visitor.*

GOOD HEALTH.

Dr. Tanner's Fasting Experiment.

Its Lessons and Philosophy.

Of all the exhibitions which have attracted the attention of the people in and around New York City, the forty days' fast of Dr. Tanner is not the least remarkable. That his experiment is not altogether useless, we will try to elucidate, notwithstanding we agree that the sacrifice and danger he exposes himself to appears so great that it is doubtful if they will be compensated for by the physiological and pathological lessons to be learned by it.

In order to understand what may be learned from this experiment we will, for the benefit of the non-professional reader, remind him of a few physiological principles.

The chemical constituents of the human body have to be constantly renewed, and the waste has to be supplied by the food. Some of these constituents are wasted rapidly, others slowly, and in case of starvation the elements rapidly wasting away must be present in the body in sufficient quantity to keep the functions of life in operation. These rapidly wasting constituents may be divided in three classes, those in which carbon prevails, those in which nitrogen, and those in which phosphorus is the prevailing element.

The carbonaceous compounds are wasted in keeping up the animal heat. This is accomplished by a slow combustion, that is, a combination of the carbon with the atmospheric oxygen, which is continually going on in the capillaries through the whole body, the oxygen being furnished by the blood, which absorbs it in the lungs, and which by the arteries is sent through the body. The product of this combustion, the carbonic acid, still absorbed in the blood, is by the veins sent to the lungs, where it is given off and escapes in the act of respiration. After having stripped Dr. Tanner, when he commenced his fast, for the double purpose of ascertaining his physical condition and leave no doubt that he had no food about him, it was seen that he had plenty of fat in and around his body to furnish carbon enough to last him more than forty days.

The second element of rapid consumption is nitrogen; it proceeds from the waste of the muscular tissue, which is always going on, even during sleep, as the heart is a muscle continually contracting, and respiration is kept up by muscular action. The blood takes up this waste in the form of a compound, of which the chemical name is cyanate of ammonia, but which by physiologists is called urea. It is the function of the kidneys to secrete this from the blood, and numerous experiments have settled the nature and amount of this secretion, which in healthy persons consuming food varies from 25 to 35 grams every 24 hours. When Dr. Tanner began his fast it was secreted at the rate of 29 grams, and as the nitrogen in any excess of nutrition is similarly changed and secreted, it was expected that a large reduction would be observed as soon as the fast began to have effect on the system. This expectation was realized, and the amount soon fell off to 23, 20, 17, 16, and finally 13 grams, at which it remained stationary, with slight oscillations beyond. This amount of nitrogenous substance represents, therefore, the waste necessary to sustain the functions of life, and would at once be increased in case food was taken by the experimenter, at least nitrogenized food, such as beef extract or its equivalent, albumen, caseine, milk, etc., the only substance which would be of benefit to him.

The third element of rapid waste is the phosphorus; it proceeds chiefly from the waste of the brain and nervous tissues. It is so important in these functions that a great German chemist has formulated the expression, "without phosphorus, no thought." Every mental act and every nervous excitement is accomplished by a consumption of phosphorus.

This third element did not at first show any reduction in quantity, but, to the contrary, for a few days some increase. It was at the occasion that Dr. Tanner had been unjustly accused by a physician present that he had surreptitiously accepted food from one of the watchers; this appears to have preyed upon his mind. Attention was therefore called to the danger in this direction, a danger proceeding from the more rapid waste of the nervous system. Relaxation was therefore devised, and daily carriage rides, which eased his mind and were followed by a more sound sleep, soon reduced the phosphates secreted, and at the same time reduced the irritability and temper of the experimenter.

We will only add that the suspicions occasionally expressed by those who cannot realize the possibility of so long a fast are utterly unfounded. All those who have taken the trouble to watch long enough, especially if they became acquainted with Dr. Tanner, came to the conviction that he is too high-minded, upright and honest to deceive any one with so mean a device as to take food secretly.—*Scientific American.*

DOMESTIC ECONOMY.

Summer Dishes.

There has been a pamphlet published in New York entitled "How to live in Summer," by Mrs. Amelia Lewis, former editress of the *National Food and Fuel Reformer*, London, England. The following among other things are advanced by the author: Many diseases that follow on summer and are the curse of our autumn are entirely brought about by carelessness in living. Soups are by no means to be despised in summer, but they must be fresh soups. That evil stockpot of which ladies and cooks are so fond, is an article which should never be allowed in a kitchen where health is studied. Fish of all kinds is an excellent food for summer. Fish pies covered with suet crust make a good meal. Suet crust is lighter than lard crust, but the suet must be chopped very fine and the crust be made of warm water. Fish cooking should be encouraged in every way. Ladies and cooks should never think that they have come to the end of their inventive power when they have boiled or fried fish. Roast beef should come seldom on the table in summer. There is no doubt that clear, fresh soups, made over-night, thickened with a little rice and sago, and warmed up the next morning, might give to many a delicate constitution more vigor for the day than either tea, coffee or milk, for the latter is not easily digestible for all adults.

For the workingman there is not a more nourishing dish than

Brown Onion Stew.—Take some fine chopped suet and melt in a saucepan, add a good many onions cut right across, and partially brown them, sprinkle a little flour over them and stir well, adding warm water to make gravy. Put in pepper and salt, and whatever pieces of meat, cut in strips, with a little kidney or liver, you require, or brown these also with the onions; let simmer about ten minutes or so, and then place carefully well-peeled potatoes on the top. This stew must gently simmer till done and not be stirred about, so that the potatoes come out whole. A few spoonfuls of catsup to be added some minutes before serving. It is light of digestion and very nourishing for summer.

Steak Pudding.—This is also a digestible, nourishing dish for work-people. Make crust of fine-chopped suet, flour and warm water; place round basin; cut pieces of steak, with some liver or kidney in strips, and put in with some fine-chopped onion, pepper, salt and a little mace; moisten with some warm water and close up with crust. If you have no steamer, place a trivet in the bottom of the saucepan and put basin on it, so that the steam from the boiling water below cooks the pudding. When well done, which you will know by the knife coming clear from the crust, take out, place on a dish, broadside down, and open top a little. Put in a small piece of butter and a couple of spoonfuls of catsup, and a beautiful gravy will run out round the dish.

Steamed Lemon Pudding.—Snits summer weather. Crumb stale bread, add one or two spoonfuls of fine flour, put to it very fine chopped beef suet, brown sugar, the juice of two or three lemons, well strained, and the finely chopped peel of one or two, also a few pounded sweet almonds, if desired. Beat up the yolks of three or four eggs well, and the whites of two, with white sugar; when the dry substances have been well mixed add the eggs and a little warm milk. Mix well and place in a buttered shape for steaming. If there is no steamer place it on a trivet in saucepan. When done pour over it sweet white sauce with vanilla flavoring.

A few sponge cakes, first soaked in milk or sherry wine, or with jelly or jam put over them, and a nicely boiled custard poured over it, make a refreshing pudding. Plain light suet pudding with fruit, and steamed, are to be recommended; also stewed fruits of all kinds; fritters with different flavors, particularly the orange; light open tarts, with fruit on top, but not covered by crust; omelettes with fruit, and all sweet dishes that recommend themselves to our good sense as easily digestible, nourishing and not overheating.

SCOTCH STEW.—Cut cold mutton into thin slices, taking care to remove the gristle, skin or sinew that may adhere. The pieces taken off can be put by to make gravy or broth. Put into a stewpan the pieces wanted for a stew; pour over them a little gravy that has been boiled with a very little thyme and a few pepper-corns; add a few drops of essence of celery, or three or four celery heads can be boiled with the thyme in the gravy; let the meat warm slowly after adding the hot gravy. Just before sending the stew to table, take out the meat, dredge a little flour into the liquor, let it simmer a few minutes, put back the meat and allow it to heat up well.

FARM SOUSE.—Soak the pig's feet, ears, etc., in water moderately warm; take off the hoofs with a sharp knife; cut out the hard, rough places and singe them. Boil with enough of the bone at the larger end, trim off fat and lean and put it in a bakepan; turn the seasonings over it, put into the oven, baste now and then until cooked, which you ascertain with a skewer. Dish it, strain the gravy over it and serve with a Madeira or champagne sauce.



DEWEY & CO., Publishers.

A. T. DEWEY. W. B. EWER.
Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square)..... \$1.00 \$3.00 7.50 24.00
One inch..... .2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, August 28, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Steam Digging in England; The Crab Grass of the South; New York Anti-Tramp Law, 129. The Week; Short Ships and Long Voyages; The Spread of the Phylloxera, 136. The Women and Silk Culture; A Chance to Show Californian Fruit; The Forest Area of the United States, 137. Notices of Recent Patents, 140.

ILLUSTRATIONS.—Crab Grass (Panicum Sanguinale), 129. Diagram Showing the Forest Area of the United States as Compared with the Cultivated Area, 137.

QUERIES AND REPLIES.—Carp Catching; Chemical Sheep-Dressing for Scab; Thinning Fruit with a Pole, 138.

ENTOMOLOGICAL.—The Winged Phylloxera, 136. CORRESPONDENCE.—Colusa County Notes, 130. From Lake County, 138.

THE VINEYARD.—Growing the Currant Grape in South Australia, 130.

HORTICULTURE.—Santa Cruz Berries; Olives in Australia; Bells for Birds, 130.

THE STOCK YARD.—Short Horn Notes, 131.

THE STABLE.—Saddle Horses, 131.

THE DAIRY.—Co operative Butter Making, 131.

FLORICULTURE.—Popular French Roses, 131.

PATRONAGE OF HUSBANDRY.—Grange Reunions The Revised Manual; "Patron," not "Granger," 132.

AGRICULTURAL NOTES from the various counties of California, Nevada and New Mexico, 132-133.

NEWS IN BRIEF, on page 133 and other pages.

HOME CIRCLE.—A Summer Evening in the Country, Meadow Lilies (poetry); Farm House Chat; Another "Jinner"; A Woman's Age; Fun at Home; Apocryphs that the Turks Find Comfort in; Hostess and Guest; Imported Bonnets; A Phenomenal Woman; 134. Chaff; Home-made Feather Duster; Crystallizing Grasses, 135.

YOUNG FOLKS' COLUMN.—A Smile; Susie's "Two Mites," 135.

GOOD HEALTH.—Dr. Tanner's Fasting Experiment, 135.

DOMESTIC ECONOMY.—Summer Dishes; Scotch Stew; Farm House, 135.

METEOROLOGICAL.—Application to the Distribution of Rain, 138.

MISCELLANEOUS.—The Californian for September; Pacific Coast Fish, 138. Remarkable Performances under Water, 139.

Business Announcements.

Improved Evaporators.—Vt. Farm Machine Co.
Canvasers.—E. G. Rideout & Co., N. Y.
Nursery.—Baile & Tuttle, Bloomington, Ill.
Hoover Telephone, 323 Montgomery St.

The Week.

Threshing continues with unremitting energy. Late as it is, new outfits are still going into the fields, because it is plain that those which went in early have much more than they can do before the season closes. As stated elsewhere, the out-turn of the fields seems too great for warehouses as well as threshers. There is no pressure to sell, but there is no little anxiety to know what such a large crop is going to be worth to the growers. This is a problem which cannot yet be solved.

The Mechanics' fair in this city is progressing satisfactorily, and visitors from the country and interior towns are many. The exhibition is generally voted one of especial interest. The show, under the charge of the State Horticultural Society, is steadily improving, and becoming quite creditable to all concerned. The displays show, however, the unusual backwardness of the season and the hardships to which the trees have been exposed during the last winter and spring. It is expected that better fruit will come in the next two weeks, and all are invited to send specimens, either for competition for the prizes or for general display. Those who will take the trouble to send good samples will aid greatly in making the fruit-exhibit representative, as the society desires it to be. The plant and flower department of the fair is voted by all the best ever had at any of the exhibitions of the Institute. The exhibitors are keeping up their stands in creditable freshness and beauty.

This is the last week of summer, according to count by months, and the approach of September should lead all to attack with new energy the mountains of work which should be leveled before the rains set in. There is much in vineyard, orchard, garden and in the broad fields which will call for weeks of earnest effort, and if this be given the holidays will drop the curtain upon a year memorable for its large fruitfulness and its little barrenness—a year peculiar as any the California agriculturist has ever known.

Short Ships and Long Voyages.

There are two themes which press almost irresistibly upon attention just at this time. Our wheat growers are brought face to face again with a market value which is so near the cost of production that the producer who accepts present rates must work for nothing and board himself. As this is the condition of affairs, it is timely to look for some of the causes thereof. Wheat is rather low abroad it is true, but it is plain that the price here is lower than it should be, notwithstanding the groveling character of the Liverpool quotation. At the same time ocean freights are up, vessels being firmly held at £3 2s 6d. There are no iron vessels disengaged and but few wooden ships available. If there should be any quickening of the demand, there would be no chance to profit by it, for the few ships at hand would raise their terms so as to include the cream of the rise. Thus our wheat producers find their wheat practically locked in. The vessels expected to arrive here during the next four months are held to be inadequate to the export business usually done in this part of the year. The fact is, that, notwithstanding our large crop, the ships are not coming for it.

Some time ago we published an article pointing out the danger which lay in our importing merchants entering into contract with the overland railway companies to bring all their merchandise by rail. We showed that, notwithstanding the apparent advantage to the merchants in quicker arrival of goods, etc., it was really a suicidal policy, because it would reduce the opportunities to ship wheat, circumscribe the prosperity of our producers, and eventually ruin the trade of the merchants by whose consent the new regime in transportation was brought about. It has not taken long to demonstrate the inception of the evil tendency. Those who are well informed on the course of trade assure us that before the close of the year at least 30 ships will be held away from this port because they could not get merchandise for the inward voyage. If this additional number of ships could be expected, it would, of course, make a considerable difference in the views of owners as to acceptable rates for charters. Thus it seems that our wheat-growers have to thank the new contract system between the merchants and the railways for part of lack in ships which now seems certain.

There is another matter in the same connection which becomes very pertinent in view of the low level to which wheat prices are forced. It is the great waste of time and money occasioned by carrying the grain around Cape Horn. This loss, of course, has to be accepted by our producers, because now it is unavoidable, but they should certainly make their influence felt in some way to secure freedom from the infliction. The escape seems plainly to be by way of an Isthmian canal. If we could, to-day, send wheat to Liverpool by this route it would make the grain worth probably 40 cents more per cental in this market than it is at present. This gain would make all our farmers comfortable for a year at least. The probable effect of shipping grain by the Isthmus and the cost thereof, as compared with the carriage around the Horn, was laid down by Pres. Clayton, of the S. F. Produce Exchange, in a recent address, in these words:

The importance to this coast of the speedy construction of an interoceanic ship canal, via Nicaragua or some other point, cannot be overestimated, particularly to those engaged in raising and shipping our cereals to foreign markets. I think it may be fairly assumed that if the canal was now completed the saving to our farmers this year alone would approximate \$4,000,000, to say nothing about the great convenience to our merchants and farmers in being placed within 25 days of Liverpool and 18 days of New York without change of cargo.

The distance from here to Liverpool by the canal would be about the same as to Hongkong. Flour is now carried by steamers to the latter place at \$6 per ton. Suppose we assume that wheat would be carried to Liverpool at \$10 per ton, "including canal tolls, say \$2 per ton, as proposed by the Nicaragua projectors," there would be a limit fixed to freights; and the difference in our favor between \$10 and \$2, or, as at present, \$15 or \$13, paid for iron ships, on an estimated surplus of 800,000 tons, would be \$4,000,000. In addition to this is the saving in risks by the longer voyage around the Horn, occupying on an average four or five months. The average difference in values of cargoes "just shipped" and "off coast" is fully three shillings per quarter. Insurance would be lessened 1½%, and at least three months' interest would be saved—say 1½%—in all amounting to near \$4 per ton. Add to this the \$5 difference in freights, and we can readily see that, with the canal completed, our wheat would be worth two cents per pound to-day in this market, notwithstanding the lower prices in Europe, and in place of saving \$4,000,000, would exceed \$7,000,000, if our surplus should amount to 800,000 tons, as claimed.

These two points which we have mentioned are worth the careful consideration of our readers and discussion in their gatherings. The producer bears the whole burden of expense in dealing with the English markets, and it devolves upon him to do his utmost to smooth the way for his produce. The voice of the farmers would soon convince the merchants that they cannot afford to discourage ships from sailing hither. The voice of the farmers would go far to draw Congress to some pointed consideration of the Isthmian canal problem. These matters are vital to our general prosperity. They should not be neglected.

THE Milwaukee & St. Paul and Chicago & Northwestern railroads have obtained permission from the friendly Sioux to cross their reservation on the way to the Black Hills.

ENTOMOLOGICAL.

The Winged Phylloxera.

EDITORS PRESS:—I have received from Dr. J. S. Hyde, of Santa Rosa, another lot of winged phylloxera, accompanied by the following note:

I send you by mail another lot of winged phylloxera. You will find one bottle filled with glycerine, and the other with a mixture of glycerine, alcohol and water. I put the insects in this, hoping to preserve them better for transportation. I have found about 34 winged specimens in all, a large part of which I have sent. Prof. Riley. I shall be glad to learn the result of your examination of these. I find it very difficult to find the winged insects at all. I keep the infested root under a glass cover on a rim of fine sand and examine them every day. The last lot of roots I have had under the glass nearly two weeks, and the insects are fresh looking, and I find now and then one or more winged specimens hatched out. There seems to be a greater tendency to the winged form on roots taken from vines that are already decaying. Those that I took from vigorous vines had more insects on them, but they do not seem to assume the winged form so much. I infer from this that they assume the winged state for the purpose of removal to better pasture, as otherwise they might all perish.—J. S. HYDE, Fountain Grove, Santa Rosa.

The specimens of phylloxera announced in the above letter came to hand. Their examination is far from consooling, only two, or perhaps three, out of 12 sent, are of the infertile variety. It would indeed seem as though with the advance of the season, the proportion of fertile individuals were on the increase. The first five were all sterile; out of the second, of seven, five were sterile, and two fertile.

Dr. Hyde's suggestion that the winged form seems to be produced more abundantly from vines far gone toward decay, than from fresh and healthy vines, would point out a very important measure in the prevention of the spread of the pest. Such vines would not only be useless, but to leave them in the vineyard would be a sure means of diffusing the insect far and wide; the complete destruction of such vines, root and branch, would be the most needful measure, which should be enforced by law. How best to do this is a matter still requiring investigation. Pulling-up is, in any case, but a lame and impotent mode of dealing with the case, for not one-half of the insects in the soil would come up with the few coarse roots that follow the trunk in the operation, and the insects would either emigrate to interlacing rootlets from the next vine, or perhaps take wings upon themselves all the more. To find a sure mode of poisoning the whole, from the cut end of the trunk, would be a most important discovery. So far, the same end has been reached by injecting the bisulphid of carbon into the soil; but so long as this is not manufactured in California, its expense will prevent its extended use.

I cannot help thinking that filling an auger hole in the cut end of the trunk with 'muriatic or dilute sulphuric acid, would so quickly permeate the porous wood on the vine, as to put a speedy end to all wing-taking on the part of the pestilent parasites. The experiment should be tried.—E. W. HILGARD, University of Cal.

The Spread of the Phylloxera.

We are sorry to learn that the investigations of the searcher sent out by the Viti-cultural Commission are disclosing the fact that the phylloxera has covered much wider areas than had been hoped. In the Napa valley the insect has been found, in a number of places, reaching as high up as the place where the environing hills approach each other and give a narrow opening to the upper valley. So far, we believe, the insect has not been found above this place, and it would seem likely that this pass could be contested and the vineyards of the upper valley saved from the insect. But since the fertile winged-form has been found in abundance, it is a question how far any establishment of a sanitary cordon below ground would arrest the progress of the evil.

It seems now that we are face to face with this destroying insect, and there is no longer much use in claiming immunity from it, or in believing that California climate is unhealthy for it. Destruction enough has already been done, and the threatening presence of the evil in regions thought to be exempt should teach all that the worst may be prepared for and the most vigorous efforts put forth to avert it. Our leading vineyardists are beginning to question the wisdom of making new plantations of vines, except there be some good apparent reason to expect exemption, either because of the ease of flooding the land or by planting in locations isolated or protected by barriers which promise to check the advance of the winged insect, such as the intervention of wooded hills, or by the use of resisting stocks. It is to be regretted that this check must come to make planters so circumspect, for it must act, to a certain extent, to retard the investment of capital now disposed to embark in wine or raisin enterprises. But it is better that investment be retarded than that the money should be afterward sacrificed. It is not by any means to be concluded that planting should be refrained from, but that it had better be done with more care than has been heretofore thought necessary.

The Nevada Grasshopper.

We learn from the Reno Gazette that Prof. J. G. Lemmon has been at large among the hoppers which have devastated the fields of that region, and reports that the insect doing the greatest damage is a species of *pezzotettix*, and not the *Edipoda atrox*, which was so destructive in Sierra valley. The species of hopper seem to visit each other and to change habitats somewhat. So far as the former is concerned, it makes little difference, for their appetites are similar, although the cut of their garments dif-

fer. Prof. Lemmon says by all means plow up the nests, wherever it is possible, after the insects are done depositing eggs. Plow about four inches deep, and then do not harrow or touch the ground again, lest the eggs be brought so near the surface that the insect can force its way out after hatching. Where the ground is rocky he advises that corrals be built and cattle fed there, so as to tramp up the ground and crush the eggs. Where the nests lie in a field of grain or alfalfa, a sharp harrow can be run over the ground without injury to the crop, and the nests will be destroyed. When the eggs are disturbed they seem to addle. He strongly recommends the destroying of every nest that it is possible to reach, for the reason not only that there are then less mouths to fill, but because the hoppers that hatch out in the sage brush cannot travel early enough to reach the alfalfa in time to injure the first crop, and if none hatch out in the fields, there will be none to feed there until they can fly in from the outside.

QUERIES AND REPLIES.

Chemical Sheep-Dressing for Scab.

EDITORS PRESS:—Some years ago I gave a recipe in your columns for a scab exterminator, consisting of 2 ounces sulphur, 2 ounces lime and 1 gallon of water boiled together. The resulting concoction is thoroughly efficient, but its causticity is such that it can only be used just after shearing; an application at any other time proving detrimental to the fiber of the wool. A prominent flock-master in this county has asked me to call on Prof. Hilgard through your columns, and to request him to let your readers know if, by the addition of any further substance, the caustic properties of the wash could be rendered less active, while its scab-exterminating qualities should be unimpaired. I believe the month's retreat of the professor into parts unknown is about completed; and presume that his fertile brain and ready pen may once more be brought into requisition, as he has so kindly allowed them to be in the past.—E. BERWICK, Monterey, Cal.

EDITORS PRESS:—I have delayed answering the above in expectation of trying some experiments on the subject, but finding that this is not immediately practicable, I would suggest to Mr. Berwick that the causticity of the wash made as stated can be readily neutralized by the addition of a little muriatic acid. After boiling the sulphur and lime mixture as described, let it settle, draw off the cleared liquid, heat it about as hot as the hand can bear, and then add cautiously muriatic acid diluted with about 20 times its bulk of water, stirring briskly until a permanent white turbidity (or "precipitated sulphur") is formed. This may take a wine-glassful or two of the diluted acid, according to the manner of making the wash. The latter will then be as little caustic as it can be made out of lime and sulphur. It may at the same time be found a little less rapid in its action, but will be much less likely to affect the wool.—E. W. HILGARD, University of California, Berkeley.

Carp Catching.

EDITORS PRESS:—As you take a great interest in fish culture, and we are trying to introduce carp into some public sloughs, please inform me whether they are easily caught with hook and line. Some say they will not bite and would not be profitable in public waters, for food or sport. Mr. T. D. Truitt has started a private fish pond and turned in over 50 carp and some trout.—J. W. WEZE, Lompoc, Cal.

Carp will not take an artificial fly, but are caught with hook and line, with angle worms and with a bait made of cotton mixed in dough. They are quite vigorous, but give up in a short time. They are valuable for food, but are not considered good fish for sport.

Thinning Fruit with a Pole.

EDITORS PRESS:—Thinning over-loaded fruit trees by hand is a tedious process, and takes so much time that the orchardist who waits for the time often lets the opportunity go by, and has, as a consequence, small, unsalable fruit and broken-down, disfigured trees. For the past two years I have used a pole, doing a rather rough-looking but expeditious job. I find at picking time very little trace of the rough usage of the pole. A long hand-rake handle is an excellent pole, and by wrapping two feet of the striking end with two thicknesses of cloth, it damages the fruit it leaves on the tree but very little.—CHAS. A. WYMAN, Cosy Nook, Evergreen, Cal.

LATE CUT HAY.—Prof. Emil Wolfe, of Germany, an eminent scientific authority, declares as the result of 13 analyses of hay cut before blooming, in bloom, and after blooming, that in the first case it will contain 83% of its nutritive elements, in the second 62%, and in the third only 31%. Prof. J. W. Sanborn, of the New Hampshire Agricultural College, has been putting the matter to a practical test, by six experiments in feeding hay cut as above, and carefully noting the results. His conclusions do not agree with those of Prof. Wolfe, nor indeed with his own previous opinions upon the subject. He says: "This is the end of the sixth trial, and all point in one direction. Is it all an accident, this uniformity of result? I am convinced, against my previous judgment, that the doctrines in vogue in favor of early cutting hay have been carried to a great excess, and that it is probably true that hay had better be cut at some period, not determined, after bloom. While not asserting that the fact is proven that it is more nutritious, then, I consider it more than probable that it is, and when the amount of nutrition per acre is considered. In the meanwhile I propose to continue these investigations." However this may be proved with the grasses grown at the East, if a man lets his hay stand too long in this State he gets nothing but straw.]

The Women and Silk Culture.

From east to west the women seem to have laid hold upon the problem of silk culture with a vigor and earnestness which cannot fail. There is something eminently proper in women assuming charge of the production of silk, and when home-made silk dresses appear upon our streets, the wailers of the good old times of the spinning wheel and home-spun will be silenced. It might be a fine thing for the wife of the President of the United States, to offer a prize for the first silk dress produced from worm to flounce by the wearer thereof.

They have in Oakland a Woman's Social Science Association, one of the favorite themes of which is silk culture. A year or more ago the subject was under consideration, and last week it was attacked again and much interest elicited. It seems that woman was the pioneer in silk growing, for the essayist at the Oakland meeting, Mrs. J. H. Smyth, cited the fact. A woman, an empress, actuated by the noblest sentiment—love for her husband and his subjects—was the first to discover and utilize the labors of the silkworm. The Emperor Hoang-ti, who lived 2,600 B. C., was desirous that his legitimate wife, Si-ling-chi, should contribute to the happiness and prosperity of his people; therefore he charged her to study the habits of the silkworm and to try to utilize its threads. Animated by the noblest impulses, she caused great quantities of them to be collected together, in order to make herself familiar with every detail while feeding and tending them. By so doing she not only discovered the means of successfully rearing the larvae, but still further, the manner of winding the silk from the cocoons, and of employing it in the manufacture of fabrics. It is through gratitude for so great a benefit, says the historian, that posterity has deified this noble woman and rendered her particular honors under the name of the Goddess of Silkworms. Up to the time of this empress the Chinese clothed themselves with the skins of animals, but after her great discovery they applied themselves to the manufacture of cloth. The Oakland ladies propose to emulate this illustrious example, and continue the discussion of silk culture until some practical results ensue. At an early date an essay will be read by Mrs. T. H. Hittell, of this city, who is an earnest advocate of the introduction of the industry as a household labor.

Inasmuch as the subject is being thus promoted in this State, we propose to state what other ladies are doing in the same direction in Philadelphia. Some time ago we alluded to the formation of "Women's Silk Culture Association" in that city. We have just received the reports of the first season's work of the society, from which we take leading items. The managers give assurance that they have tested the practicability of raising the silk worms within the city of Philadelphia, have found the task fully as difficult as was expected, and have attained results quite equal to their anticipations. They have located a great many mulberry trees around the western parts of the city, and have found what their yield in leaves is likely to be in the future, also, what the expense in time and money required to bring them to the society. They have raised the cocoons, the moths and the eggs in sufficient abundance to proceed to the next step—the reeling—whenever a reel sufficiently light, cheap and easy-working shall be obtained. They have instructed a class of scholars in the art of raising the silk worms. These have been taught through the instrumentality of notes dictated by the superintendent and taken down by each scholar. They have developed a widely-extended interest in the culture of silk, and have gathered up and concentrated the products of widely-separated districts of the country. They have cocoons from Alabama and Florida, and splendid specimens, produced by careful feeding, in Delaware; also from New Jersey and Pennsylvania. A lady, stimulated by the example set last year, has raised a large crop at Chadd's Ford, and another has just produced a quantity of fine cocoons at the Permanent Exhibition Building. A lady of fortune, at Kennett's Square, has raised a large number also, and individuals all around, at Holmesburg, Bridesburg, West Philadelphia, in Bucks county have been in-

cited by this "women's" movement to try a hand at silk raising. They have sold silk worms and eggs to parties all around the city. The farmers are beginning to interest themselves about it, and are utilizing their osage hedges and their wild mulberries as never before. They begin to see that mulberry leaves may become a marketable article, and that their boys and girls may use their idle time and talents with benefit to all. It is the expectation of the society that the country people will establish similar schools of instruction in many parts of Pennsylvania, under the same charter which provides for "branches" everywhere. Perhaps the silken reformers of Oakland may ere long undertake a practical promotion of the subject after the Philadelphia style.

A Chance to Show California Fruit.

They have organized in the Mississippi valley a grand horticultural society, to which all the State and district societies seem tributary, and this central power is to hold a grand horticultural exhibition in St. Louis, September 7, 8 and 9. The exhibition is to be held in the great hall of the St. Louis Merchants' Exchange, and there is guaranteed a fund of \$3,000 which has been apportioned in a schedule of prizes for the best displays of fruit. There is especial provision made for exhibits of California fruits, although for so grand a fair the premiums seem rather diminutive and no larger than offered by the Mechanics' fair in this city for the product of a single State. Nor does the list seem well contrived to suit Cali-

AN HONORABLE CAREER CLOSED.—At Buffalo, on the 24th inst., after several years of declining health, a severe chronic disease, which was aggravated by overwork, closed the highly useful and honorable career of Gen. Albert J. Myer. This distinguished officer was born at Newburg, in the State of New York, in 1828. He graduated at Hobart College, at Geneva, in that State, in 1847. After applying himself to the study of medicine, he took the degree of M. D. at the University of Buffalo in 1851; and in 1854 he was appointed Assistant Surgeon in the United States army. He served in the medical department until the breaking out of the civil war, when he was appointed Chief Signal officer. He continued in the service until the close of the war, and received the brevet rank of Lieutenant-Colonel, Colonel and Brigadier General of Volunteers. In 1866 Gen. Myer was placed at the head of the Signal Service of the regular Army, and in 1870 he was charged with the taking of meteorological observations at the military posts and other points in the country. It was about this time that he received the familiar cognomen of "Old Probabilities," by which he was pretty generally known. It was largely owing to Gen. Myer's executive ability, scientific knowledge and capacity for mastering details that the Signal Service of the United States has succeeded in reaching its present condition of usefulness.

THE LARGE CROP OF WHEAT.—The present crop of wheat is proving somewhat of an elephant on the hands of the growers, although not altogether an undesirable mammoth after

The Forest Area of the United States.

As we have heretofore noted, the subject of our forest wealth and the influences affecting it will occupy one of the series of valuable reports upon industrial topics which will accompany the volumes of the census of 1880. The investigators are now upon this coast making a thorough study of trees and of forests. The census of 1870 disclosed some very interesting facts concerning our forest area, but that of 1880 will be expected to be much more comprehensive, definite in detail and accurate than the last attempt made by the enumerators. It will be some time before the results of the new examination can be set forth; but as interest has generally been awakened by the appearance, here and there, of Prof. Sargent and his colleagues, we recur to the deductions from the last census as likely to give information which will be of value to those who now find themselves drawn to a consideration of our forest areas.

The report of the United States Department of Agriculture for 1875 contains some valuable deductions made from the census of 1870 by J. R. Dodge, at that time statistician of the department.

The accompanying diagram will illustrate the proportion of forest area of farm lands in the several States—the figures in the white portion of the squares representing the farm-area in acres, and those in the shaded portion the proportion of that area in forest, in each State respectively. In some of the States the farm lands comprise nearly the entire area, exclusive of lakes and streams; in others, those more recently settled, and also some of the original 13, the unoccupied or wild lands constitute a considerable proportion of the whole area. Thus Maine has 5,835,058 acres in farms, while her area includes 22,400,000 acres of land and water. In estimating the proportion in wood land, the water surface on lakes and streams, the prairie, the ledges and other wastes incapable of producing trees, must be taken into consideration.

After canvassing the facts affecting this proportion in the several States of the area exclusive of farms, one-half was assumed to be in forest in Maine, New Hampshire, Vermont, Pennsylvania, Maryland, Kentucky, Missouri, Michigan, Florida; six-tenths were taken for Arkansas, Virginia, West Virginia and Louisiana; seven-tenths for North Carolina, South Carolina, Georgia, Alabama, Mississippi and



DIAGRAM SHOWING THE FOREST AREA OF THE UNITED STATES AS COMPARED WITH THE CULTIVATED AREA.

fornia exhibitors. However, we select the prizes named for "semi-tropical and California fruit," as follows:

Best display of semi-tropical fruits of American production, \$50; best display of dried or preserved semi-tropical fruits, \$25; best display of California fruit, \$25; best plate of quinces, \$5; pomegranates, \$5; figs, \$5; Tabasco oranges, \$5; Mandarin oranges, \$5; Brazilian oranges, \$5; citrons, \$5; shadocks, \$5; limes, \$5; lemons, \$5.

There is another entry under the California list which we are somewhat at a loss to understand. It reads thus: "Best display of preserved whole in solution, 1st premium, \$50; 2d, \$25." The premiums are good, but what is "preserved whole?" Our proofreader thinks it may be a misprint for "preserved whole."

In case any of our readers may desire to compete for St. Louis honors, we give the following paragraph of information: Fruit for exhibition may be forwarded at any time to N. J. Colman, St. Louis, Mo., care St. Louis Fruit House, 708 South Third street. Express charges must be prepaid. Exhibitors who will be unable to attend the exhibition may ship fruit in this way, and it will be received and placed on exhibition by the committee. If the exhibitor is not to be present, each specimen should have a label wrapped with it, and a full list of the exhibit should be sent to the secretary. If the fruit is sent only a few days before the exhibition, and does not need cold storage, it may be addressed simply to "Norman J. Colman, St. Louis, Mo."

CALIFORNIA LETTUCE AT THE EAST.—We read in the Utica Herald the following: "Mr. W. T. Lindsay of Prospect brought into our office one day this week a wonderful head of lettuce, of the variety which he calls the Mammoth of California. The seed was received from the Pacific coast. He sows it in April, and in May transplants it, setting it out at intervals of 18 inches apart. The heads grow so as to fill up all intervening space, and the leaves are as tender and crisp as any we have ever seen. The head brought to us measured 20 inches across, and weighed one and a half pounds."

all. There is in many parts anxiety expressed lest the rains should reach the stacks before the separator, and already the warehouses are proving inadequate to the amount of grain arriving. Stockton, with her increased storage capacity of which local papers spoke quite proudly a few months ago, now announces that her warehouses are full, and no more need apply. It is quite fortunate that the host of new warehouses was built, but they will not be enough. Not only in the San Joaquin and Sacramento valleys is the storage capacity short, but Los Angeles, after present enlargements are completed, will have half a million bushels out in the cold. But it's worse where there is none. Doubtless a good place will be found for all that can be realized.

FARM LABOR AND WAGES.—Colonel Worthington, the statistician of the agricultural department, has finished his annual report on farm labor and wages, from which a number of interesting facts given below are gathered by the Tribune. The table giving the average of wages of farm laborers, with and without board, as compared with the wages paid in several branches of skilled mechanical labor, was compiled from returns made to the department last April, from which it is learned that in the Pacific and mining States and Territories, the range of monthly wages for farm laborers without board is between \$30.75 in Montana and \$22.50 in Washington Territory. Of the States east of the Mississippi, Minnesota pays her farm laborers better than any other northern State, the monthly wages with board being \$16.33, while Vermont pays only \$12.62. In the Southern States the prices paid range from \$12.26 in Louisiana to \$7.32 in South Carolina, the average being \$9.60.

THE season in the Alps has already been signalized by several fatal accidents among explorers. Jungfrau has just claimed three victims, supposed to have been lost in an avalanche.

Tennessee; one-third was taken for Massachusetts, New York and New Jersey; one-fourth for Texas and Oregon; one-sixth for Wisconsin and Minnesota; one-eighth for Iowa; one-tenth for Rhode Island, Connecticut, Ohio, Indiana and Illinois; one-twelfth for California; one-twentieth for Kansas, Nebraska and Nevada.

Taking into consideration only the farm lands, the proportion of wood lands is smallest in California, being 4.1%. In order, respectively, follow Nevada, 6.4%; Nebraska, 10.2%; Kansas, 11.2%; Iowa, 16.2%; Illinois, 19.6%. The proportion increases, State by State, from the Pacific coast eastward to Indiana (39.6%), and then comes the devastation of the ax, which reduces the percentage of Ohio, a region originally forest, with the exception of small patches of prairie mainly about the headwaters of the Miami, to 31.7%. Pennsylvania has about the same proportion, or 31.9%, and New Jersey 24%.

There are only two other Western States that have percentages between 20 and 30, viz.: Minnesota, 20.6; Wisconsin, 29.3. The Eastern States (besides New Jersey) which come within the same limits are: Connecticut, 24.4; New York, 25.5; Massachusetts, 25.8; Delaware, 28; New Hampshire, 29; Vermont, 30.6. Those having between 30% and 40% of this farm area in forest are: Pennsylvania, Indiana, named above; Oregon, 31.8; Maryland, 31.8; Rhode Island, 33.7; Maine, 38.1. The States having between four and five-tenths of their farm lands in forest are three—Michigan 40.7%; Texas (the eastern portion generally wooded), 41.6%; Virginia, 45.7%. The southerly belt is the most heavily wooded portion of the country, all the States, with the exception of Virginia and Texas, having more than half of their farm-areas in wood land, and a larger portion still if the wooded wild lands should be counted in with the farm lands. The proportion in the occupied or farm areas is as follows: West Virginia, 51.1%; Arkansas, 51.4%; South Carolina, 53.2%; Georgia, 54.6%; Tennessee, 55%; Alabama, 56%; Florida, 60%; North Carolina and Mississippi, 60.6%.

METEOROLOGICAL.

Application to the Distribution of Rain.

[By PROF. JOHN L. COCHRAN.]

The general physical considerations which have been enumerated afford a satisfactory explanation of the several features of the abnormal distribution of rain along the Pacific coast.

1. Increase of rainfall with increase of latitude.—It is evident that as we go north along the coast the temperature of the surface waters of the ocean (the vapor-furnishing apparatus), through the influence of the "Kuro-Sivo," is rendered comparatively warm; and, at the same time, the temperature of the land (the condensing apparatus), especially during the winter (the rainy season), diminishes with increasing latitudes. Hence, during the rainy season, or winter months, this cause must tend, as we advance toward Alaska, to progressively augment the excess of the temperature of the ocean above that of the adjacent land—the vapor-furnishing source above that of the condensing apparatus, thereby increasing the amount of precipitation along the northern portions of the coast.

2. Sudden increase of rainfall near latitude 41°.—This is a striking but very puzzling fact. We are not yet prepared to offer any satisfactory explanation of it. So far as we know there are no observations indicating any sharp and sudden depression in the temperature of the ocean waters just at Cape Mendocino. A careful study of the direction of the winds at this portion of the coast might throw some light on this point. A most important agent in the production of this anomaly in rainfall is, doubtless, to be found in the hypsometric relations of the land lying west of the Sierra Nevada mountains to the contiguous sea. The crowding of these lofty mountain ranges toward the shore line, which occurs just north of Cape Mendocino, must evidently tend to augment the rainfall at this portion of the coast. The following numbers indicate, approximately, the distances of the crest of Sierra Nevada from the shores of the Pacific ocean: At latitude 39°, along the parallel, 190 miles; at latitude 40° 30' (Lassen's Peak), along the parallel, 140 miles; at latitude 41° 30' (Mount Shasta), along the parallel, 94 miles.

3. No summer rains between latitude 33° and 41°.—This remarkable feature of the climate of this coast is clearly due to the excess of temperature of the adjacent land, during the summer, above that of the cool ocean on the west. This condition of things, while it augments the force of the west winds, renders the precipitation of the aqueous vapors of small tension, which they sweep from the cool ocean to the hot interior, a physical impossibility, since they are being carried to a region of higher temperature. Further north, along the coasts of Oregon, Washington Territory, and Alaska, the presence of a comparatively warm ocean, renders the conditions more favorable for summer rains.

4. Winter rains south of latitude 41°.—Along this portion of the Pacific coast, in consequence of the abnormal coolness of the ocean, the adjacent lands, even during the winter season, scarcely ever become colder than the contiguous sea. At this season of the year, while the monsoon features of the winds of this section of the coast disappear, yet we have presented the anomalous fact, that when the winds blow from the ocean it never rains. This is evidently due to the low temperature of the sea, which can only furnish vapor of feeble tension. The true rain-bearing winds come from the south and the southeast, bringing the warm vapors of high tension from the Gulf of California. These vapor-laden, warm south-east winds from the region of the Gulf of California, and the western coast of Lower California, deposit a very small amount of rain in the warm latitude of San Diego (33°), but precipitate their moisture gradually more and more copiously on their way to the higher and colder latitudes. It is a well-established fact, that near San Francisco, during the rainy season, whenever the wind veers to the west, and blows from the cool ocean, the rain speedily ceases, and it clears off. Further north, along the coast, where the influence of the "Kuro-Sivo" is felt, the sea-winds during the winter resume, to a greater or less extent, their normal functions, and become rain-bearing winds.

5. Less rain in the great valleys than on the coast.—This is the normal condition of things, since it is evident that the interposition of the coast ranges must tend to cut off more or less of the vapors from the interior valleys.

6. Maximum rainfall on the western slopes of the Sierra Nevada.—After the vapor-bearing winds have passed across the coast ranges and the great valleys, they reach the western slopes of the Sierra Nevada mountains. This high mountain range, and its cold, snow-clad sides, acting as powerful condensers, extract from the southerly winds the load of moisture which they bring from the regions of maximum evaporation in the Pacific ocean. This burden of moisture is almost entirely unloaded in passing over the land lying to the seaward and especial-

ly over the cold flanks of these lofty mountains, so that comparatively little is left for deposit on the arid plains of the Great basin. On the western slopes of the Sierra Nevada we find a precipitation, which, following the usual law for windward mountain flanks, augments with increasing altitude, and attains a maximum at about from 5,000 to 7,000 ft.

Lacustrine Basins West of Rocky Mountains.

After this digression on climatology, rainfall, etc., we now resume the consideration of the distribution of lakes west of the Rocky mountains. From the topographical sketch previously given, it is evident that there are three lacustrine basins lying west of the Rocky mountains, viz:

1. The Salt Lake basin, near the western slope of the Wahsatch mountains.
2. The Humboldt basin, near the eastern slope of the Sierra Nevada and Cascade mountains.
3. The great valleys, lying between the Sierra Nevada and Cascade mountains on the east, and the coast ranges on the west. Most of the lakes of the Salt Lake and Humboldt basins are without outlets, and consequently their waters are more or less highly charged with saline matters. This is evidently due to the small amount of rain and snow supplied to these arid basins in recent geological times. The lakes of the great valleys have outlets, at least during the rainy season. For example, Tulare lake ordinarily has no outlet, but at high water its surplus flows through a slough into the San Joaquin river. Near this lake are numerous shallow lacustrine depressions, some of them at present designated as dry lakes, which contain more or less water during the wet season.

Table.

In the following table the lakes are grouped in conformity with the foregoing topographical divisions, commencing at the north and advancing south in each division:

Lakes in U. S. West of Rocky Mountains.

Salt Lake Basin.	Max. Length in Miles.	Max. Width in Miles.	Approx. Area in Sq. Miles.	Height of Surface above the Sea Level in Feet.	Max. Depth in Feet.	Height of Bottom above Sea Level in Feet.
Great Salt.....	70	45	1,900	4,218	60	4,158
Utah.....	25	13	150	4,498	.....	.....
Sevier.....	20	10	140	4,000	.....	.....
Fish.....	.....	.....	.....	6,074	.....	.....
Franklin.....	16	5	.....	6,200	.....	.....
Gosiute.....	.....	.....	.....	5,952	.....	.....
Chelan.....	36	6	.....	.....	.....	.....
Harney.....	20	12	.....	4,150	.....	.....
Malheur.....	18	16	.....	.....	.....	.....
Albert.....	20	6	.....	.....	.....	.....
Summer.....	13	8	.....	.....	.....	.....
Upper Klamath.....	26	8	.....	4,131	.....	.....
Warner's.....	32	8	.....	.....	.....	.....
Lower Klamath.....	15	6	.....	4,131	.....	.....
Rhett.....	10	10	.....	4,014	.....	.....
Wright.....	10	5	.....	4,070	.....	.....
Goose.....	28	9	.....	.....	.....	.....
Upper.....	13	7	.....	.....	.....	.....
Middle.....	19	6	.....	.....	.....	.....
Eagle.....	14	10	.....	.....	.....	.....
Honey.....	17	14	.....	4,005	.....	.....
Winnemucca.....	13	8	.....	.....	.....	.....
Pyramid.....	33	14	300	3,890	.....	.....
Humboldt.....	23	16	.....	3,920	.....	.....
Carson.....	13	9	.....	3,840	.....	.....
Walker's.....	25	7	.....	3,840	.....	.....
Mono.....	14	10	.....	.....	.....	.....
Owens.....	17	10	.....	3,550	51	3,538
Death Valley.....	39	11	.....	—150	.....	—150
Quinalt.....	6	3	.....	.....	.....	.....
Whitcomb.....	6	3	.....	.....	.....	.....
Clear.....	21½	7½	80	1,310	60	1,250
Tulare.....	34	23	637	200	40	160
Buena Vista.....	9	5	25	.....	.....	.....
Kern.....	8	4	13	232	17	205

A glance at the foregoing table is sufficient to disclose two facts: 1st, the great deficiency of physical data in relation to our western lakes, and 2d, the remarkable shallowness of all the lakes occupying the three lacustrine basins.

"THE CALIFORNIAN" FOR SEPTEMBER.—This sprightly home monthly, which is welcomed by an increasing list of appreciative readers, offers a dainty table of contents for September. We have had only time for a casual reading, but the flavor of several articles was distinctly pleasant. The spirit of Mr. Clement's opening article on the political maxim, "To the Victors Belong the Spoils," leads in the right direction and will command attention. Mr. Sam. Williams follows with a readable account of the Algerian patriot, Abd-el-Kader. There is a good sketch of John A. Sutter, by Alexander Del Mar; and the vineyards and wines of Napa valley glow and sparkle under the deft hand of Sallie R. Heath. A very interesting paper is Hon. Henry A. Pierce's account of the early discoveries of the Sandwich Islands. New England people especially will be delighted with Prof. Martin Kellogg's charming sketch of a "New England Farm." A serial, entitled "A Strange Confession," promises to be an interesting story. D. S. Richardson, for several years attached to our legation in Mexico, relates his experience in a very agreeable way. In addition to these principal articles, there are many minor ones and some bits of excellent poetry, the whole combining to form perhaps the best number of the magazine yet published. The *Californian* is the peer of the first magazines in the country, and to maintain its excellence the publishers have discovered that they must bring its price up to the Eastern rate for similar monthlies. Accordingly, they announce that after October 1, 1880, the yearly subscription will be advanced to \$4, and single copies to 35 cents. It is published at 202 Sansome street.

Pacific Coast Fish.

At the last meeting of the Cal. Academy of Sciences, Aug. 16, Prof. Jordan, who is collecting data in connection with fish matters on the Pacific coast, for the U. S. census, presented to the museum a donation of 18 species of fish. He said the Commission had now about completed its labors here, and he intended soon returning East. He said, in a thorough exploration of the fish of our coast, they had obtained 270 species, of which 200 were previously known to science, 25 were known through Mr. W. N. Lockington, and about 45 new species he had discovered. He said we have 19 species of sharks on the coast, including nearly all the known varieties. Last spring he caught, in Monterey, bay two enormous man-eating variety of sharks; one was taken at Soquel. Their teeth were large, and the animals are very dangerous. They measured from 23 to 24 ft. in length, and weighed full 2 tons apiece. The Professor has preserved their jaws. He said he knew of another and larger variety of shark found here, averaging 32 to 33 feet in length, and weighing three tons apiece, which had but small teeth, was quite lazy, and not at all dangerous. He then spoke of the well-defined limits of

Different Fish Systems of the Coast;

One set extending from Point Conception as far north as Monterey bay, which are very numerous, and rarely come farther north into our colder waters, although a few sometimes reach San Francisco bay. The second set extend from Monterey to Puget sound; and a third set are found wholly north from there on toward the Arctic. Monterey bay is middle ground where the fishes from north and south meet, and no locality on the Atlantic sea-coast is so rich in species. It has about 130 species, and San Francisco has the same. Santa Barbara has 95 kinds, as our rock cod and flounders do not go so far south. At San Diego there are found 80 species. The great tripe of so-called perch on our coast are, none of them, the true perch. In Puget sound they found about 90 species, all of which were northern varieties. The Fish Commission have made very thorough work of it, and left no opportunity unavailing of to make their report complete. In the Columbia river there are taken annually a million and a half of salmon fishes, averaging from 25 to 30 pounds each. In San Francisco bay there are taken and marketed annually from seven to eight million pounds of all varieties of fish. Professor Jordan gave it as his deliberate and well considered opinion, as a scientific expert, that

The Salmon of this Coast

Are in no wise inferior to any salmon caught on the Atlantic. This he says after a most elaborate and exhaustive study of the salmon along the entire coast at all seasons of the year, where they are found in a great variety of conditions. He said the red and white flesh of salmon was found in the same varieties of fish, and indicates difference of condition, and not variety of species. We have only five species of salmon on the whole extent of our coast, all included. When they are in superior condition their flesh is a deep red, and old males, as they approach the spawning age and season, finally become nearly white. They are then out of condition for eating. In the autumn they undergo certain rapid changes of condition; their form becomes distorted, their backs arched, and their whole form becomes deeper and less symmetrical, quite unlike their regular and beautiful figure in spring. Their jaws enlarge and teeth change in form and number. They run up rivers and the females spawn, after which all die. The reason of this universal death after the spawning period is not yet fully determined. Their life history, however, is: They are hatched in clear water, in the shallow streams, brooks and rivulets of the interior connecting with the ocean. They descend to the sea when three to four inches long, and after a long absence, return at about the age of four years. When they approach the coast they become attracted by the strata or currents of fresh water flowing from rivers.

When at Sea They Feed Freely and Bite Vigorously

At a hook, but as soon as they enter fresh water and mount up the rivers, they cease entirely to eat anything and therefore never take a hook. When thus caught their stomachs are always empty. As soon as they begin to fast, their features begin to become sharper, and they rapidly become what fishermen call dog-salmon. They appear then impressed with an irresistible desire to penetrate fresh water streams as nearly to their fountain-heads as possible, and follow the sources of the Columbia river as far as Montana. During this rapid journey they distribute their spawn and keep on going until the water is so shallow they can barely crawl up stream farther; then they batter themselves up, and in October, having spawned, all die, and none ever return to the sea. Prof. Jordan thought they died from pure exhaustion, as all become more or less bruised by rocks, and none have tasted any food since leaving the ocean. Ventura river is the farthest south that any salmon run up rivers, as few rivers below these have any direct outlet to the sea, but run through such obstructions as sand-bars.

At Columbia river, from April to July, there are from 1,500 to 2,000 boats on salmon fishing all the time, extending from the bar clear up to off Mount Ranier, forming a perfectly impenetrable web of nets. Some adven-

turons fisherman, venturing too far out to sea on the bay, is drowned almost weekly in the height of the season, when the canneries are harvesting their annual fish crop.

Future Fish Supply.

Prof. Jordan was asked his opinion if such excessive fishing was likely to endanger the future supply of fish, and said that if they ceased catching salmon after July enough would ascend the river later than that to fully stock the river with the required amount of spawn necessary to keep up the usual supply, for in the matter of fish-spawn nature is very bountiful in her supplies.

The remarks were listened to with marked attention, and are of especial interest, as giving the well digested opinions of an eminent scientist on the matter of a very important item of our food supply.

From Lake County.

EDITORS PRESS:—Lake county as a sanitarium on a large scale is destined to prove a great success. Nowhere can you find more picturesque scenery, brighter skies or purer air, while medicinal springs of every degree of temperature, and every conceivable mineral compound, are pouring their healing waters, inviting the sick and decrepit of all classes to come and be cured of their maladies. The immense number and variety of the springs and the great merit of many of them is truly wonderful. We spent a few very pleasant days at Seigler springs, a few miles from Lower Lake, which are once more opened for the accommodation of visitors, under the management of W. T. Garratt, Esq. Few springs stood higher in popular favor than these till they were closed from the public. Many old visitors will be glad to know that the public are once more invited to come and partake of their healing waters; and under the popular management of Mr. Garratt and his accomplished lady the place should become once more a favorite resort for all deserving classes. Some of the hot and steaming springs here are but little less wonderful than the most noted geysers.

About a mile and a half from Seigler springs it was our good fortune to meet our old and esteemed friend, H. W. Rice, in his pleasant home, nestled amid surrounding hills and natural groves, at the foot of Mt. Hannah, from which it is separated by a beautiful sheet of water. Twenty-eight years ago, at the close of a five months' voyage around Cape Horn, we parted from him in San Francisco, each eager in the pursuit of fortune—determined to make his mark, if possible, in the State of his adoption, each in his own way. I find our friend Rice has done or is in a fair way to do both. And right nobly he has earned the prosperity that awaits him. You doubtless remember him as the inventor of the "straw-burning engine," which he has brought into extensive use by his persevering energy.

His saw and planing mill here is very complete, showing everywhere the evidences of his inventive genius, and is capable of turning out a large amount of lumber of almost every variety for house building, mining, fencing, etc. He showed us fine oak lumber for organs that he was getting out for an organ builder at Kelseyville. We were shown specimens of oak door-pauels got out at this mill that were perfect gems. Though the mill has been in operation 15 years, he has made but little impression upon the groves of timber surrounding him. But in his ceaseless war upon these giants of the forest, friend Rice has not forgotten the amenities of life or the gentler, kinder duties due to home and the home circle, so often neglected or utterly ignored by our California fathers and husbands in their eager pursuit of gold. I hardly know which to admire most—the energy and indomitable will that has thus compelled fortune to smile upon his labors, or the marked and constant effort of himself and noble wife to make home beautiful and attractive to their children, as well as to themselves—not, as is too often the case, a mere place to eat and sleep, but a real home, a rest for the heart as well as the body—a place of loving words and smiles, a joyous remembrance forever. Would that we had more such. Loving, Christian homes in which to educate our children would do more for the real prosperity of California than years of legislation. Mr. Rice has fitted up one room in his dwelling for a pleasant school-room, where his children are daily instructed by a competent teacher, and ever Sunday evening Mrs. Rice receives the children of their employees in their sitting-room for instruction in Sunday-school lessons. The two happy evenings my friend and I spent in that cheerful sitting-room, with its bright, blazing wood fire, surrounded by that pleasant family circle, will not soon be forgotten.

ROOF VARNISH.—A varnish for roofs has been recently patented in Germany which is composed of 35 parts of clay slate, 30 parts mica slate and 35 parts resin, all finely powdered and heated with 50 parts of tar.—*Bay. Ind. und Gewerbeblatt.*

A NOVEL INDUSTRY.—From saw-dust, ground-up twigs and like materials, pails tubs, molding for buildings, doors sashes, blinds, etc., are now manufactured at Great Falls, Windham, Maine.

Remarkable Performances Under Water.

A recent number of the London *Times* contains an account, which we summarize, of some remarkable performances under water of Fleuss, the diver, and the patentee of the diving apparatus. He appeared at the Royal Aquarium, in the large tank built for the whale and used by the seals, and remained under water two hours and seven minutes. He claims to be able to stay under water for five hours without an air tube or any other connection with the surface, and this circumstance gives him larger freedom of action than is possessed by other divers. For example, he can lie down and bend his body in any position without fear of being lifted up or floated. He possesses the advantage of being able to move independently instead of being rooted to one spot. The diver presents a curious appearance under water, with goggle eyes in his burnished helmet, a strong water-tight dress, and water boots. Spectators amuse themselves by throwing pence for him to pick up. He sharpens his pencil under water, and writes answers to messages sent to him on card-board. At Ryde he walked for a quarter of a mile under the sea; and at Brighton he went down in five fathoms during rough weather. If he could eat under water, Fleuss says he could stay for a longer period than his ordinary limit of five hours. After his performances under water, Fleuss gave a short, crude popular lecture on his apparatus. He supplies the want of fresh air by taking down with him compressed oxygen to supply the waste in breathing; in other words, he has invented a sort of lungs, which reverse the functions of the natural lungs. This recalls Prof. Tyndall's respirator for firemen, which has proved so valuable in practice, by enabling them to breathe what air is left among smoke and noxious vapors. Fleuss' method is more effectual because he carries his supply of oxygen in a compressed form, and is thus enabled to breathe under conditions in which there is no appreciable quantity of air. He states that he has gone through "fire damp" (carburetted hydrogen), and "choke damp" (carbolic acid), and that he could exist in the charged receiver of a gas factory. In the great helmet and in the hollows of his armor there is room for a certain quantity of air, and this is kept fresh and constantly renewed by a stream of oxygen, the pressure of which he regulates at will. This apparatus is said to be very ingenious, and he will employ it in experiments on the submarine use of the telephone.

COMPOSITE DIAMONDS.—A diamond expert of Chicago asserts that many of the so-called solitaires, sold as single stones, are made up of small stones cleverly put together. Under the blowpipe they separate. He adds the surprising statement that not one diamond in ten sold in this country is other than the refuse of the London market. Nearly all are off-colored, specked or feathered, and are sold at a fictitious value.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAKS & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and their Grades.

SHEEP AND GOATS.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magpie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

Educational.

THE DEGEN
Classical & English School.

1265 Franklin St., Oakland Cal.

The Sixth Year Begins July 14th.

This School prepares boys for the State University or Eastern Colleges. None of our students has ever failed to pass the entrance examinations. There are no boarders, but board will be found in select private families, for those who may desire it. Many of our best students have been from the country.

For Catalogues address the Principal,

GEORGE FREDERIC DEGEN, A. M.,
Oakland, Cal.

WASHINGTON COLLEGE.

The next Term of this well-known Institution, than which there is none better in the State or on this coast, will commence on

Thursday, July 29th, 1880.

Catalogues can be had at Bancroft's Publishing House, 721 Market St., San Francisco, or at Hardy's Bookstore, 959 Broadway, Oakland. For other particulars address

S. S. HARMON, Principal,
Washington Corners, Alameda Co.

MME. ZEITSKA'S

FRENCH, GERMAN AND ENGLISH

INSTITUTE FOR YOUNG LADIES.

Number of Boarding Pupils Limited.

For Circulars address MME. B. ZEITSKA,
922 Post St., San Francisco.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES of DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER, -

Cashier and Manager
San Francisco, Oct. 15th, 1879.

SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address

BOERICKE & TAFEL,
Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

Rent paid two and a quarter years buys one.

MASON

AND

HAMLIN

ORGANS

BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$60, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$6.35 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

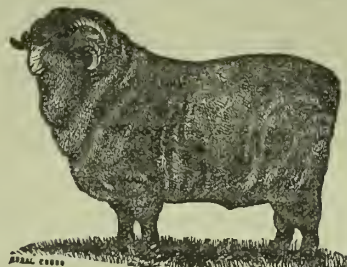
Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHBREDS



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminent required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY
CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped.....\$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

FOR SALE.

THOROUGHBREDS

POLAND CHINA SWINE

Of all ages, from 6 weeks to 3 years of age.

Being desirous of closing out my stock of SWINE, I will sell for the next 60 days Choice Breeding Stock of any age desired, at low figures. Also a few trios of

Black Cochon Chickens,

Three to four months old at \$5 per Trio.

T. C. STARR,

San Bernardino, Cal.

August 9, 1880.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



Sheep

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

300 Choice Rams

FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,

Stockton, Cal.

B. K. BLISS & SONS' HAND BOOK.
A COMPLETE GUIDE FOR THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

Everybody is Buying It.

COPP'S

AMERICAN SETTLER'S GUIDE.

A Popular Exposition of Our Public Land System.

PRICE—On Fine Paper and in Substantial Cloth Binding, \$1. Edition, 50 cents.

How to tell Township and Section Corners How to Homestead and pre-empt Land. How to Enter Land under the Timber Culture Law. How to Enter Land under the Desert Land Law. Township Law, Timber and Stone Law, Saline Law, etc. Every Settler, every Land Attorney, every Real Estate Dealer should have this new book. No other work can compare with it. Recommended by the Land Officials at Washington. FULL, CLEAR and EXPLICIT. Latest Ruling, Instructions and Forms from the General Land Office.

Edited by HENRY N. COPP, Washington, D. C.

Send 50 cents to the office of this paper and get a copy of this popular book.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

Lands for Sale and to Let.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N., R. 6 W., M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 20th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

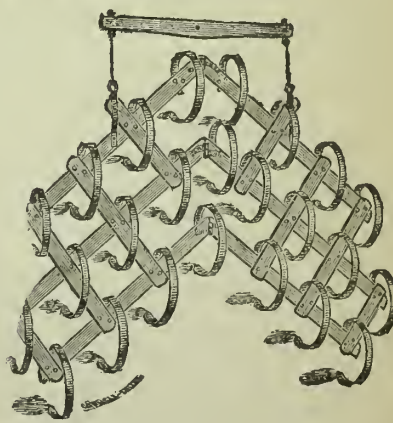
202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

VICTORY

THE CALIFORNIA
Spring Tooth Harrow
AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING to PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO.,

900 & 902 K St., Sacramento.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents STEVENS BROS., Northford, Conn.

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING AUGUST 17TH, 1880.

231,804.—HARNESSE BUCKLE.—James A. Gavitt, Dayton, W. T.
231,223.—KNOB ATTACHMENT.—S. Harris, S. F.
231,172.—CONCENTRATOR.—Henry Jordan, S. F.
231,330.—CONCENTRATOR.—Levi M. Kellogg, S. F.
231,233.—CLAMP FOR ROCK DRILLS.—H. Richmann, S. F.
231,245.—CHAIR BRACE.—S. P. Sorenson and J. C. Stanton, Rio Vista, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Mechanical Progress.

The truth of the old proverb, "Necessity is the mother of invention," can no where be better demonstrated than in California. The pursuit of industries under the peculiar conditions which prevail in this new world has brought to light a host of needs, and these needs have spurred painstaking and ingenious inventors to their best achievements. The result is, we can point with pride to the many mechanical triumphs which have been won in the city workshops, at the country forge, in the miner's cabin, and by the farmer's fireside. It can be truly claimed, we believe, that in no part of the country have there been brought forward so many useful inventions, in proportion to the population, as in California; or, in other words, no where else in the United States have so few people found so many new and successful ways and means of attaining desired ends. This is one of the most interesting features of our grand industrial progress, and at the same time one secret of it. We have vast and rich natural resources, it is true, but it is the skill of the inventor, and the enterprise of the men who have used his materials and methods, which have developed these resources and given us a prosperous State.

In agriculture, which is now the leading industry of our State, there has been a line of mechanical progress as clearly marked and as beneficent in results as in mining arts. Our farmers grappled with conditions so novel that their experience elsewhere was but of little avail. In fact the earlier years of California farming was in many respects marked by the failure of what seemed feasible, and this was followed by the success of what seemed impossible. Here is material for a volume, and we cannot enter upon it. Suffice it to say that the throwing down of old practices and the gradual development of new called for an almost entirely new fashion of mechanical devices, and this has been brought into existence by the patient labors of our inventors and manufacturers. In amount and cheapness of work accomplished the agricultural machinery of California is altogether without a rival in the world.

Bearing in mind these two grand lines of mechanical progress developed in our State, it is little wonder that an institution with the honorable aims and practical value of the Mechanics' Institute has grown and flourished in San Francisco, which is the center of our industrial system. It is little wonder that the fairs which have been held have been regarded as the occasions for bringing to public notice the triumphs which skillful workers have secured. We expect that the fair which is now in progress will take its proper place in the series of exhibitions, and will be an exponent of our signal advancement in industrial arts, showing to all the progress which each individual worker has secured, and giving to all an opportunity for study and contemplation of our natural resources and the means for developing them in the interest of mankind.

DRY FOG.—It has been frequently noticed that during fogs near large towns the air is not saturated with moisture, the dew point in one instance being as much as 10° C. below the temperature of the air. Seeing the possible connection between this phenomenon and the fact that the evaporation of water is greatly retarded by its surface being covered with a film of coal tar, the author made a series of experiments on the comparative rates of evaporation of water, when freely exposed to a current of air, and when covered with a film of coal tar or of coal smoke. It was found that the film retarded the evaporation from 92.7% to 66.6%. The results of these experiments point out a condition of very common occurrence, competent to produce "dry fog," while they also explain the frequency, persistency and irritating character of the fogs which afflict our large towns.—E. Frankland, Proc. Roy. Soc.

OPPORTUNISME is a new word in French politics just now. Rochefort and his party are opposed to opportunisme, to which dreadful quality they claim that Gambetta is a slave.

Our Home Industries.

Manufacture of White Lead.

Messrs. Whittier, Fuller & Co., manufacturers of Pioneer White Lead, Pacific Rubber Paint, etc., make the most artistic, full and complete display in the Mechanics' fair. Their stand confronts the visitor as he enters the building, and immediately attracts his attention from its unique and handsome appearance. A closer inspection reveals the fact that this is by no means all "show," but that the exhibit is backed by solid worth as well as plate glass. It is in itself a complete industrial exhibition of one of our most prominent home industries, arranged not only with taste and artistic judgment, but in such a manner as to convey to the spectator a good idea of the various steps and processes taken in bringing the raw material into a more valuable merchantable product.

The first thing noticed in examining the exhibit is the unique and original appearance presented by the structure which divides the display into four portions and holds the magnificent plate mirrors which back each compartment. It is elegantly painted and decorated in a very tasty manner, and arranged so as to admit of the various products being presented to the visitor in a convenient manner for inspection; all this being of original designs.

In front is displayed in packages of various sizes the famous Pioneer White Lead, the pride of the firm, being the only White Lead made on the Pacific coast. It is made from lead mined on this coast, and linseed oil made in this city, and in its manufacture a large body of men are employed. The white lead is corroded in pots of California manufacture, and ground and packed by California white labor. It is therefore thoroughly a home production.

It is put up in packages of from 12½ to 600 pounds. The manufacturers claim that this lead is finer ground than any ever imported. It is fresh, thus requiring but little labor in using; has no skins, dirt or impurities. Among its other advantages are: *Fineness*, which facilitates its working, making it easy to spread and giving it increased covering properties; *Color* equal to the best made anywhere; *Body*, none better ever made.

The case in front shows, first, the ore as extracted from the mine; second, the refined lead in pigs as it comes from the refinery; third, the same substance converted into lead "booklets," ready for the pots. These booklets are then placed in the corroding pots and corroded into pure carbonate of lead, a process requiring considerable time, and necessarily the employment of a large capital in this branch of manufacture.

In the same case are shown litharge, dry white lead and other products, all of Pacific coast manufacture.

By going into the left hand aisle a fine display is seen of the Pacific Rubber Paint, an article of manufacture well known on this coast. This branch of the business was taken hold of by Whittier, Fuller & Co. several years ago, and their practical experience has now made this the best mixed paint in the world. The sales of this paint increase by a large percentage every year, which is as good evidence of its satisfactory results as could be required. It is the original rubber paint, and of course, has brought many imitations into the field, as any successful article of the kind always does. By calling for "Pacific Rubber Paint," purchasers will get the original article. In this display are seen cans of this paint of all sizes and colors, ready mixed for use. Every can has the name and trade mark stamped upon it. A fac simile of the trade mark surmounts the display. As a result of competition with mixed paints, a case with five or six different medals is displayed. The rubber which enters into the composition of this paint is imported direct.

Passing on around to the rear of the display we see compartment showing the various kinds of artists' material dealt in by the firm. Fine varnishes, small vials, gold paint, bronze, brushes, fine colors, etc., are here neatly arranged in an attractive style. There are the different kinds of oils used by painters; also a fine display of the materials used in the new art of porcelain decoration. A notable feature is a fine collection of Valentine's Varnishes, an American manufacture now of world-wide reputation. These varnishes are now being extensively used by all the leading coach, carriage and house painters in the U. S. in preference to English, which were formerly almost exclusively used. These varnishes are now shipped to France, England and to the Australian colonies. This is one of the instances of what the indomitable Yankee pluck can accomplish.

On the fourth and last side of the display, facing the main central aisle, are articles of the exclusive manufacture of Whittier, Fuller & Co. There may be seen white lead, white zinc, bleached shellac, etc. The latter is a new article of manufacture in this market, and is only made here by this firm. It resembles cream candy in appearance. In the center of this compartment is a handsome revolving stand containing samples of lead. Prior to the formation of this establishment, white lead was selling at from 10½ to 12½ cents per lb., but now it is selling at 6½ cents. This shows that the public has been more benefitted than the lead manufacturers. The excellence of the products

is attested to by all the prominent painters of the coast.

This enterprise keeps steadily employed a force of 80 white men, a fact that should be understood by all consumers. It is one of the ways in which our labor is employed. People should, therefore, patronize their goods in preference to those of foreign manufacture. When manufacturers establish among us a home industry of this kind, and employ their capital, time and labor in a manner which results in benefit to the public, that public should remember it. They should, in no case, pay out money for goods made elsewhere, when they can purchase an equally good, if not better, home product. These manufacturers should be encouraged, and our labor thus kept employed. We are glad to say that, in this instance at least, these principles are carried out, and that this firm is liberally patronized, the excellence of their products being now recognized among consumers.

LADY COWPER, the ancient *grande dame* who has just died in England, was sixth in descent from Frances Cromwell, daughter of the great Protector and widow of Lord Rich.

APARTMENT houses for bachelors are multiplying in New York. They are made more and more attractive, and have more or less a bad effect upon the matrimonial market.

Of Interest to Subscribers to the "Rural Press."

The publishers of the PACIFIC RURAL PRESS are desirous that all subscribers should avail themselves of our reduced rates for cash-in-advance subscriptions. We therefore urge all who have not paid in advance to settle up arrears to date at the old rates, and then subscribe for 12, or as many months as practicable, in advance at the rate of \$3 per year. We cannot afford to issue a journal, which costs us so much outlay and effort, at \$3 per year, on trust. We presume all can see the reasons why we prefer a payment in advance, although, under existing circumstances, it does not seem for the best of all concerned that we should be arbitrary in the matter.

We aim to make the RURAL PRESS of a great deal higher value to our readers than the amount of money it costs them. The investment of \$3 from each subscriber very little more than covers the actual expense of maintaining his share of the co-operative enterprise into which we enter with our subscribers. Beyond this there is a value returned to each reader, and to the community at large, in the shape of salutary food for mind and heart. We hold it to be much more important to the general good that the reader should secure, for himself and his family, reading matter charged with incentives toward purity of thought and life than he should get the greatest amount of reading for the least money, without regard to the influences which such literature exerts. Our readers can judge how well we succeed in furnishing them a journal of pure tone, devoid of evil and struggling for the right. We trust our readers will perceive this disposition on our part and not place us upon the same plane with publishers who do not hesitate to send forward that class of matter which pays best, because it caters to evil propensities and satisfies longings which should be repressed. We feel that we have a duty to discharge in the interest of the better progress of our readers and of the community at large. Hence we place our standard high and refuse to participate in the rewards of those who serve lower aims and purposes.

We may repeat plainly, that there may be no misunderstanding, that every subscriber in arrears is invited to pay up to date at our old price of \$4 per year, and from date forward at the rate of \$3 per year. We may remark also, that we have never advertised the paper at reduced rates, in clubs or otherwise, except it be paid cash in advance.

The Spring Tooth Harrows.

We learn that Batchelor, Van Gelder & Co., of Sacramento, have found their business increasing so rapidly that they have been forced to enlarge their facilities for meeting the demand. They now occupy the whole of Nos. 900 & 902 K street, and are filling them with the finest white oak frames, directly from the great forests of Michigan. Their bolts, forgings and teeth are all bought of the manufacturers at first hands, by this means they are enabled to fully warrant every part of the harrow and offer it to the public at the lowest possible figure.

Experience with Windmills.

Messrs. HORTON & KENNEDY—Livermore:—On the 31st of May, 1875, I bought from you through C. E. Chubbuck a 12-foot windmill, Perkins patent, which I set up in June following, on my rancho, where it has been steadily running ever since, and up to this date has not cost me one cent for repairs. I have Eclipse, Halladay and Todd windmills on my rancho, but none can compare with the Enterprise. I saw an inquiry in my last RURAL PRESS asking for best windmill and I at once wrote to the editor to send his correspondent my letters stating how well the Enterprise compared with the others. When I want another mill I will get an Enterprise. D. FRESMAN. Los Angeles, Cal., July 16, 1880.

For these mills address Horton & Kennedy, Livermore Cal., or Linforth, Rice & Co., S. F.

ANDERSON SPRINGS.—Those celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

A GOOD PLACE TO STOP.—With the majority of people who visit San Francisco, it is the desire to find a home-like, comfortable stopping place, where the prices are moderate, and at the same time the accommodations are good. To such, the American Exchange Hotel, corner of Sansome and Halleck streets, offers superior inducements. While in these days of colossal caravansaries, it cannot claim to be the first-class hotel of San Francisco, as it was in early days, it still does claim to be the *best family hotel* in the city, containing 200 rooms, well ventilated and neatly furnished. The table is well supplied with the best the market affords, and here, as elsewhere, mine host Bryan seems to have an eye single to the satisfaction of his guests, and to cheapness, neatness and comfort. The location of the hotel is good, being in the great business center, directly opposite Wells, Fargo & Co.'s express, convenient to the leading places of amusement—nearest hotel to all Oregon, southern and other steamers—and having street car connections with Woodward's Gardens and all quarters of the city, every two minutes. A barber shop, laundry and bath-rooms are connected with the house. The American Exchange coach is found at all boats and trains ready to convey passengers to the house free of charge. T.

In the Whole History of Medicine

No preparation has ever performed such marvelous cures, or maintained so wide a reputation, as AYER'S CHERRY PECTORAL, which is recognized as the world's remedy for all diseases of the throat and lungs. Its long continued series of wonderful cures in all climates has made it universally known as a safe and reliable agent to employ. Against ordinary colds, which are the forerunners of more serious disorders, it acts speedily and surely, always relieving suffering, and often saving life. The protection it affords, by its timely use in the throat and chest disorders, of children, makes it an invaluable remedy to be kept always on hand in every house. No person can afford to be without it, and those who have once used it never will. From their knowledge of its composition and effects, physicians use the CHERRY PECTORAL extensively in their practice, and Clergymen recommend it. It is absolutely certain in its remedial effects, and will always cure where cures are possible.

FOR SALE BY ALL DEALERS.

FRESH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruher's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOEKEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVEN, Propr.

J. G. COLMBERN is requested to report to this office from Humboldt Co.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

PAY IN ADVANCE and get the RURAL PRESS for \$3 a year.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Aug. 25, 1880.

Trade is not very interesting this week. Wheat has been forced to a lower range, and Wool is dull and quiet, although there is but little of the fall clip yet arriving. Fruit is high, and some kinds are quite likely to remain high, because of the small supply forthcoming.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice
Cal. Wheat.	
Thursday.....	9s 9d to 10s 2d
Friday.....	9s 6d to 9s 11d
Saturday.....	9s 6d to 9s 11d
Monday.....	9s 6d to 9s 11d
Tuesday.....	9s 6d to 9s 11d
Wednesday.....	9s 6d to 9s 11d

The Foreign Review.

LONDON, Aug. 23.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: It is rather too soon to make a definite statement in regard to the quality of the new wheat crop, but the majority of samples exhibited during the past week were decidedly fine, and sold readily at 4s 6d to 5s 3d per quarter. The reduction of last year's growth are quite insignificant. The reduction of 1s to 2s failed to attract buyers. The demand for foreign wheat was unusually light. The bulk of arrivals have been warehousemen. The tendency in prices is downward, though transactions are so limited as to scarcely warrant recording any actual change of quotations. American mixed Malze readily commanded 24s ex-ship, but any attempt to advance this quotation was strenuously resisted. Sales of English Wheat for the week were 11,354 quarters at 43s 9d, against 18,362 quarters at 49s 3d, for the corresponding period last year. Imports into the United Kingdom, during the week ending Aug. 14th, were: Wheat, 1,464,931 cwt; and Flour, 216,005 cwt. Oats were 6d cheaper under the pressure of heavy arrivals. Flour was dull, and declined 1d per barrel and 1s 6d per sack.

Crops in England and the Continent.

LONDON, Aug. 23.—A supplement to the *Mark Lane Express* tabulates 348 reports from the agricultural districts. They show that Wheat is below the average, Barley above, Oats and Beans a little above and Peas a little below. The results of the 2d Hay harvest will probably make up for the deficiency of the 1st cut. Turnips are as much over the average, and Mangel Wurzel below. Potatoes are expected to be an unusually heavy crop. Two hundred and forty-eight reports say that more or less disease has appeared; 32 say there is no disease, while in 50 disease is not mentioned. Wheat is considerably affected with blight and mildew. A few returns declare the general state of crops to be as bad as it was last year, but for the country at large the prospects, though not as bright as some sanguine writers have reported, are much better than they were at this time last year. The quality of Wheat and Rye is generally good. The French harvest will be above the average. In Belgium and Holland the harvest is well nigh finished, with excellent results. The Rye crop in Saxony, Pomerania, Brandenburg and Holstein is about half the average, but in Bavaria, Franconia and Silesia the Rye crop is magnificent. Wheat throughout Germany is fairly good, though there is considerable rust and mildew. Accounts from Austria, Hungary, Spain and Italy are uniformly good.

Eastern Grain and Provision Markets.

CHICAGO, Aug. 21.—The grain markets have been rather excited, and the tendency has been strongly up during the whole of the past week. This was noticeably true of Corn and Oats, and the advance in these cereals was out of all proportion to that of Wheat. The discouraging reports from the Corn regions was the cause of the flurry, and later reports are not much more favorable, for the drouth continues so severe that many fields are partly or wholly ruined. That the great body of the Corn crop is much damaged, is by no means likely. The tremendous receipts of Corn continue unabated, and were it not for the readiness of the British market to take all the Corn offered, prices here should have been at the bottom now, instead of very near the top, as they appear to be. Wheat is strong, but only in sympathy with Corn. Provisions have also been excited and always tending higher with the skilled management of the veteran cornerers who have all the Pork and are squeezing the shorts. One or two firms have suspended, and one who was supposed to be financially solid has refused to respond to margin calls, and is accused of being practically insolvent. Prices of Pork reached the highest price to-day that they have attained for many years. Sales for the week of the September option were: Wheat, 86½¢; Corn, 37½¢; Oats, 23½¢; Pork, 16.20¢; Lard, 7½¢. Closing September prices were: Wheat, 89½¢; Corn, 40¢; Oats, 26¢; Pork, 17.10¢; Lard, 8.22¢. Cashing cash prices were: Wheat, 89¢; Corn, 40¢; Oats, 26¢; Pork, 16½¢; Lard, 8.20¢.

Eastern Wool Markets.

Boston, Aug. 21.—The Wool market continues quiet. There are comparatively few buyers, who mostly purchase in small lots. The principal demands run on delaine and combing selections, all desirable lots meeting with ready sale, and prices are quite steady and firm. Washed fleeces continue quiet. California Wool is in moderate demand. Pulled Wools move slowly, and prices are unchanged. For foreign Wool there is more inquiry, and Carpet Wools are in demand. Sales include Ohio and Pennsylvania fleeces, XXX and No. 1, at 44¢; Michigan X and medium, 40¢; Wisconsin X and No. 1, 40¢; New York low and X fleeces, 35¢; combed and delaine, 40¢; unwashed combings, 27¢; medium Kentucky and Indiana, 35¢; Georgia, 30¢; Valley Oregon, 36¢; Territory, 35¢; Texas, 30¢; unwashed and unmerchantable fleeces, 25¢; Spring California, 24¢; Fall California, 21¢; tub washed, 50¢; scoured, 50¢; 87¢; super and X pulled, 40¢; Australian, 41¢; Cordova carpet, 20¢; English combings, 47¢; Natal, 32¢; Mestiza pulled, 70¢; English pulled, 38¢. Total sales of the week were 1,627,400 lbs, of which 1,155,900 were domestic.

The London Wool Sales.

LONDON, Aug. 23.—At to-day's Wool sales spirit was fairly sustained, and rates were firm. Merino was rather against buyers. Six thousand and four hundred bales were sold, comprising Port Phillip, New Zealand, Sydney and Cape, in about equal portions.

BAGS—The bottom has fallen out of the Bag combination, and rates are lowered all around. Our list shows standard Grain Bags dropped to 10½¢—a reduction of ½¢ since last week. At auction 100,000 standard Calcutta Grain were offered, and 5,000 sold at \$10.20 per 100, the rest being withdrawn.

BARLEY—Barley is quieter this week, although some choice lots of bright, full weight Chevalier are still taken for export at full prices. We note sales of 1,000 sks Coast Feed at 80¢; 1,200 sks do light at 75¢ per cwt.

BEANS—There is no change, except in Butter Beans, which we by accident quoted too low last week.

CORN—White Corn is reduced, although the quotation is but nominal. Small Round Yellow has sold at \$1.10 per cwt.

DAIRY PRODUCE—There is a slight tendency to reaction from the advance made last week in Butter, but it thus far only affects the fancy brands. There is no change in prices, except a possible reduction of ½¢ on fancy dairies. Cheese is quiet and unchanged.

EGGS—Eggs are more lively, and held firmly at an advance. The choicest California fresh Eggs have brought 31¢.

FEED—There is no change in Hay or Ground Feeds. FRESH MEAT—Pork is lower. Other Meats are unchanged.

FRUIT—Arrivals are small, and an advance is obtained on everything but Blackberries, which are abundant and cheap. Our list gives present rates.

HOPS—There are but few arriving, and they are small and not extra lots. The price we give for new Hops is, therefore, nominal, because of the few transactions.

OATS—Sales are few and rates stationary.

ONIONS—Red Onions are slightly reduced. Whites are unchanged.

POTATOES—Potatoes have lost a part of last week's advance. Sweet Potatoes now sell at \$1.62½ at 1.75 per cwt.

PROVISIONS—The demand for Meat products is active, and prices are well maintained, with an increasing demand. Eastern packed articles have advanced, owing to greatly advanced quotations at points of production.

POULTRY AND GAME—There is no material change in rates.

VEGETABLES—There is a reduction in values of String Beans, Green Peas, Squash and Tomatoes, as shown in our price list.

WHEAT—The market is reported weak, and a lower range of quotations is given. Sales are few: 100 tons choice Milling at \$1.47½; 800 sks No. 2, \$1.35; 40 tons Coast and 200 sks superfine, \$1.30; and 20 tons Coast at \$1.25.

WOOL—Dealers report the trade very dull, and sales so few that quotations are only nominal, although this represents the best that can be had now. There is a little short Southern Fall Wool arriving; otherwise the trade is not opened.

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., August 25, 1880.

BEANS & PEAS.	
Bayo, cttl.	95 @ 05
Butter, 1 lb.	20 @ 25
Castor, 1 lb.	25 @ 35
Pea, 1 lb.	25 @ 35
Pink, 1 lb.	25 @ 35
Sm'l White, 1 lb.	05 @ 16
Lima, 1 lb.	05 @ 06
Field Peas, 1 lb.	25 @ 50
do, green, 1 lb.	10 @ 25

BROOM CORN.	
Southern, 1 lb.	11 @ 20
Northern, 1 lb.	24 @ 34

CHICKEN.	
California, 1 lb.	4 @ 44
German, 1 lb.	6 @ 47

DAIRY PRODUCE, ETC.	
Cal. Fresh Roll, 1 lb.	27 @ 30
do Fancy Brands, 1 lb.	30 @ 31
Pickle Roll, 1 lb.	25 @ 27
Firkin, new, 1 lb.	24 @ 26
Western, 1 lb.	— @ —
New York, 1 lb.	— @ —

CHEESE.	
Cheese, Cal., 1 lb.	13 @ 15
N. Y. State, 1 lb.	— @ —

EGGS.	
Cal. fresh, doz.	23 @ 31
Ducks, 1 doz.	— @ 25
Oregon, 1 doz.	25 @ 25
Eastern, by exprs.	19 @ 22
Picked here, 1 doz.	25 @ 27
Utah, 1 doz.	— @ —

FEED.	
Bran, ton	— @ 12
Corn Meal, 100 lbs.	— @ 26
Hay, 100 lbs.	9 @ 10
Middlings, 100 lbs.	— @ 17
Oil Cake Meal, 30 lbs.	— @ 40
Straw, bale, 100 lbs.	— @ 50

FLOUR.	
Extra, City Mills, 50 lbs.	00 @ 25
do, Country Mills, 50 lbs.	00 @ 27
do, Oregon, 50 lbs.	4 @ 25
do, Walla Walla, 50 lbs.	24 @ 50
Superfine, 50 lbs.	00 @ 23

FRESH MEAT.	
Beef, 1st cut, 1 lb.	6 @ 61
Second, 1 lb.	5 @ 6
Third, 1 lb.	4 @ 41
Mutton, 1 lb.	34 @ 4
Spring Lamb, 1 lb.	5 @ 54
Pork, unpressed, 1 lb.	42 @ 4
Dressed, 1 lb.	7 @ 74
Veal, 1 lb.	6 @ 61
Milk Calves, 1 lb.	6 @ 61
do choice, 1 lb.	7 @ 71

GRAIN, ETC.	
Barley, feed, cttl.	75 @ 85
do, Brewing, 1 lb.	85 @ 95
Chevalier, 1 lb.	35 @ 60
do, Coast, 1 lb.	100 @ 25
Buckwheat, 1 lb.	3 @ 60
Corn, White, 1 lb.	— @ 01
Yellow, 1 lb.	— @ 05
Small Round, 1 lb.	— @ 10
Oats, 1 lb.	20 @ 50
Milling, 1 lb.	55 @ 60
Rye, 1 lb.	12 @ 37
Wheat, No. 1, 1 lb.	12 @ 31
do, No. 2, 1 lb.	12 @ 31
do, No. 3, 1 lb.	10 @ 25
Choice Milling, 1 lb.	45 @ 47

HIDES.	
Hides, dry, 1 lb.	18 @ 19
Wet salted, 1 lb.	10 @ 104

HONEY, ETC.	
Beeswax, 1 lb.	22 @ 25
Honey in comb, 1 lb.	12 @ 13
do, No. 2, 1 lb.	— @ —
Dark, 1 lb.	— @ —
Extracted, 1 lb.	7 @ 74

HOPS.	
Oregon, 1 lb.	— @ —
California, new, 1 lb.	25 @ 30
Wash. Ter., 1 lb.	6 @ 10
Old Hops, 1 lb.	6 @ 10

NUTS—Jobbing.	
Walnuts, Cal., 1 lb.	12 @ 15
do Chile, 1 lb.	8 @ 10
Almonds, hd shd, 1 lb.	8 @ 10
Soft shd, 1 lb.	16 @ 18
Brazil, 1 lb.	14 @ 17
Peanuts, 1 lb.	8 @ 9

SEEDS.	
Alfalfa, 1 lb.	10 @ 12
do, Chile, 1 lb.	4 @ 6
Canary, 1 lb.	6 @ 6
Clover, Red, 1 lb.	14 @ 15
White, 1 lb.	50 @ 65
Cotton, 1 lb.	— @ 20
Flaxseed, 1 lb.	21 @ 3
do, 1 lb.	— @ 19
Italian Ryegrass, 1 lb.	30 @ —
Perennial, 1 lb.	30 @ —
Millet, German, 1 lb.	10 @ 12
do, Common, 1 lb.	7 @ 10
Mustard, White, 1 lb.	3 @ 5
Brown, 1 lb.	14 @ 2
Ryegrass, 1 lb.	20 @ 25
do, 2d quality, 1 lb.	16 @ 18
Sweet V Grass, 1 lb.	— @ 75
Orchard, 1 lb.	20 @ 25
Red Top, 1 lb.	— @ 15
Hungarian, 1 lb.	8 @ 10
Lawn, 1 lb.	30 @ 50
Timothy, 1 lb.	10 @ 12

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

WOOL ETC.	
Southern and San Joaquin, 1 lb.	20 @ 22
Long, free, 1 lb.	18 @ 20
Short, free, 1 lb.	17 @ 18
Seedy, 1 lb.	18 @ 20
Slightly burry, 1 lb.	18 @ 20
Burly, 1 lb.	17 @ 19
Northern, 1 lb.	— @ —
Choice, free, 1 lb.	28 @ 30
Burly, 1 lb.	24 @ 25
Oregon, free, 1 lb.	24 @ 25
do fine, heavy, 1 lb.	20 @ 22
do Valley, 1 lb.	28 @ 30

FALL—Lamb's Wool.	
Southern, 1 lb.	13 @ 15
Northern, burry, 1 lb.	15 @ 17
do free, 1 lb.	20 @ 23
Fall, ord'ry, south, 1 lb.	12 @ 13

TALLOW.	
Crude, 1 lb.	54 @ 57
Refined, 1 lb.	74 @ 75

.....	61	00	@65	0
.....	67	00	@70	0
.....	61	00	@64	0

NEW MUSIC BOOKS!

CURIOSITIES OF MUSIC. A collection of facts not generally known, regarding the music of Ancient and Savage Nations. (\$1.00). By LOUIS C. ELSON.

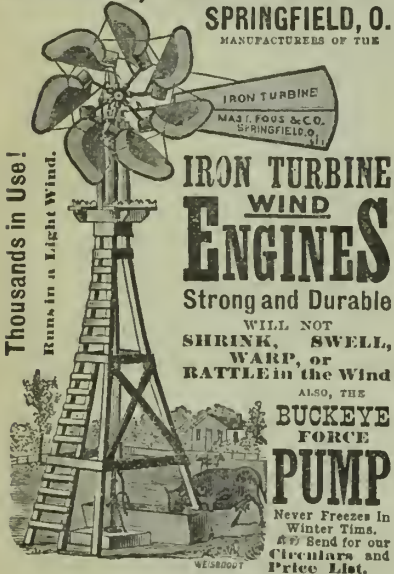
Here is a Musical History in a most entertaining form, the salient and important facts being wrought into very readable stories of what happened in China, Japan, India, Egypt, Greece and Ancient Europe. There are also stories of the middle ages, and of the early days of Opera.

Examine Our Splendid New Books.

- For Schools:
Song Bells. L. O. Emerson.....\$.50
 For High Schools:
Welcome Chorus. W. S. Tilden..... 1.00
 For Sunday Schools:
White Robes. Abbey and Munger..... .30
 For Temperance:
Temperance Jewels. Tenney & Hoffmann... .35
Temperance Light. Hugg & Servoss..... .12
 For Singing Schools:
Voice of Worship. L. O. Emerson..... 1.00
Temple. W. O. Perkins..... 1.00
Johnson's Method. A. N. Johnson..... .60
 For Reed Organs:
Parlor Organ Instruction Book. By A. N. Johnson..... 1.50
Sudds' National School. By W. F. Sudds. 1.50
 Any book mailed for retail price.

OLIVER DITSON & CO., BOSTON.

O. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.
SPRINGFIELD, O.
MANUFACTURERS OF THE

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED

FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speech of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
 LINFORTH, RICE & CO.,
 General Agents for Pacific Coast,
 Nos. 323 and 325 Market St., San Francisco, Cal.
 LOCAL AGENTS WANTED.

SEIGLER SPRINGS HOTEL,

LAKE COUNTY, CAL.,

JOHN SPAULDING, - Proprietor

These well known and celebrated Springs are beautifully located in the forest-grown hills of Lake county, six miles from Lower Lake and five miles from Glenbrook. Daily communication is had with San Francisco.

Their waters are among the most remarkable in the world for their remedial qualities for liver and kidney complaints, neuralgia, rheumatism, dropsy, scrofula and other diseases arising from impurity of the blood. The water is remarkably efficacious in curing dyspepsia and nervous diseases.

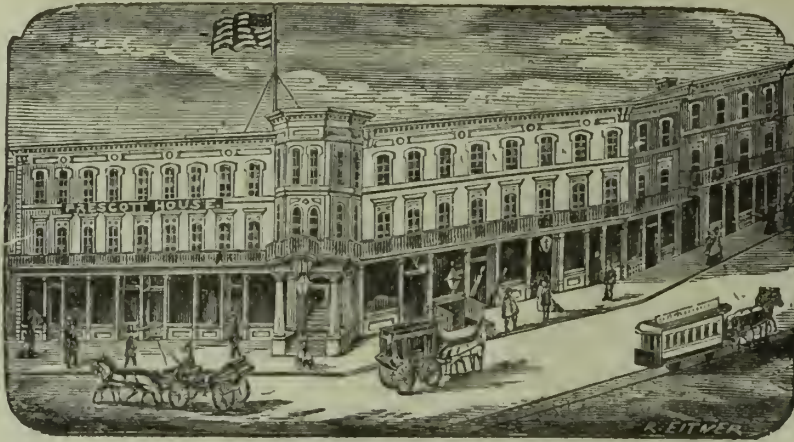
First-Class Board,

\$10.00 to \$12.00 PER WEEK.

W. T. GARRATT, Manager.

50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



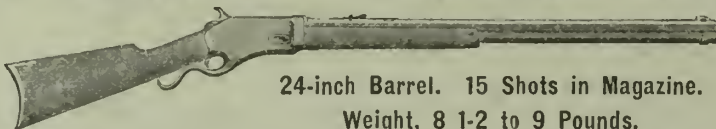
Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

RECORD OF SUPERIORITY.

1878—AWARDED	1879—AWARDED
J. H. STROBRIDGE, First Premium:	J. H. STROBRIDGE, First Premium:
Pen 5—Breeding Ewes.....\$22.50	Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes..... 22.50	Pen 5—Yearling Ewes..... 22.50
Pen 5—Ewe Lambs..... 22.50	Pen 5—Ewe Lambs..... 22.50
Pen 3—Ram Lambs..... 22.50	Two-year-old Ram..... 22.50
Yearling Ram (1st and 2d)..... 33.50	Yearling Ram..... 22.50
Two-year-old Ram..... 22.50	Ram and five Lambs..... 30.00
Ram and five of his Lambs..... 50.00	Pen of 3 Ram Lambs..... 22.50
Sweepstakes:	Sweepstakes:
For best Ram of any age or breed, and five of his Lambs..... 75.00	For best Ram and five of his Lambs, of any age or breed..... 75.00



THOROUGHBRED SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda Co., Cal. E. W. PERT, Agent.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
 Built and repaired at
 No. 51 Beale Street, S. F.
 Send for circulars.
F. W. KROGH & CO
 (Successors to W. I. TUSTIN.)

PIONEER BOX FACTORY,
 Corner of Front and M Streets, Sacramento.
 ALL KINDS OF
 Fruit and Packing Boxes Made to Order,
 AND IN SHOOKS.

Communications Promptly Attended to.
COOKE & SONS, Successors to COOKE & GREGORY

50 New Style Cards. Lithographed in bright colors, 10c.
 60 Ag'ts Samples 10c. Conn. Card Co. Northford, Ct.

MONEY TO LOAN!
\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

The Excelsior Animal Trap

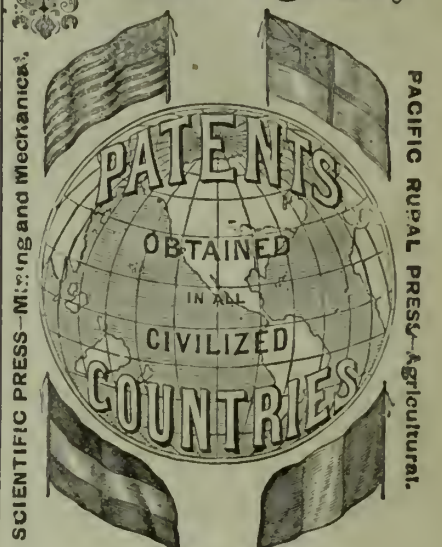


Is Guaranteed to be the Best
GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$2 per doz. Address, G. W. JOLLY, Paradise Springs, Cal. Pat. ap'd for

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. E. NAYLOR, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

DEWEY & CO'S
SCIENTIFIC PRESS
Patent Agency.

PATENTS obtained promptly; Caveats filed expeditiously. Patent re-issues taken out; Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences Prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Soliciting Business promptly and thoroughly conducted.

Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons, and our success and business are constantly increasing.

The ablest and most experienced inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

DEWEY & CO., Patent Agents.

Office—202 Sansome St., N. E. Cor. Pine, S. F.

A. T. DEWEY. W. B. DEWEY. G. H. STRONG.

PATREY'S
Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. ENMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 13, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAINES.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

NEWSOM'S
ARROYO GRANDE WARM SPRINGS.

D. F. NEWSOM, - - Proprietor.
 SAN LUIS OBISPO CO., CAL.

Located 14 miles south of the city of San Luis Obispo, 12 miles from Port Harford, where passage can be had directly to the Springs. The Coast Line Stage connects daily at the Arroyo Grande.

The Waters of the Several Springs

ARE A SPECIFIC FOR

Piles, Nasal Catarrh, Neuralgia, Liver and Kidney Complaints, Rheumatism, Gout, Dropsy, Paralysis, Diseases of the Stomach, Scrofula, Female Complaints, Sore Eyes, Etc.

The ocean beach, which affords one of the finest drives in the State, and where surf-bathing, clamming and fishing are always in order, is within an easy drive of the Springs. The climate is delightful. No Summer, no Winter, Spring and Fall being the only seasons. Villa lots to lease for 10 years on most favorable terms. Neat and comfortable cottages to let.

Board, lodging and baths at rates to suit the times. Renters and Campers supplied with fresh Milk, Butter, Eggs, Fruits, Vegetables, etc., at current prices.

50 Perfumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Agricultural Articles.

W. H. CARSON. JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought iron crank shaft with
double bearings for the crank
to work in, all turned an
run in habilitated boxes.
Positively self regulating
with no collaring or springs
of any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knolls without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of supe-
riority, and can be relied upon as the best and most desira-
ble Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to
MATTESON & WILLIAMSON,
Stockton, Cal.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.60 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing,
Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired
I. A. HEALD, Proprietor.

The New Beekeepers' Text Book.

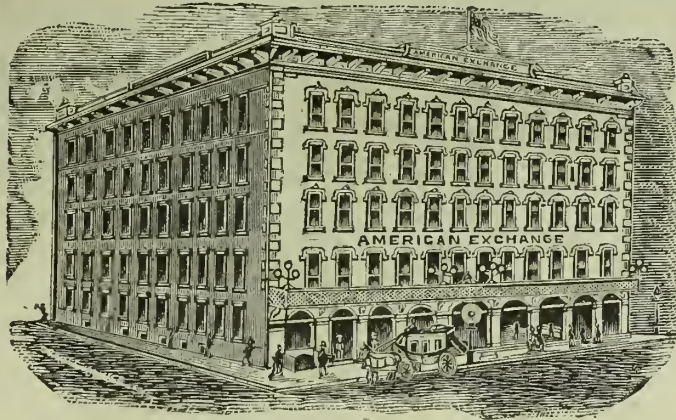
By A. J. KING. The latest work on the Apilary,
embodying accounts of all the newest methods
and appliances. Fully illustrated. Sent by mail, post-
paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center
of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within
two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and
Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the
Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San
Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof
and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

RICKARD & DURDEN'S

Anti-Scale Compound.

FOR THE PREVENTION AND REMOVAL OF

INCRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having dem-
onstrated the value of this invention, and its applicability to differ-
ent qualities of waters, we now offer it to Engineers and Steam
Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

BERRY & PLACE MACHINERY CO.

323 & 325 Market Street, - - - San Francisco.



Shooting Qualities
UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - SAN FRANCISCO, CAL.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE
SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper.
Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London,
&c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

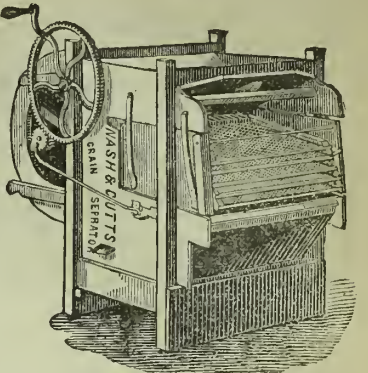
POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

STILL AHEAD!

Trade
Mark.



"The Improved
Nash &
Cutts Grain Cleaner."

Three sizes—warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fairs
from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats
cracked wheat, etc., in a satisfactory manner, but is alike
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTER and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.

2d. Being located here, we know what is wanted much
better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.

Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.

Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,
906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.

4th We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for
gentlemen and ladies visiting the city from the interior. No
dark rooms. Gas and running water in each room. The floors
are covered with body Brussels carpet, and all of the furniture
is made of solid black walnut. Each bed has a spring mat-
tress, with an additional hair top mattress, making them the
most luxurious and healthy beds in the world. Ladies wish-
ing to cook for themselves or families, are allowed the free
use of a large public kitchen and dining room, with dishes.
Servants wash the dishes and keep up a constant fire from
6 A. M. to 7 P. M. Hot and cold baths, a large parlour and read-
ing room, containing a Grand Piano—all free to guests. Price
single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars
to corner Third and Howard.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit
the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from
Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

DO

NOT FAIL to send
for our Price List for
1880. FREE to any
address upon ap-
plication. Contains
descriptions of every-
thing required for
personal or family use.
with over 1,200 Illustrations. We sell all
goods at wholesale prices in quantities to suit
the purchaser. The only institution in America
who make this their special business. Address,
MONTGOMERY WARD & CO.,
237 & 239 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive
Farms at fair rate of interest. Money also advanced on
Wheats. Apply to A. SCHULLER,
209 Sansome St., S. F.

SADDLES, HARNESS, WHIPS LEATHER.

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer
in All Goods in this line.
Send for Catalogue

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc.
15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

DEWEY & COMPANY'S,

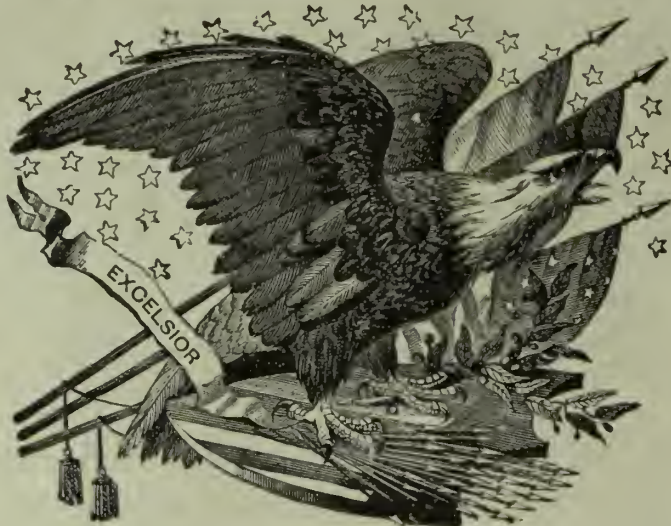
SCIENTIFIC PRESS PATENT AGENCY.

AMERICAN.

FOREIGN.

ESTABLISHED IN
1860.

ABLE, FAITHFUL AND
REASONABLE.



202 SANSOME STREET,

SAN FRANCISCO, CAL.

The Leading U. S. Patent Agency of the West.

Send for Circular of Hints to Inventors.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel,
Bessemer, spring, copper, brass
and galvanized—on hand
or Made to Order.

Note the
Trademark!

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.
SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

A NEW BOOK.

A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.



35 Fine Engravings showing the
positions and actions of sick
horses. Gives the cause, symp-
toms and best treatment of dis-
eases. Has a table giving the
doses, effects and antidotes of all
the principal medicines used for
the horse, and a few pages on the
action and uses of medicines.
Rules for telling the age of a
horse, with a fine engraving show-
ing the appearance of the teeth
at each year.

It is printed on fine paper and has nearly 100 pages, 7 1/2 x 5 inches. Price only 25 cents, or 5 for \$1, on receipt of which we will send by mail to any address.

DEWEY & CO.,
202 Sansome St., S. F.

Traveling Agents.

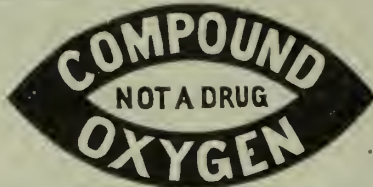
We want several canvassing agents who will
make it their business to solicit subscriptions
and advertising for our first-class progressive
newspapers. Men of ability and experience can
secure good pay and permanent employment.
Send references and state your past occupation,
etc., to the publishers of this paper.

Engraving.

Superior Wood and Metal Engrav-
ing, Electrotyping and Stereotyp-
ing done at the office of the MINING
AND SCIENTIFIC PRESS, San Francisco, at favorable rates

CANVASSERS Make from \$25 to \$50 per week sell-
ing goods for E. G. RIDEOUT & CO., 10 Barclay street,
New York. Send for Catalogue and terms.

This paper is printed with Ink furnished by
Chas. Eneu Johnson & Co., 509 South 10th
St., Philadelphia & 59 Gold St., N. Y. Agent
for Pacific Coast—Joseph H. Dorety, 527
Commercial St., S. F.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheuma-
tism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION.

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable
cures. Write for it. Address: DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E.
MATHEWS, 66 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand.
OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour
Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES,** Wool, Bean, Ore and
Salt and Seamless Cotton Bags.
Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

AT CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

**THE IMPROVED
EVAPORATORS**



For Making
**SUGAR,
SYRUP
AND
APPLE
JELLY.**

Make the best syrup and sugar with less fuel and
labor than any other apparatus. Will condense
sweet cider into delicious Jelly at the rate of
four barrels per hour. Agents wanted.
Send for descriptive circulars.

VT. FARM MACHINE CO.,
BELLFLOW FALLS, VT.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on
receipt of publishers' prices, annexed:—Tobacco, its culture,
manufacture and use, 500 pages, \$3.50;—The Patrons of Hus-
bandry, 500 pages, \$3.75;—The Women of the Bible, 77 en-
gravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages,
\$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricul-
tural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's
Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;
New Bee-Keepers' Text Book, \$1;—Pacific Rural Hand-
book, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law,
50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from
Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layres
Belles Lettres, \$1;—Holt's Map of California and Ne-
vada, to subscribers, \$1;—Back Volumes PACIFIC RURAL
PRESS bound \$5; unbound, \$3;—Picturesque Arizona, \$2
Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

BLOOMINGTON NURSERY.

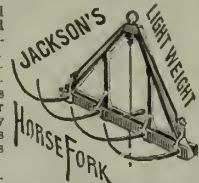
Established 1852. 600 acres; 13 greenhouses. We
offer a large stock of **Trees, Shrubs, Roses, Bulbs,**
Apple Seedlings, Osage Plants, etc. New Fall
Price List free. Address BAIRD & TUTTLE, Agents,
Bloomington Nursery, Ill.

Pay Cash in advance—\$3 a year for the
Rural Press. Credit rates, \$4.

**Jackson's Agricultural Machine Works
AND FOUNDRY,**

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and
Elevators, with recently invented
Spreader, Horse Forks for Head-
ings or Hay, Folding Derricks,
Hoadley Straw-Burner and Auto-
matic Cut-off Governor for Por-
table Engine, Separator Shoes
and Repairs. **WINDMILLS** for
Stockmen and Gardeners. Buy
and sell second-hand Threshers
and Engines. Machine Castings
a specialty. Address
BYRON JACKSON, Prop'r.



MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. MCCORMICK.

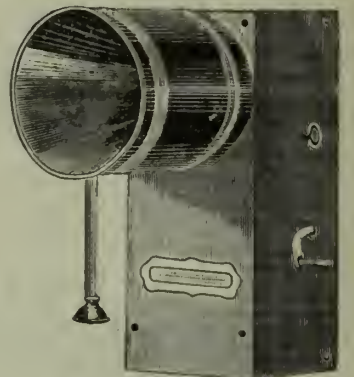
827 Market St., between Fourth and Fifth.

LAND
Good land that will raise a crop every
year. Over 14,000 acres for sale in lots to
suit. Climate healthy. No drouths, bad
floods, nor malaria. Wood and water
convenient. U. S. Title, perfect. Send stamp for illus-
trated circular, to EDWARD FRISBIE, Proprietor of
Reading Ranch, Anderson, Shasta County, Cal.

507 Mechanical Movements.

Every mechanic Should have a copy of Brown's 507 Me-
chanical Movements, illustrated and described. Inventors,
model makers and amateur mechanics and students, will
find the work valuable far beyond its cost. Sold by
DEWEY & CO. Patent Agents and publishers of MINING
AND SCIENTIFIC PRESS, San Francisco. Price, \$1, (post paid).

Hoover Telephone.
PATENTED.



\$10.00 PER SET.

Put up and guaranteed for one year. Private lines a
specialty. It will cost you nothing to try them. No
work, no pay. All orders promptly attended to. Cir-
culars free. Room 24, 328 Montgomery St., S. F.

Fine Engraving.

The Engraving Bureau belonging to the office
of this journal is prepared to design and engrave
all kinds of Wood Cuts for illustrating newspapers,
books, catalogues, cards, circulars, advertise-
ments, labels, badges, seals, etc., in the best style
of the art. Our portraits and illustrations of ma-
chinery, buildings and landscapes, are superior.
Good engravings can be made from paintings,
lithographs, steel and copper plate prints, photo-
graphs, models, patent office or other drawings.
We have a photographic department and the best
of machinery for producing accurate and perfect
work at the lowest prices. Original maps, charts,
and diagrams are made by our NEW PHOTO-RELIEF
Process at greatly reduced rates. By the same
process copies can be cheaply and quickly pro-
duced of printed cuts, in *fac simile*, or they can
be enlarged or reduced with equal facility.

Any hand writing in perfectly black ink on
clear white paper for manuscript letters or cir-
culars, will be accurately reproduced in metal plates
suitable for common printing. Also, *fac simile*
signatures, monograms, sheet music, etc. We
excel in trade cuts and matched plates for combi-
nation color printing. With a large business, long
established, and every facility for improvement,
we can guarantee more than ordinary satisfaction
to all of our patrons. All interested are invited
to send for or call and see specimens and obtain
prices.

Orders for electrotypes, stereotypes, steel and
copper plates, lithographing, stamps and seal
presses executed at low rates.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defect-
ive vision thoroughly diagnosed, free of
charge, and all kinds of Lenses made to
order at greatly REDUCED PRICES.



Volume XX.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 4, 1880.

Number 10

The Smut on Citrus Trees and Fruits.

The black incrustation on the citrus and olive trees in some parts of our State, and the smutty fruit which sometimes comes to the market looking as though it had been gathered and packed by chimney sweeps, have been frequently commented upon. It has been stated often that the smut consisted of the growth of a black fungus. Of late there has been inquiry from several of our readers, indicating that a more definite statement of the manner of growth of this fungus would be welcomed. This we are enabled to furnish by reproducing from the publications of the Department of Agriculture an engraving made from drawings by Thomas Taylor, microscopist. In description of this work and its results Mr. Taylor writes: I removed a portion of the black matter from a leaf. It appeared as if composed of black, granular matter, cemented with flour-paste, and formed

powdery substance always forms on the leaves, buds, and the fruit of the orange tree and some other plants when attacked by the "mealy-bug" and orange-scale insects. The plants are doubtless punctured by these pests, causing a flow of sap from the ruptured parts, which probably forms a nidus for the black mycelium to vegetate in, spreading over the whole tree, blackening and destroying it. The skin or epidermis has its peculiar functions to perform, and, if covered, its healthy action will be impeded.

The connection between the scale insects and the occurrence of smut will doubtless be considered by Prof. J. H. Comstock, who is now at work upon the orange insects of this State. The smut inquiry has in fact been turned over to the entomologists, as the mycologists seem to have reached the end of their tether in the matter. Prof. W. G. Farlow, of the Bussey Institution, of Harvard University, has made a study of the fungus from California specimens, and reports the result of his examination of the diseased orange and olive leaves as follows: The

careful notes of the extent and manner of appearance of the disease, and the climatic and hygrometric conditions attending it should be carefully recorded. As a remedy, alkaline soaps, as strong as the trees will bear, will no doubt prove advantageous in case of the oranges; but, in the case of the olives, much less good is to be expected, owing to the presence of the stellate hairs on leaves and twigs.

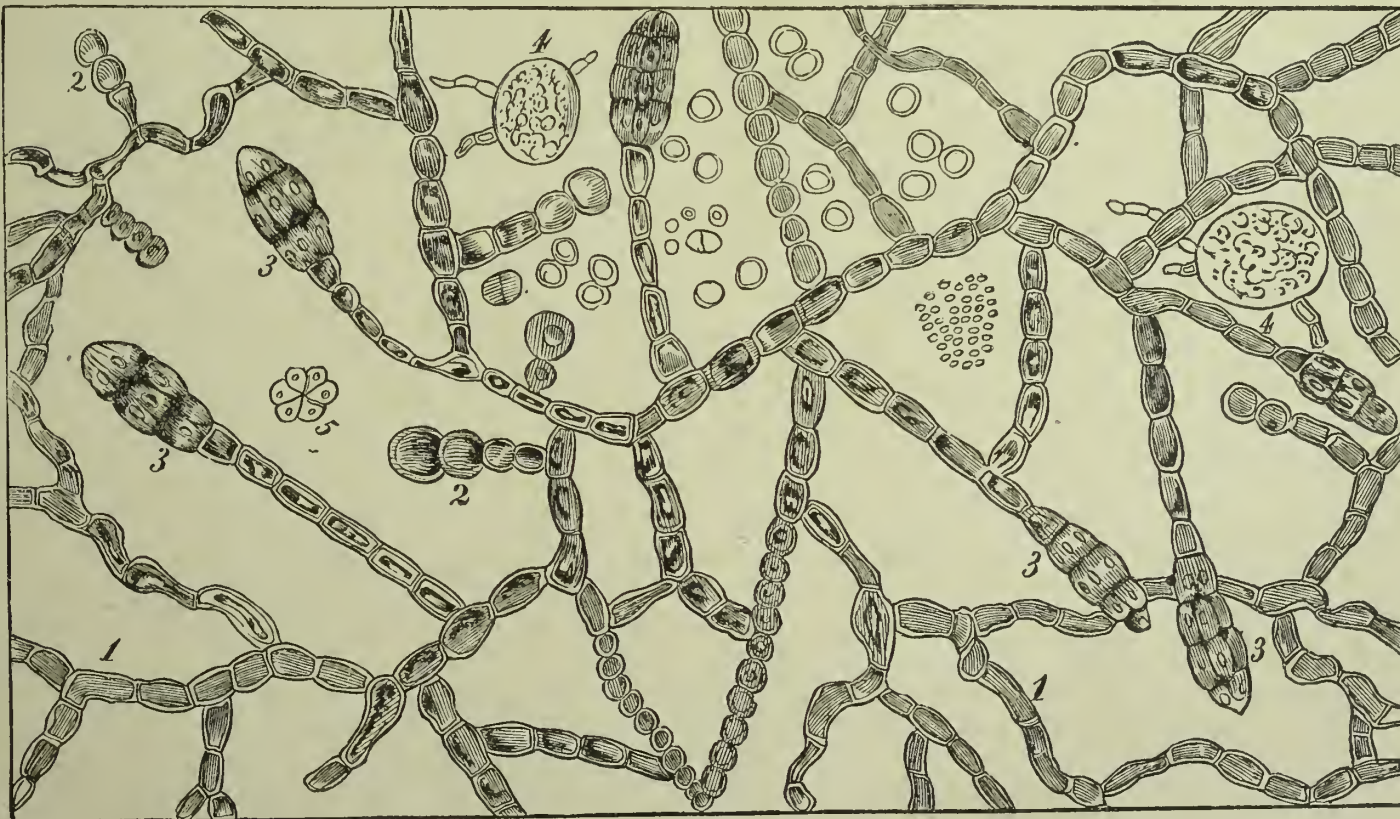
It is an interesting fact in this connection that some orange regions of our State are badly affected by the smut, and others have been thus far free from it. It is also true that some diligent growers have cleaned their trees both of insects and smut by careful scrubbing and showering with alkaline washes. A review of these illustrations of successful culture will doubtless be given by Prof. Comstock, and it will be read with interest.

THE EASTERN PEANUT CROP.—The Commercial Bulletin estimates the coming peanut crop to approximate as follows: Virginia, 1,600,000

Ensilage.

The disposition to try the French system of storing green fodder in pits and allowing it to ferment is becoming widespread over the country. As we lately stated, Dr. Bailey, of Massachusetts, became a convert to the system and proclaimed it a success according to his experience on Winning farm, Billerica, Mass. His articles have set the agricultural experts at the East at active discussion of the alleged merits and demerits of the system. Finally, Dr. Bailey has written a book, called "The Book of Ensilage," in which he aims to set forth "how to produce milk for one cent a quart, butter for 10 cents a lb., beef for four cents a lb. and mutton for nothing, if wool is 30 cents a lb." We have received a copy of this work, and, without being captious about the matter, we must admit that it is a peculiar volume, a sort of a

cross between a report of an agricultural experiment station, and a trade catalogue of seeds, implements and live stock. We start out to read a chapter on "ensilage in warm climates," which we supposed would be a careful discussion of conditions and their influences, and we are soon stranded upon a pile of ensilage corn for sale at so much a bag, and then dragged into the teeth of somebody's corn cutter, which is pronounced best of all, and advertised at the end of the book. Still, there is in the volume quite full directions as to the manner to proceed to try the ensilaging of fodders, and we only regret that Dr. Bailey did not give this information in a straightforward manner in a small pamphlet which could have been sold for a fraction of the price asked for the present volume. Then



THE SMUT ON ORANGE, LEMON AND OLIVE TREES AS SEEN WITH THE MICROSCOPE.

represented thus far; Fig 5 represents what appears to be a cross-section of the asci or fruit, when perfectly formed and cut through its greatest diameter crosswise. The surface of the leaf is generally covered with these germinating spores when the black mycelium is on the leaf; being colorless they are invisible. Frequently Vandyke colored cells are seen on the leaf. They consist of disjointed mycelium. To the naked eye the fungoid spores, etc., appear black, but under the microscope they appear of a Vandyke brown, with the exceptions noted. It is known to mycologists as black mycelium, of the genus *Antennaria*. Berkeley says that "of late years the black mildews have raged to such an extent in the Azores and Ceylon as to threaten the complete annihilation of the orange and coffee plantations, and the ravages have been scarcely less among the olives in some parts of Europe. It is impossible that light can have its proper effect through such a medium on the tissues of the leaves. It would be as rational to expect that plants would thrive under a brown bell-glass as that vegetation should not be impaired when the greater part of the plant is covered with a thick, dark felt. The mildews are often accompanied or preceded by a coccus, and I believe that the first stage of growth of most *Antennariae* is more frequently observed where the leaves have been soiled with honeydew." It has long been observed that a black

disease, though first attracting the eye by the presence of a black fungus, is not caused by it, but rather by the attack of some insect, which itself deposits some gummy substance on the leaves and bark, or so wounds the tree, as to cause some sticky exudation, on which the fungus especially thrives. It is not denied that the growth of the fungus greatly aggravates the trouble already existing, by so encasing the leaves as to prevent the action of the sunlight; we only say, that, in seeking a remedy, we are to look further back than the fungus itself—to the insect, or whatever it may be, which has made the luxuriant growth of the fungus possible. With regard to the fungus, we are able to assert that it is the same on both olives and oranges—the species described by Berkeley and Desmazieres under the name of *Capnodium Citri*, which seems to us, together with the pycnidial state described by Montagne under the name of *Antennaria elaphophila*, to be but two states of a species identical with that described by Tulasne as *Fumago salicina*. It remains yet to find the asci on olives or oranges, which will probably be accomplished without difficulty in California. The earliest stages of the fungus should be studied by some one living near orange groves; for, although the disease has been known to attack greenhouse plants, it is not very common, or, in that case, so favorable for study. Especially is it to be desired that

bushels; Tennessee 1,100,000 bushels, and North Carolina, 120,000, making a total of about 2,820,000 bushels. This at 22 pounds to the bushel would give the enormous figures of 62,040,000 pounds, which on an average of four cents a pound would reach the sum of \$2,481,600. The price of hand-picked Virginia peanuts in New York at present ranges from 5½ to 5¾ cents per pound, and for the ordinary kind about 4½ cents a pound. Tennessee peanuts are worth about 3½ to 3¾ cents a pound at Cincinnati, and about the same price in New York. The receipts at New York this year will not be far from 480,000 bushels, against 416,000 bushels last year—the year ending October 15th. This is exclusive of the peanuts which arrive already shelled, and are used for confectionery purposes. From the figures given the growing importance of this crop may be estimated.

SILK.—We fell into quite an error last week in locating the Woman's Social Science Society, in Oakland. It is a San Francisco institution and meetings are held each Saturday afternoon to which ladies only are admitted. At the meeting of Sept. 4th, the discussion of silk culture will be resumed, a paper on the subject being expected from Mrs. T. H. Hittell, of this city.

DR. MARY WALKER says that the time is coming when she will be elected to Congress.

and proceed to tests.

We are glad to learn that there will be an experiment with ensilaging fodder made by two stock ranches of San Benito Co., Messrs. J. W. Greu and L. M. Ladd. It is evident that a good supply of green food will be a blessing to the California dairy or stock man at certain times of the year, for there are great losses of growth and production by short feed, both when the feed is dry and when the growth of grass is retarded by unusual cold as it was last winter. It will be, however, a question until the experiments are made, whether, during the short seasons in which stock are pinched for feed in this State, ample provision could not be more easily made for them by saving hay and growing roots, than by preparing for sour fodder. In the East the winter is so long, and the provisions to be made for so great and so expensive, that there is more field for the introduction of a system like that of ensilage. However, we shall see how the San Benito farmers succeed with it, and then there will be better points for local consideration.

THE widow of the Jewish Cologne banker, Baron Abraham von Oppenheim, who in 1870 gave the munificent sum of £150,000 for the wounded, has just handed £30,000 for an hospital for poor children of all confessions, in memory of her late husband.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Notes in Tehama County.

EDITORS PRESS:—Thinking you might like to see some samples of the cereals grown by our thriving farmers, I take this opportunity to forward three samples, one of each of the popular varieties which have been raised the past season in this county. "Club" is more generally sown by our large farmers than other kinds, owing to its hardiness in standing our heavy wind storms in the early part of the summer, and because of its yield, which is generally uniform and abundant. It does not waste in hauling, as other varieties are liable to do. It is a good shipping wheat, but millers in this locality prefer the white varieties. The sample of "Club" forwarded was grown on the farm of W. H. Gurnsey, a practical and thorough tiller of the soil, in Antelope valley. It was winter-sown, and gave a handsome yield, being 44 bushels to the acre. You will perceive its plumpness and clean appearance.

The sample of "Proper" wheat is from the same farm. It was not such a fine crop as the "Club," though it is the handsomer grain of the two. It is a favorite with our millers; and another year this variety will be more extensively sown than ever before. "Proper" is liable to shell out if left to fully ripen before cutting. It should be headed when tolerably green, placed in small stacks and threshed late. It will then turn out splendidly. It is much sought after as a seed wheat for the coming fall.

The sample of "Snowflake Club" is from the ranch of E. J. Lewis, farmed by Lewis & Bohn, and is far better than they expected it would be. All the farmers to whom I have shown samples of this grain acknowledge it to be the handsomest-appearing grain that they have ever seen. E. J. Lewis first got a small quantity of the grain two years ago from Oregon, I believe, and got 83 sacks last year from this lot. Mr. Bohn carefully cleaned the ground—some 80 acres—and sowed it liberally last fall, and received as a reward for his labor 1,500 sacks of grain this harvest, the sacks averaging 130 to 135 lbs. each. "Snowflake Club," like "Proper," is apt to shell out, but not to such an extent. It can be cut a little earlier than the white varieties, and will then be safe from shelling. It will be in demand as a seed-wheat this year. P. Crumbaugh, one of our extensive farmers west of Red Bluff, has some of this wheat, but how much I am not informed. F. J. Maybaw, our miller, examined a sample of the wheat and was very much pleased at its appearance, and would like to get 100 sacks to test as to its milling qualities.

Threshing here goes bravely on; many of our large farmers have quite a job before them yet. A trip south-by-west to the fine farm of H. C. Wilson, yesterday, gave the writer a good opportunity to judge of the work yet left for the many separators to do. H. A. Rawson will finish on Tuesday or Wednesday next. W. Conard has about another week's work. G. Conard & Son have more than a week's work on their place. H. Mooney has not commenced. T. Chard and A. M. Gedney, two neighbors, have all theirs to thresh. Fennell & Sons have many a stack to thresh, though they ship from 10 to 18 cars of wheat a day from Tehama. Hammon & Stufflebeam have the crop from 1,600 acres to thresh yet. So it goes on, all the way down this prolific valley, thousands of sacks of grain awaiting the advent of the separator. September will find more grain to thresh this year than August finds in early harvest years. At the splendid farm of H. C. Wilson we found the crop on the home place, which is farmed by W. W. Miller, all cut and threshed. Some 4,000 sacks of "Proper" and "Club" wheat was the result. Wallace had a splendid crop. J. J. Willis, who farms a portion of H. C. Wilson's vast possessions, reported having harvested a very excellent crop of "Proper" wheat, his crop being as good as any in the neighborhood; 2,400 sacks of wheat was the result of his labor. I am sorry to say that Henry Wilson, at our visit, was suffering from an immense earache, which is situated high up between his shoulders, giving him severe pain. It is an ugly affair, and will confine him to bed some six weeks, probably, which is unfortunate just at this particular time. H. C. Wilson is one of the most active, stirring business men of Tehama county, and has large interests in this State and Oregon which require his admirable superintendence; so it makes him very impatient to be out among his workers. A visit to his fine orchard, vineyard and kitchen garden was well repaid by the sight of the several varieties of fruits, vegetables and garden truck. Chestnut, almond, walnut and other nut-bearing trees, with peach, apple, apricot, plum, pear and other table-fruit-bearing trees, were noticeable. The fig trees attracted special notice, from their immense growth, being handsome in their proportions, affording ample shade, forming a natural bower, were the monarch of all these splendid fruit and vegetable riches. Mr. Jackey, was found tasting a luscious Catawba melon. Mr. Jackey took the writer

through this fertile spot where the melon patches, cucumber beds, pumpkin and sweet potato patches are overrun with creeping branches, forming a net-work of vegetable riches. Black-eyed peas, a very healthy article of the pea variety, was pointed out to the writer as something very prolific, and a valuable adjunct to kitchen gardens; I have never seen the Black-eyed pea growing in this State before, but have noticed them in the vegetable gardens in China, where they are very common, and are no doubt native of that clime. In the vineyard some 5,000 bearing vines laden with the well-known Mission variety grapes; the vines are in a healthy condition, and the fruit is maturing rapidly. From inquiry I found the farmers down on the plains south of H. C. Wilson come in from their places to purchase fruit from the vineyard and orchard. Henry does not manufacture wine in any quantities, so he has a very fine crop to sell to those who live in localities where vineyards could not be cultivated.

Our farmers as a rule are storing their wheat, not wishing to sell at the present low price. It is doubtless as low now as it will go, and it is to be hoped a firmer market will soon open up; had the price been what it was last year, many of our large farmers would have paid up their indebtedness this fall, and had a clear start next year unencumbered. Business in all its branches is dull at this writing, with very little prospect of its brightening until the wheat market opens up brisker. Wool will shortly be a factor in our business market again. Shearing will be prosecuted with vigor in the mountain shearing camps next month, and some flocks will be brought to the home camp at the end of the month for shearing. The sheep interests of Tehama county are being curtailed. The agriculture is driving thousands of sheep to the frontier settlements. Many Tehama county sheep men will winter their flocks in Utah, Montana, Arizona and other far away places. Some will sell in the fall. Still our wool clip this fall will be considerable, as the flocks left are numerous, but they fall short of past years. FELIX.

Red Bluff, Cal., Aug. 27th.

[We are glad to have these samples. The varieties are among those now most talked about. Our correspondent's descriptive notes on the samples are very accurate, and give each variety its characteristic points. Our Tehama friends certainly can grow fine wheat.—Eds. PRESS.]

Agriculture in the State of Nevada.

Grass, Grain, Fruit and Tree-Growing.

EDITORS PRESS:—Only in a few spots in the State of Nevada can any other than the natural growth of vegetation be produced without irrigation. And the causes that combine to render this impossible, the natural aridity of the atmosphere and soil, make water so scarce that irrigation can be practiced to only a limited extent. As a result, there is not much cultivated grass, fruit or grain raised in the State—not half enough fruit or grain for the consumption of the inhabitants. The more hardy kinds of fruits, such as apples, plums, etc., do tolerably well if planted on choice ground and carefully looked after. Good crops of grain and the cultivated grasses can also under like conditions be raised. But nowhere do we meet with such crops of grain as are to be seen in California or Oregon, whether as regards area or growth. The fields here are, as a general thing, mere patches situate at the mouth of the canyons or other places where water can be easily brought upon them. Not a dozen fields can be found in the State containing as much as 100 acres of grain in a body, the most of them comprising not more than 10, 15 or 20 acres each. But little of the grain sown here is cut for hay, the wild grasses and the crops of alfalfa cultivated for the purpose being mainly depended upon for hay-making. The former is apt to be coarse and innutritious, making but a poor article of hay. The grain raised being designed chiefly for horse-feed consists mostly of barley, with a little oats, the latter grain not doing very well here. Nevada produces little flour, there being not more than three or four small grist mills in the State. I do not think any attempts have been made at growing other of the cereals than those above mentioned. Owing to the much staging and teaming carried on, great quantities of hay and grain for horse-feed are required here, calling for the importation of considerable amounts of the latter from California. Much of the oats comes from Indian valley, Plumas county, where this grain is extensively sown and distinguished for its excellence. In passing along the series of valleys that reach from Reno southeast to Walker's river, a hundred miles or more, one sees many large and thrifty fields of alfalfa, also extensive natural meadows, along Carson river on which stand immense haystacks, some of them containing more than a hundred tons each.

Vines, Vegetables and Berries.

In some of these valleys are to be seen fine patches of potatoes, with a few other vegetables of the hardier kinds, for the more tender cannot stand the unseasonable frosts so common in this climate. The tomato has a fight for it, and scarcely ever fully ripens. The bean is apt

to be nipped while in its succulent state, and corn seldom matures beyond the boiling ear. But the potato is generally good—in fact, very fine, the Washoe "spud," because of its excellence, being sometimes exported to California. Of viniculture on the "Eastern Slope" and beyond, the less said the better, the Washoe grape being like the Washoe "zephyr" and the Washoe "canary"—a thing in praise of which but little can be said. In favored localities, however, certain varieties of the grape do moderately well; berries ditto, though to perfect these latter great care is required.

Nevada, like other parts of the Great Desert basin, may be said to be almost without indigenous fruits and berries. Save a species of wild currant, the choke cherry, some esculent roots dug by the Indians, the seed of the bunch grass and the piñon nut, hardly anything edible is found growing here. The native tribes feed also on a kind of clover while tender in the spring.

Fruit, Ornamental and Native Trees.

The only natural tree-growth met with after we get beyond the Sierra consists of the nut pine, cedar and mountain mahogany, all scrubby trees, with here and there a sparse grove of more stately pines standing at considerable altitudes on the mountains, and some straggling cottonwoods along the streams. Besides these we have only the willow, small and scanty, and the ever-present artemisia, generally a stunted and worthless shrub, though on some of the alluvial bottoms growing large enough to furnish an indifferent sort of fuel. But most foreign trees can be made to grow here if only planted in a good soil and helped till they get well rooted by irrigation. The locust has been extensively planted and thrives well. The several varieties of the gum seem also to prosper, and I noticed in the Capitol grounds at Carson the elm and various other exotics that appeared to be doing well enough. Reno and Carson City are fairly embowered in trees, many of them strangers, that seem quite at home there, growing apparently with as much exuberance as the cottonwood and other indigenous trees standing by their sides. About these towns are extensive and well cultivated nurseries of both fruit and ornamental trees, great numbers of which being now large enough to be transplanted, are being sent to all parts of the State.

In due time Nevada will probably produce enough fruit of most kinds for home consumption. At present the principal part of it comes from California, some of it being brought by railroad and some by teams that come in over the several wagon roads built across the Sierra many years ago. Of these the only ones much traveled at present are the Sonora and Mono, the Big Trees and the Placerville routes, the principal business now done over the last two consisting of the passage of fruit wagons, live stock, etc. From 15 to 20 years ago the Placerville route was a great thoroughfare, the most of the Washoe business having been done over it prior to the building of the Central Pacific railroad over the mountains. The tolls received on this road enriched Kingsbury, the builder, the receipts for the first two years having more than covered the cost of its construction, some \$75,000 or \$80,000. The tolls now received barely suffice to keep the road in repair. Owing to the partial failure of the fruit crop in El Dorado, Amador and Calaveras counties, this traffic has been much curtailed the present summer, though it will most likely increase later in the season, when the grapes and the fall pears and apples mature. For 12 or 15 years past it has been a common thing to meet the wagons of the fruit peddlers far out on the desert of Nevada. This year, to the distress of the inhabitants, they appear in greatly reduced numbers. H. D.

August 25, 1880.

THE FIELD.

Non-Turning Plows.

EDITORS PRESS:—In your last issue you request me to furnish the results of the season's experience with my non-turning plows, which were described and discussed in your columns last fall. I am now thoroughly convinced mine is the correct way to restore our worn-out soil to its original fertility. The 25 acres only produced 20 bushels last year and this year 30 bushels, and I am convinced that if I continue the same method for two or three years longer, that it will produce as much as it ever did.

I find all the land in this section has a hard-pan just below the depth it has been plowed, which has been made by the horses walking in the furrow when the soil is wet. It is tramped almost into mortar, and then dries out during the long dry season, which keeps the superabundance of water that falls in the winter and spring from sinking, and then keeps the necessary moisture from coming up when needed. (I would not let a man put my land in wheat the old way of turning the soil if he would do it for nothing.) We do not have the frost here to break up this hard-pan, and it is getting worse every year.

I would like for any man to give satisfactory reasons why the soil that has been fertilizing a year or years should be turned six or eight inches below, when all of its fine properties are below the nourishing point. I have been experimenting with manures for six years, and

I find they pay me much better when I put them on top and let them remain there.

I will have no trouble to put my land in this fall. It is perfectly loose; it did not bake or run together with the hard rains that we had late in the spring. The first of next month I will burn off my stubble, and harrow the land as soon as it is burned. By so doing the ashes are mixed with the soil, and the first rains bring up the weeds, which are destroyed, when I commence the seeding. The great problem now is, What shall we do with our large grain crop? At present prices it will not pay the cost of production. J. R. SIMMS.

Near Santa Rosa, Cal.

FLORICULTURE.

Growth of Flowers in Oakland.

Gerald Howatt writes to the *Country Gentleman* a note concerning the growth of various flowering plants in Oakland, Cal. He says:

To show you how florists' flowers flourish in and around this city, I send you a few specimens of pansies, cut on the 19th of July and preserved, that you may judge of their colors and about their size. (They shrank some in the preserving.) Those were not selected from a florist's collection; had they been, they would probably have been of better size. Pansies like these can be seen in any door-yard or private garden, and bought of any vendor of flowers. No extra cultivation was given; some not planted, but stuck in anywhere, and watered through a one or two-inch hose and jack pipe. Could our English cousins (amateur growers and the best in England) see these, for size, form and texture, it would unquestionably astonish them. To grow such they have to keep in shaded frames, and water between the plants with a specially-arranged watering pot. The size of the English pansies sent, when cut, were two and seven-eighths inches in diameter. They could have been selected over three inches across from florists' collections. The German varieties are much heavier in texture, and very finely marked on the margins of the petals, measuring in diameter, when cut, two and one-eighth inches. Other florists' flowers do equally as well with the same treatment. Auriculas that cannot be grown at the East, do as well, if not better, than in Europe, with the same treatment as pansies, and at this date are in full flower.

All plants and flowers are here treated alike—dashed with water whether wet or dry. The following are magnificent: Pinks, carnations, picotees, amaryllis, Japan lilies, abutilons to the tops of houses two stories high; a moss rose tree I have seen to the top of a two and a half story house, and 25 ft. wide (this, in full bloom, was a spectacle worth seeing); geraniums eight ft. high and six ft. through, a blaze of flower seeming to cover all leaves; pelargoniums, better understood as Lady Washingtons, equally as large, glittering with flowers of all colors; ivy-leaf geraniums covering a fence on both sides, running up on one side and falling down the other to the bottom, a mass of bloom; dahlias in all colors, sizes and forms; fuchsias (those not having seen them have no conception of their grandeur, literally growing to house-tops; single and double ones, and bloom, bloom, bloom); hollyhocks, fine double, and of all colors and shades seemingly; calla ethiopica in hedges flowering from gay to gay; habrothamnus elegans and coccinea as a creeper and a shrub; heliotropes in flower all the year, 8 to 15 ft., and as creepers; honeysuckles and other hardy creepers planted last March 18 inches high, are at this date 9 to 16 ft.; annual phloxes, about double the size you grow them, in flower and truss; veronicas, in variety, in constant flower; aloysia citrodora (lemon verbena) as large as a well-grown three-year-old peach tree; spikes of flowers in form of feathered heads, eight inches in length, and each flower as large as an ordinary lily of the valley. I could enumerate more, but this will give an idea of what size flowers attain in this city and neighborhood. Let this not lead persons to suppose that the whole State is the same. Parts of it are too cold, and vice versa.

Concerning the pansies sent, the editor of the *Country Gentleman* remarks: "The pansies mentioned by our California correspondent came through safely, and were a remarkable collection in variety of coloring and size of flowers. They varied from one inch to two and one-fourth inches in diameter, in their dried state, and comprised all the usual colors, from the darkest self-colored to the lightest variegated, some blossoms having all colors on each one. Some had dark petals with light edges, others light petals edged with dark stripes. In some the curious wrinkled countenance was quite plain; others lacked that familiar appearance entirely. Such pansies grown at the East would show great skill in cultivation."

IMPROVED BLEACHING PROCESS.—An improvement in the process of bleaching vegetable fibers has been made, which is said to consist in adding margarine, stearic, or oleic acid, or the mucilage of flax or Panama bark to a basic bath of alkali, or chloride of lime. This, it is claimed, limits the destructive action of the chloride, and promotes the solution of the gummy and resinous matters that adhere to the raw fiber.

HORTICULTURE.

Fruit Growing—No. 2.

EDITORS PRESS:—In this article I shall give some attention to gathering fruit, as we are now in the midst of the fruit-gathering season. The reason for this is that a great many fruit-growers spoil their fruit in a great measure by gathering some too soon and others too late. Now, be it remembered, that peaches, plums, prunes, apricots and grapes want to be fully ripe before they are gathered from the tree. What I mean by this is, that this kind of fruit don't ripen or gain any in flavor after it is gathered from the tree. It will simply soften or wilt, and not increase in flavor, but become insipid. Hence, such fruit is always best when fully ripened on the tree; this makes it difficult to get it to market in its best condition without considerable care in gathering and packing. So if you want your plums and peaches to "appear" well in market, and attain the highest excellence in flavor, let them remain on the tree until they are nearly ready to fall, and then handle them more carefully than "eggs." These rules will apply also to berries and other small fruit. But with

The Pear

And all kinds of summer apples it is different; they require a different treatment. All early pears are worthless unless pulled while quite hard and ripened in the box or bin. They should be gathered as soon as fully grown—as soon as the seeds are matured. I will relate some of my experience in the treatment of pears, to show the importance of these instructions. Some years ago I was buying pears for shipping and called upon a fruit-grower who had a large quantity of pears, and asked him what he would take for his fruit on the trees, as I wanted to gather them myself. He took me through his orchard, showed me several varieties, for which he asked a pretty good price; but coming to a variety which he did not know the name of he told me I might have that pretty cheap, as it was of but little account—in fact, if I took the others at his price, he would "throw them in." I knew the pear (the Le Bonne de Jersey) and considered it second best to the Bartlett for my trade, and took the offer. But when I came to gather them he offered me some advice, and said the pear was poor enough at best, but if I pulled it so green it would be worth nothing, and he wanted me to do well with my fruit. But I thanked him for his kindness and told him my business made it necessary to gather them then, and did so, because I knew when to do it. Now, the result—not being able to take all the pears away at the time I left a few boxes in his barn until I could get them; but did not return for them until they had ripened, and he being attracted by their delicious odor, opened a box to see what they were. When I came for the pears he told me that I had taught him something about his pears that would pay him for giving them to me, for he had always left them on the trees so long that they had been worthless, but now he considered them the best pear he had. The

Winter Pear

Must be treated in like manner to keep long and attain its greatest excellence. Gather as soon as fully matured—as soon as the seeds get black—and keep them exposed over night to the open air to cool them, and then put them away in a cool place and keep them as cold as you can without freezing them.

In gathering and caring for

Apples

We observe nearly the same rules as for pears; only summer apples may be left on the trees a little longer. But if you want your apples to be the very best, gather them when quite hard, and let them ripen in the box, and with such apples as E. Harvest and Astrachan it is best to make two or three gatherings, as they do not mature evenly. If you wish to hasten their ripening, gather in the afternoon when warmed by the sun and put them away where they will keep warm, and they will ripen much faster. But if you want to keep your fruit long, take the opposite treatment, and remember that all varieties of apples and pears are better ripened in the box than on the tree.

While I am talking about gathering fruit, I might as well finish by saying a little about Marketing

Fruit. In passing an orchard the other day I saw a good many apples under the trees and asked the owner why he didn't take care of his fruit and take it to market. "It won't pay," he said; "I picked up some the other day and took them to town and they did not fetch enough to pay for the trouble." Now, the apples in question were the Early Harvest, and of fair size, and if they had been properly handled they would have sold in the town he referred to for 50 cents per box, and he would have had about five boxes to the tree of marketable apples; and his trees had been poorly cared for too, and were only ten years old. But if the trees had been properly cultivated and pruned from the time of planting until that age, they would have had eight or ten boxes instead of five, and his fruit would have brought 50% more to the

box. But many people plant orchards and neglect to take proper care of the trees and the fruit they bear, and then conclude that "fruit-growing won't pay," because their small, inferior and badly-handled fruit don't sell readily in market at good prices.

If you want to get the best prices and ready sales for your fruit, see to it that it is gathered at the right time and in a proper manner, and put into market in a neat and attractive style, discarding small and inferior fruit.

In my next I will discuss the "curl leaf" on peach trees and the varieties to grow in order to avoid it, and how and where to grow them, and their relative market value to other fruit. But in the meantime don't neglect to investigate your neighbors' orchards and profit by their success or mistakes as well as your own, for we will learn more in this way than any other.

M. P. OWEN.

Soquel, Cal.

[If our friend keeps his peaches and plums until they have to be "handled like eggs," he will find that the jar of the railway and the thumps of the city draymen will make a fruit omelet out of every box or basket sent to this city. Where one can reach his customers with a spring wagon and deliver the fruit himself, the case would of course be different, and we imagine our correspondent does not intend to write with reference to long transportation.—EDS. PRESS.]

Plums and Prunes.

At the August meeting of the State Horticultural Society, the discussion of the subject, "Plums and Prunes" was introduced by Mr. W. B. West, of Stockton, with the following essay:

In order to bring this subject before you in a proper manner I will consider it under different heads: 1st, the condition of the market; 2d, the varieties to plant; 3d, the soil best adapted to them; 4th, mode of pruning and diseases; 5th, the stocks on which they should be worked; 6th, methods of drying.

Condition of the Market.

The first question with every planter is, will the market justify me in planting these fruits? If we had only the Pacific coast to supply, I should say decidedly no—for this reason: Our State is prolific in fine fruits of all kinds, and the season which they are in market continues, with the exception of a month or two, through the year; the demand for dried fruit is therefore small. This is not the case in the Eastern States and in Europe, where good fresh fruit is hard to obtain. In the States east of the Rocky mountains this fruit is attacked by the curculio, and is not abundant, the price, therefore, for both green and dried plums and prunes is good. The great difficulty which our merchants have to encounter in making a market there for dried fruit is, that they cannot obtain a sufficient quantity of one variety to make a business that will justify them in putting them on that market. The lots as they come from the producer will consist of, perhaps, 20 boxes of one kind, 10 of another, and only 5 of another, so that it is seldom that a straight lot (as they call it) can be obtained. The fruit also is not of a uniform quality. One grower will only dry such as he cannot obtain a market for in its fresh state. Another will dry it in a slovenly manner, and put it up in unattractive packages, while another, who gives it his attention, who produces a good article, who packs well, and who should be well paid, finds that his fruit rests under the ban of a slovenly man, and is not remunerative. These difficulties can only be remedied by a proper understanding between the merchant and the producer, the former to pay a fair price for good fruit and a relative one for poor. The grower will then learn that it pays to send only a good article to market; to thin out his crop so that they will be of good size; to prune and cultivate his trees; to pack carefully in uniform packages. When this is done we will not hear of a glut of dried fruit in our market. No matter if 10 times the quantity now produced is sent in, it will all find market in the East.

The Varieties to Plant.

While in Europe two years ago, I took some pains to visit the prune regions of France. My object was more to determine the proper variety to plant, as I intended to plant an orchard of my own. On my journey from Paris to Bordeaux, I stopped at Orleans to visit the nurseries of Messrs. Trunson Bros. Although but few prunes were grown in that neighborhood, they had a plenty of the trees in their nurseries. I found them to be the same little prune that I grew as the *Petite prune d'Agen*. At Tours I found but few prunes and mostly of an inferior quality. On arriving at Bordeaux I learned that the main center of the prune region was at Agen, some 85 miles up the Garonne, but that there were some orchards in the neighborhood, a few of which I visited; I then visited Agen and found that, although it was the main center of the fruit business, that is, that the fruit was collected and packed there, the orchards were still further on. Determined not to be baffled, I obtained a carriage and rode on to a village among the prune orchards. I there saw the fruit as it grew and was told their method of curing. Although I saw several varieties of plums and prunes, the only kind re-

cognized as worthy of cultivation, was the *prune d'Agen*, the same variety which is grown under the name of Burgundy or little French prune. There was no chance for me to be deceived, as I have grown the trees both in nursery and orchard for nearly 20 years. I recognized the habit of growth, and same diseases, which my trees are subject to. The other kinds were usually called the *prune commun* or common prune.

Varieties of Plums for Drying.

Good drying plums require to be of coarse texture, not too juicy, and to be free stones. In the Eastern markets the Washington is considered a good drying plum. The Hungarian prune makes a dried product of a fine, dark, glossy color, but does not always pit freely. The Columbia is a good sweet plum suitable for drying, but sometimes adheres to the stone. Denyas Victoria pits as freely as a prune, and is a very good bearer. For canning, the Yellow Egg is the favorite; it is an abundant bearer and well pays for growing. But this must not be confounded with another kind very similar which is known as the White Egg, which is a very poor bearer. I had four of the trees in my orchard for more than 20 years, during which time I never had even a small crop, while the yellow variety in an adjoining row was constantly overloaded with fruit.

The Soil Best Adapted to Them.

There is but little doubt that a rich, clayey loam is the favorite of the plum; the most successful orchards will show that. Some varieties, like the Imperial Gage, will do on sandy soils, but other varieties are usually shortlived.

The Mode of Pruning and Diseases.

The plum, if properly trained when young, will require but little pruning after four years, the only object being to form a well-shaped head, with branches near the ground, so that the sun may not burn the trunk. My method of treating a young orchard the first year is to head the trees down to four ft. from the ground. Vigorous shoots will start from this point, sometimes growing six or eight ft. These should be shortened in the next winter to at least one-half. The same methods should be followed until the head of the tree is formed and its luxuriant growth checked. After this the only pruning necessary is to cut out branches across the head of the tree. Sometimes an old, worn-out orchard may be renovated by a very severe cutting back, so as to allow it to form an entirely new head. On its proper soil it is liable to but few diseases. The greatest trouble is its excessive fruitfulness, which, if not checked by a severe thinning of the fruit, will soon cause the tree to decay. Climatic influences seldom interfere to cause a loss of crop, hence the tree goes on producing fruit until nature refuses to do more. The trees in France and England have a healthier appearance because the climate does not allow such excessive fruitfulness.

The Stock on Which it Should be Worked.

We now come to a vexed question. The most natural stock on which to head the plum would seem to be the seedlings of the common plum, but experience teaches us that, no matter what stock you use, he it a healthy seedling of the horse plum, or of the blue gage, or the prune, your orchard will be full of suckers. The Miroholan is used successfully in France, and has been introduced into this State. We have not had time to determine its value, but at present it is the most promising stock I know of. Some nurserymen use the peach and apricot. On heavy soils they do succeed; but on some light sandy loams they live a few years, but seldom prove satisfactory on account of the union not being perfect.

Methods of Drying.

This is the most important part of our subject. Almost any man of average ability can grow good fruit, but to properly cure it so that it will bring its full value on the market is a part that few succeed in. That California plums and prunes are larger and finer than the same variety grown in Europe, no one will dispute. That our dried products are inferior I think is equally true. If we eat a California prune we find it is of fine flavor, but is tough. It does not possess that soft, elastic texture that the French article has. The difference is only in the curing. Ours are either dried in the sun or in some patent drier. Theirs are cooked in an oven. The result of our method is that we get about 50% to 75% of the value of our prunes. I will give the French method as near as I can. The prunes should remain on the tree until they are thoroughly ripe and ready to drop at the slightest touch. They are then shaken off or allowed to fall off themselves. The ground under the tree is usually covered with straw to prevent the prunes from getting dirty or being bruised by the fall. The fruit is then placed upon willow trays in the sun to allow them to shrivel. They are then put into an oven with heat of about 135° to 160° Fahr., and remain closed up for 12 hours. They are then taken out and cooled as suddenly as possible. When cooled and turned over they are put back into the oven, with a stronger heat of 180° to 200° Fahr. The time need not be so great. Sometimes a third heating is necessary with a still stronger temperature of 225°. The prunes are then of a dark hue, and are elastic under the touch. They are then sent to the factories to be prepared for market. They are sized, which is done by large sieves. They are packed and sold by these sizes, the largest being packed in fancy hootles and boxes, and bring them fancy prices. There are secrets about the packing which are not easy to find out, especially by a

stranger, preparations and processes to keep the prunes many years if necessary, and solutions to improve their appearance. But there is nothing that we cannot, with a little experience, acquire. I have written upon this subject before, and strongly urged my fellow agriculturists to try the French plan, but I have never heard of anyone who has done so. I have no prunes of my own, my orchard being too young; but when I have them I shall most assuredly attempt the French method.

THE SWINE YARD.

The Tendency Toward Light Hogs.

The wonderful progress which has been made by American pork packers in supplying the world with cured meats and adapting the product to consumers' tastes, can be inferred from the following account of a conversation between a leading Chicago packer and the reporter of the *Drovers' Journal*: "You might say in your paper, Mr. Reporter," said the packer, "that we find considerable difficulty in getting a sufficient number of pigs for making singed bacon, which you know is the confectionery, as it were, of the bacon trade. We find no particular difficulty in getting choice light pigs for ordinary cuts; yet you will remember that when we first opened our packing house here, some six or seven years back, we encountered a good deal of trouble to get good light pigs, but since then there has been a wonderful improvement in breeding, and now we can get animals out of which we can make a cut for any market in Europe; we can make a Spanish ham equal to that ever tasted by the bluest blooded Don; the historic English "fitch" is made by us every day, and thousands of boxes of Irish bacon, made in Chicago, is distributed on the continent yearly. You know that nearly every shire in England has its peculiar cut, the Wiltshire, Cumberland, Yorkshire, etc. Well, we make them all, and should the good people of any country demand anything else we are ready to fill the order."

The establishment of summer packing as a permanent business in Chicago has operated to bring into regular demand a large number of light hogs, and the demand for this description now exists through every month of the year. As the packing houses engaged in the summer business have a large trade established in the different European markets they have to keep up constant effort to obtain a sufficient supply of the particular kinds of hogs that are needed to make the different kinds of "cuts" of English meats that are needed to meet the demand. For the last two or three years the demand for singed bacon has been growing in these markets, and at the present time it is found to be almost impossible to supply this demand because hogs of suitable shape and style for making this kind of bacon are not in sufficient supply to meet the requirements of the trade. As heavy as our supply of hogs has been since the close of the last packing season we have not had "sin-jers" sufficient among them by a good many for making hacon of this kind. A long-bodied hog is wanted, with light shoulders and hams, live weight 180 to 200 lbs., and the meat should be neither fat nor lean, but a healthy medium between the two. Hogs of this kind will undoubtedly from this time forward be in constant demand in our market, and they will bring good prices too as compared with the market value of other kinds of hogs. The old time breed of "racer" hogs seem to be better adapted to this kind of trade than any others; they might be, perhaps, slightly crossed with Berkshire to some advantage, and they would probably require to be kept until they would be about nine months old before they would attain the proper size. As the case now stands it takes an immense deal of assorting among all the hogs that arrive here to obtain the meager supply for making singed bacon that is now obtainable by this hard process. As we heretofore remarked, good bacon hogs for other "cuts" of bacon can be produced in six or seven months by raising the Poland-China hogs; but a large number of hog-raisers are averse to the idea of sending their hogs to market at this age because they have just reached a condition where the next 100 to 150 lbs. in weight can be added to each hog with so little additional expense comparatively speaking.

There are plenty of farmers now engaged in raising hogs in our country that were originally from England or Ireland that know exactly what kind of hogs are wanted for making singed bacon, and we venture the suggestion to all such farmers, that they will find it to their advantage to give a goodly share of their attention to the production of hogs of this kind.

Notes on Essex Swine.

In his latest catalogue, just received, Mr. Joseph Harris, of Moreton Farm, Rochester, N. Y., gives some notes of experience with the Essex breed of swine, of which he is one of the leading breeders in this country. Mr. Harris is the author of "Harris on the Pig," and is known to us personally as a man worthy of trust. His statement concerning the Essex swine will doubtless be of interest to many:

Time was, when the market called for heavy pork. Large hogs were in demand. The biggest and coarsest breeds were at a premium. I do not, myself, object to a big breed of hogs. Great size, other things being equal, means slow maturity and abundance of offal. These

[CONTINUED ON PAGE 154.]

PATRONS OF HUSBANDRY.

Dedication of St. Helena Grange Hall.

St. Helena Grange, Napa county, had a grand time Saturday, feasting on the good things of earth and dedicating the beautiful new hall which has just been finished for their use. The former interesting and pleasant affair occurred in the lower story of the Winegrowers' new building at half past 11 A. M. A large table was improvised through the whole length of the hall, and this was loaded with one of the choicest feasts it has even been our good fortune to assist at. Poultry, in various tempting shapes, oysters, cakes in rich and appetizing form, pastry of choicest kinds, fruits rich and luxuriant, coffee and tea, and to crown all, some of the choicest of Napa's vintage to wash it down, made a display which was as beautiful to the eye as it was tempting to the palate. The officers and members of the Grange surrounded the situation promptly, and when all was in order the Worthy Master, David Edwards, introduced to the company Messrs. B. R. Spilman, Master of the State Grange, and Amos Adams, Secretary of the same, and also of the Grangers' Business Association, who were present to assist in the coming ceremonies of dedication. Captain Sayward, Chaplain, then asked a blessing, after which the feast began, and only ceased when all were full; there being still enough left for another similar feast. This ended the first chapter. The company dispersed at half-past 12, and at 2 P. M. reassembled, with many others, in the upper hall, which is the Grangers' hall proper, to witness the ceremonies of

The Dedication.

This beautiful hall is small—being capable of accommodating comfortably about 200 persons—but is a model of beauty in its design and execution. The ceiling is of paneled work, with heavy moldings at the corners, and being set off in bright, harmonious colors, presents a cheerful and pleasing effect. The center of the three windows in front is of triple form, the middle part taller and wider than the two sides, yet all bound together by its frame into a harmonious whole. This is an emblematic window, the trinity representing Pomona, the Roman goddess of fruit trees and gardens; Ceres, the goddess of grain and harvest among the Greeks and Romans, and Flora, the Roman goddess of flowers and spring, whose festival was celebrated on the three last days of April. At the appointed hour the exercises were begun by a song from the choir, consisting of Mrs. J. C. Weinberger, Mrs. W. H. Castner, Mrs. O. C. Blayne, Miss Grafton, Messrs. H. A. Merriam, Chas. A. Story and O. C. Blayne, with Miss Minnie Weinberger as organist. Mr. Edwards, the Master, then read a dedicatory address, after which he called upon Mr. Horrell, the contractor of the building, for the keys of the hall. Mr. Horrell presented these, when the Master asked [Mr. Levelling, Chairman of the Building Committee, if he was satisfied with the work of the contractor. Mr. Levelling replied that he was. Mr. Edwards then transferred the keys to Mr. Spilman, as the representative of the State Grange. That officer received them with a reading from the ritual. The Book of the Law was then brought in, by four bearers, upon an altar, preceded by the Lady Assistant Steward with her staff, and surrounding this the chief officers of the Grange and the representatives of the State Grange were ranged. After singing by the choir the Chaplain offered a prayer, and Mrs. Blayne, as Flora, laid upon the altar a tribute of the flowers of spring; Mrs. Weinberger, as Pomona, followed with the fruits of summer, and Mrs. Hewes, as Ceres, with the grain of autumn. The Chaplain then read the famous chapter from Corinthians on charity, and Worthy Master Spilman, in the name and by the authority of the State Grange, pronounced the words of dedication. The choir sang another song and the Master of the State Grange returned the keys to the Master of the subordinate Grange. Mr. Edwards received them with appropriate remarks, and calling upon Captain Peterson, the Steward, confided them to him as his peculiar charge. Mr. Edwards then again presented the Master of the State Grange, Spilman, who addressed the audience at some length with a general review of the Grange and its work. Grand Secretary Adams followed with a similar address, when the meeting closed with a song from the choir and benediction by the Chaplain.—*St. Helena Star.*

Grange Re-unions.

Suisun and Rockville.

In the midst of the harvest season it is customary for the Patrons of Husbandry to hold re-unions and to have grand harvest feasts. Last Wednesday Suisun and Rockville Grange held their gathering in Suisun, in A. O. U. W. Hall. To add to the interest of the occasion the Master of the State Grange, B. R. Spilman, and the Secretary of the State Grange, Amos Adams, were present. Of course it was a grand feast, such only as the farmers' wife could provide. All the choicest fruits of the season with fat and tender chickens and confections were spread in bountiful profusion. After the feast the tables were cleared and speeches in order. Grand Master Spilman took the floor, and in a plain and practical talk of an hour's duration,

told many wholesome truths. He pointed out the many benefits the farmers would derive from the organization, and demonstrated that they had the power to sway the government by organization. He was followed by Grand Secretary Adams, who in a pleasant manner cited the advantages of the Grange movement. He said farmers were sleeping upon their rights, and if they would only discard politics and vote their own interests, they could elevate their calling and revolutionize things. He said farmers were slaves; that they worked too much with their hands and too little with their brains. He urged that they should meet oftener, should be more harmonious and counsel together. He said this slavery of the farmer led to no good results. It only soured the disposition of the man and brought him to a premature grave. This slavery, besides, was causing reduced prices by over-production. Both speeches were full of practical common sense, and impressed the hearer. After these speeches the company drifted into a sort of an experience meeting, and the farmers recited many instances where the Grange movement had been a material personal benefit. It is to be hoped that farmers will awaken to the importance of harmonious organization, and will profit by the advice of these Grand officers.—*Solano Republican.*

A Visit to Vallejo Grange.

EDITORS PRESS:—Tuesday morning, Aug. 24th, found a small but merry company of Patrons, without their usual appendage of lunch baskets, at out Martinez depot, waiting for the S. J. local train. This we monopolized to the number of 10 seats, at the rate of 40 cents each to Vallejo, that city of hills, I do not know how many, whose heights in the long ago echoed to California the words of her legislators. But a few moments behind this snorting iron horse and we were at Vallejo junction, where the clean and pleasant little steamer *Amelia* stood in waiting. Soon we were in north Vallejo. After a short walk from the ferry up a busy street, found ourselves safely launched into a group of Grangers; that mystic spell betraying us is the golden key of brotherhood. Like magic our independence melted, and this day's life as well as appetites was resigned to these new brothers. Our old friends, the Demings, not yet having arrived, this welcome of strangers we found to be of that same type of fraternal feeling as that more closely cemented by social contact, so 'twas with cheerful readiness and assurance of good cheer we dropped into the lazy roll of visitors. To this surety was added several degrees of strength, as well-filled boxes and baskets preceded us up the stairway.

We were shown into a large and commodious room, carpeted, well-furnished, for, as the *California Patron* has published, the home of the Vallejo Patrons is in the Masonic hall. The entrance was almost blocked by a bevy of sisters, each verifying the picture of Sir Walter Scott's goodly matron "being on hospitable thoughts intent." Already was a long table well filled, and every moment new arrivals as full-handed as those who had come before. Wonder if these Grangers go home to empty larders? do they have a feast or a famine? Ah, no; those happy contented faces go home to plenty, and that fullness is ever sweetened by labor and hope.

Bro. Spilman seemed already "at home" in this hall, and not many moments more till this same home-spell had been so cunningly thrown around and about us, that we, too, though of that Alhambra branch of Patrons over across the foaming waters, soon found our identity as readily recognized and as firmly fixed in the bond of brotherhood in Vallejo as in our own banquet hall. Bros. and Sisters Deming and Bro. and Sister Drake were the only familiar faces, but other facial impressions were rapidly sketched upon the walls of memory, so added to this day of social joy and pleasure, each of us having a private gallery filled with the sculptured forms of Vallejo brothers and sisters.

Private Grange work was quickly and orderly rolled into minute form. Under head of Good of Order, words of wisdom, cheer and good faith in our principles, rapidly blended into an hour of social family-like intercourse. The crowning moment was, of course, the merry feast of the harvesters. That cornucopia of plenty was no longer a myth, for out her store we were most generously feted. Methinks the too often quiet, say-nothing sisters of the Grange-room forgot their spell of silence, by the merry clatter of tongues, whose gay repartee and bright sallies of wit, drowned, or perhaps only silenced the more quiet tones of our diffident, bashful brothers!

Glad were we to see that Bro. Spilman's travels had told upon him for the better rather than the worse, since his June visit to Martinez; also, that his good earnest Grange thoughts and brotherly feelings had lost none of their warmth and vigor, even though he has with a lavish hand given them to many a despondent as well as live Grange. His well-timed words gave the cue to many responding brothers, who, strange to say, were not speakers, but workers. In listening to these honest self-disparaging words, I was constrained to say as a duke of old, who, over the body of his son, said, "I would rather have my dead boy, than other men's sons, alive," so might we not almost say we would rather have these few working talkers, than those hordes of speakers who theorize over and over again, and ever to the tune of practical de-

feat. Many times these work thoughts, clothed as they are in homely words, prove to be such home-thrusts as to form an underlying vein of truth, which not only carries conviction, but gives trust and certainty to receiving minds.

Vallejo's weather god treated us to hours redolent with sunshine and pleasant breezes, and as these sunny spaces of time passed into the day's decline, we were reminded that our welcome and greeting, honest and hearty as they were, must be merged into seconds of parting. Worthy Master Deming bade us worry not about catching home boats and cars, for ready hands and waiting teams were at the door to take us to south Vallejo boat, which would connect with the Los Angeles train at Vallejo junction. Thus were we most royally treated and most regally shifted toward our several home points.

MRS. MARIA B. LANDER.

Aug. 29th, 1886.

NEW HAMPSHIRE GRANGERS.—The enclosed, cut from the Boston Herald, of August 13th, shows the Grangers still live in New Hampshire among the rocks: "The New Hampshire Patrons of Husbandry held a mass meeting at Amherst grove, Nashua, August 12th, which was largely attended, and was the most successful ever held in the State. Worthy Master George A. Wason presided, with Wm. H. Simson Secretary. Dinner was served in picnic style at 12 o'clock. Afterward, State Master James Draper, of Massachusetts, delivered an able address, and was followed by Hon. J. J. Woodman, of Michigan, Worthy Master of the National Grange, who made the principal address of the day. D. H. Thing, State Master of Maine, spoke of the good which this Order has accomplished throughout the country. F. W. Miller, of Portsmouth, closed the session with happy remarks. The second and last meeting will be held at Warner, August 14th."

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

THRASHING CYLINDER TEETH.—Reporter, Aug. 28: Few persons are aware how large a business is that of the manufacture of steel-laid cylinder teeth, by H. Crowell, of Washington Corners. He began the manufacture nearly 20 years ago, and was the first to make steel-laid teeth in California. The business has increased until during the present year he has sent out over 20,000 teeth, and is working hard to fill orders for 2,000 or 3,000 more. He has four men engaged, and finishes the teeth at the rate of 200 to 300 per day. He fills large orders for Baker & Hamilton, Hawley & Co., and other wholesale dealers, besides supplying many threshers direct.

LIVERMORE HARVESTING.—Although the 14 threshing outfits now in active operation in Murray township, turning out in the neighborhood of 17,000 bushels of grain per day, have in their six weeks' work made scarcely more than a beginning, enough has been done to establish, beyond dispute by any one, the fact that the present is the largest grain crop ever produced in this section. Estimates of the yield, by careful judges, have everywhere fallen below the mark, the unusual plumpness of all the late grain having so greatly increased it as to deceive parties who estimated by the stands of former years.

EL DORADO.

ITEMS.—*Republican*, Aug. 21: The apple worm is quite prevalent in our fruit this season. Until within the last two or three years this pest was almost unknown to our fruit-growers. The golden grain harvested from our fields, the golden butter produced from our dairies, and the actual gold products from our mines this season will make El Dorado county about as independent as any county in the State. The next boom is now here. It is our district fair boom. Our people are talking a lively interest in it, and the exhibition promises to far excel anything of the kind ever held in any of our mountain counties, and the boom is not confined to this immediate vicinity. The people of adjacent counties are talking about it and promise large delegations to attend.

FRESNO.

GRAPE PRICES.—*Expositor*: The Eisen vineyard offer to pay \$25 per ton for Zinfandel, Black Hamburg and Riesling grapes, and \$20 per ton for other varieties. Fortunate is the man that has a good-bearing vineyard.

SUGAR CANE.—The experimental crop of sugar cane planted on the Eggers farm last spring is doing on an average fairly well. The Honduras cane does the best, making a good growth and producing an abundance of seed. The Mexican variety does not seem to do so well. The sorghum, or amber cane succeeds splendidly, and there seems to be no question about its making a good crop here, and as it makes as good sugar as any other variety of cane, it will probably be the sort to cultivate. That the irrigated lands of this valley will produce good sugar cane, there seems to be no reason for doubt, and it certainly will be a more profitable crop than wheat.

HUMBOLDT.

CHEESE FACTORY PROPOSED.—*Eureka Standard*: Some time ago we made a few remarks on the farming and dairying interests of Humboldt, and urged our farmers, particularly those upon the river bottoms who are now forced to cease raising potatoes, to consider the project of start-

ing cheese factories and to employ their land in the production of milk. The suggestion has awakened a new interest in that direction and occasioned considerable talk upon the subject. Mr. Puter of Mad river, paid this office a visit a few days ago, and in speaking of the farming interests, adverted to the subject of cheese manufacturing as being, in his opinion, the only salvation for the farmers on the bottom lands of our county. He thinks that the actual cash outlay for putting a factory in operation need not exceed \$1,000; that this amount laid out for such articles as it will be necessary to purchase, together with the time and labor of those who engage in the enterprise, will set up and equip a manufactory that will accommodate a community of farmers of five or six miles in extent. This is clearly within the means of the people.

KERN.

ARRANGEMENTS FOR SETTLERS.—*Kern Co. Californian*: We learn that Messrs. Haggin & Carr are making extensive preparations for a large influx of settlers this fall. Surveyors are engaged laying and distributing ditches, and building material is being hauled to various points where needed. The extraordinary liberality of the terms they offer is now pretty generally known throughout the State, and is bringing them so many applications that they can select those they wish, and they have no need to deal hereafter with men not of the best class. Besides, all their tenants this year have been successful. At least they are all convinced that, with reasonable rates of transportation, they could do well, and these they are satisfied will be brought about at no distant day. We understand that among those they will place along the Calloway canal, encouragement will be extended to viticulture, to which the soil of that locality showed peculiar adaptation. The time will come when it will be noted as the finest vine-growing region in the State. With the completion of a trans-continental railroad in December, and the efforts that will be made by those enterprising capitalists to bring an adequate population into the valley, we can reasonably anticipate lively times the coming year.

LOS ANGELES.

DISTRICT CONVENTION OF BEEKEEPERS.—At the suggestion of many apiarists, who think that a convention of those engaged in honey-producing should be held this fall, and believing that such a general meeting would materially advance the interests of this branch of industry in southern California, I name the 20th and 21st days of October, 1886, at Los Angeles, California, as the time and place for holding such convention, that being during the session of the Horticultural and Agricultural fairs. A cordial invitation is extended to all apiarists in the State, and to all ladies and gentlemen who feel an interest in the science of apiculture. C. J. Fox, Pres. District Beekeepers' Ass'n; N. LEVERING, Sec. Los Angeles Beekeepers' Ass'n.

MONTEREY.

HARVEST NOTES.—*Salinas Index*, Aug. 27: Messrs. Quintel, King, Withers and Ham, of Salinas valley, are farming over in Quien Sabo valley, San Benito county, this season, and reported to have the finest quality of wheat in the State, averaging 25 cents or 40 bushels per acre. Thomas Watson's wheat crop in the Corral de Tierra will average about 22 cents of fine quality per acre. Messrs. Sherwood, Graves and McKinnon will average 20 sacks to the acre of excellent quality of wheat. On the Alisal the wheat will generally turn out at least 15 sacks per acre. In the vicinity of Chualar and Gonzales, the grain is vastly better than was expected. Wm. Pinkerton had 600 acres of wheat on the Pleyto, which averaged 28 cents to the acre. All down that way the yield will be over 20 cents to the acre, and the wheat is of fine quality, too. All through the Blanco district and on the Cooper and Castro ranches, the yield is reported better than for many years past. J. G. Armstrong's irrigated land yielded over 24 cents to the acre, while that which he did not irrigate turned out only between 11 and 12 cents per acre. A much less area than usual was seeded to barley in Monterey county this year. A large portion of that which has already been threshed is light and fit only for feed; still there will be considerable good barley. The mustard crop is not turning out so well as was expected.

NAPA.

IMPROVING SHEEP.—*Register*: Mr. S. R. Dickey, who about a year ago purchased Wm. Clarke's place of 2,200 acres in Foss valley, devotes much of his attention to sheep raising. He has at present 1,400 head, and a day or two ago bought three fine Spanish Merino bucks, which were imported from Vermont, with a view to improving the breed. The sum of \$100 was paid for them. These bucks have just been sheared, and the wool taken from the three weighs 60 lbs.

SAN DIEGO.

DRY APRICOTS.—That the fruit of San Diego county is not only large, but exceptionally fine in quality, is shown by Mr. R. G. Clark, of the Cajon, who is drying his apricots, the price being too low to pay for bringing them to town. As a rule, it takes eight lbs. of the green fruit to make one lb. of dried; but Mr. Clark's apricots make one lb. of thoroughly dried to every four lbs. of green fruit, and his peaches are nearly as good, requiring only five or six lbs. of green fruit to one of dried. Mr. Clark's fruit, however, is grown without irrigation, and as compared with our irrigated fruit, the latter in-

variably requires from eight to twelve lbs., besides making double the labor. What we have always claimed is by this fact well established—our fruit men are inclined to irrigate too much.

APPLES.—Union: Another item is now to be added to the constantly increasing catalogue of San Diego exports. By the next steamer Mr. H. M. Higgins makes a shipment of apples to San Francisco—the first ever sent from San Diego.

SAN JOAQUIN.

THE GRAPEVINE THRIP.—G. N. Milco, of the Buhach producing and manufacturing company, in company with George West of this place and R. B. Blower of Woodland, Yolo county, made some experiments Monday with some fluid extract made from the famous plant *Pyrethrum Cineraria folium* upon the destructive myriads of this little pest of insects. The trials were satisfactory. Messrs. Milco and West repeated their operations yesterday, and were doubly convinced that the fluid, properly prepared, will kill the insects most effectually.

NOT THRESHERS ENOUGH.—The wheat crop of the present year is acknowledged to be the largest ever known, especially in the San Joaquin valley. On every hand we hear that the farmers are sorely troubled to procure threshing machines, and although the supply of threshers in this section has been equal to the demand, this year it is not the case, owing to the great production; and many farmers with large crops are waiting as patiently as they can for the desired machines to make their appearance. Major Orr, who returned yesterday from Stanislaus county, where he had spent a couple of days in traveling over the county, reports that, apparently, not more than one-fourth of the grain is yet threshed. In every part of that county that he visited the same state of facts exist. It is certain that it will be very late in the season before all the grain will be ready for market.

HARVEST ON ROBERTS' ISLAND.—Stockton Independent: The ranchers on Roberts' Island are far from being through harvesting. Owing to the abundant harvest and the difficulty of obtaining storage, a project is on foot to erect a sort of co-operation warehouse on the island somewhere in the vicinity of Lindstrom's ferry.

ASSESSMENT OF SHEEP.—The State Board of Equalization is now busy in revising the assessment lists of the various counties of the State, and in equalizing the assessments, as they are required to do under the law. They propose to increase the assessed value of sheep 10% in San Joaquin county, and will hear protests of sheep owners until September 20th.

SAN MATEO.

COAST FRUITS.—Pescadero Cor. *Times and Gazette*: Apples are not coming in so well, and pears, too, are not as promising this year; but everywhere we admire the elegant and abundant plums. We have passed, of late, through several fine orchards here, where many of the trees were propped, so heavily laden were their branches with this delicious fruit. Among the smaller fruits, blackberries were never known in greater abundance than this year. Currants, too, in their season, were truly fine, and very plentiful; but the great surprise of all were the cherries—so large, delicate, and in quantities never greater. Certainly our home consumption for all these fine but perishable fruits is not in proportion to the yield. But where is our market for them? The railroad has not yet found its way over these hills.

SANTA BARBARA.

PERSISTENT BARLEY.—Lompoc Record, Aug. 21: Mr. H. E. McCabe had a small piece of cheviat barley that the worms ate so badly that he thought it good only for pasture. He pastured it down twice. He then let it grow up and ripen. Thinking the grain stood out well, he and wife examined some roots, and found, by actual count 140 stalks, each bearing a head that averaged 20 grains, or 480 grains from one, notwithstanding the worms and the two pasturings.

SANTA CRUZ.

FINE FRUIT.—*Courier*, Aug. 28: We were shown yesterday some fruit specimens which were forwarded by Mr. L. M. Corum to the horticultural department of the Mechanics' fair, that were really "magnif." The case contained apples, apricots, crab-apples and two varieties of plums, and we predict that they will do much toward giving Santa Cruz county something of the reputation we deserve for fruit-producing. The apricots were far superior to any we have ever seen in Santa Cruz markets, and the plums were ravishing to the sight and taste. One cluster of egg plums contained 15 handsomely-developed plums, but little smaller than one that measured $6\frac{1}{2} \times 7\frac{1}{2}$ inches. Another branch loaded with blue plums (variety unknown) measured 10 inches in length, and held on that space 36 perfect plums. Mr. C. informs us that he cut this from a limb three ft. in length, which was equally loaded with fruit the entire distance. A branch from a Siberian crab measuring 10 inches held 20 beautiful crab-apples, each as finely grown as if the whole energies of the tree had been expended on it. Mr. C. attempted to send samples from his blackberry garden, but the fruit proved too ripe to bear transportation. Less than a year ago Mr. C. leased the Huntington ranch, near the Branciforte, and was advised to grub out the very trees that are now producing these magnificent plums; but Mr. C. is a gentleman who feels a kinship for nature, and now has received the

recompense for his labors that all may win who bring the same enthusiasm to their work.—[The fruit was duly received and was quite according to the descriptions of the *Courier*. It was placed on exhibition at the fair and much admired.—EDS. PRESS.]

THRESHING DISASTER.—Watsonville *Pajaronian*, Aug. 27: Yesterday, in the forenoon, the engine belonging to A. McLean, at work with McGregor's separator, on the Marcus place, was stopped in order that some trifling repairs might be made. All at once the boiler exploded with fearful results. Mark Devens, fireman, was blown a distance of 125 ft., terribly scalded, clothes all stripped from his person and one leg broken. It is thought he will die. McGregor, engineer, and another man were badly scalded, and there was hardly a vestige of the machine left on the ground. The forward wheels of the truck were hurled a distance of 300 ft. and the large fly-wheel broken into six pieces.

SOLANO.

WHEAT.—*Tribune*: Twenty dollars a ton is being advanced on wheat, which is the same as last year, though the price of grain was then considerably higher. But although interest is lower than last year, only a few farmers at this place have yet taken loans.

SONOMA.

A HIGH-GROWN ZINFANDEL.—Healdsburg *Flag*, Aug. 27: P. Minehan, proprietor of the Cloverdale hotel, is the proud owner of the finest grapevine for its age in the county. It is a Zinfandel, three years old, two inches in diameter, six ft. from the ground, and covers the whole front of his hotel, 69 ft. front and two stories. Last year it bore 150 lbs. of delicious grapes, and this year it is heavily laden and will bear no doubt 1,000 lbs. It affords grateful shade to the guests who hotake themselves to Mr. Minehan's front veranda to enjoy the fresh air and the beautiful scenery across the valley.

SORREL.—Santa Rosa *Republican*, Aug. 28: The spring of 1879 W. D. Coyn, of Green valley, put a 16-acre field in corn. It was very foul with sorrel, to such an extent that, though the ground was twice plowed, it was difficult to make the furrows for planting. The corn was plowed and cultivated four times and produced a medium crop. Last fall, after plowing the corn stalks under, he sowed 12 acres to wheat the day before Thanksgiving. The other four acres were sown about the last day of January. It did not yield as well as the other; but the entire 16 acres, after threshing, averaged 28 bushels per acre. The seed was Chile and club, the ground sandy loam, perhaps 150 ft. above the valley. Not much sorrel left.

STANISLAUS.

GRAIN FIELD FIRE.—Stockton Independent, Aug. 27: A fire broke out on Wednesday afternoon on the ranch of Robert Dallas, about 12 miles east of Turlock, on the Tuolumne river. How the fire originated we were unable to ascertain. A new separator, the property of William Hughes, which was near where the fire was discovered, was destroyed, though the engine was saved. Mr. Dallas lost two stacks of wheat and a large amount of stubble. From this ranch the fire passed to the ranch of William Hughes on the east, who also lost two stacks of wheat, considerable stubble and some uncut grain. On another ranch adjoining considerable wheat in sacks was burned. Altogether it is estimated that about 2,000 sacks of wheat were burned, besides the separator and appurtenances. The fire ran over a strip of country about two miles from its starting point, and had it not been for a piece of plowed ground it would probably have extended much farther. It was saved from spreading to the southwest, also, by a strip of summer-fallowed land adjoining the ranch of Mr. Dallas. The separator of Mr. Hughes was insured for \$1,000. Mr. Dallas was insured for \$30,000.

SUTTER.

FIRE IN A GRAIN FIELD.—Banner, Aug. 27: On Wednesday afternoon last, about 2 o'clock, a fire broke out in the grain field of Robert Armstrong on the Hutchinson ranch, in Sutter county, which destroyed three stacks of wheat and the derrick of Genellis' threshing machine, which was at work there at the time. The engine connected with this machine is a wood-burner, and the fire caught from it in the stacks. The men fortunately were able to run the separator out of danger. Mr. Armstrong will lose about 600 sacks of wheat, for which we are very sorry.

STEADY WORK.—Hugh Jones informs us that up to Wednesday evening he had been threshing just 47 days. In that time the longest move he made from stack to stack was one hour, all other moves being made inside of 30 minutes. He has done all his threshing inside of a circuit of six miles. In that time he has threshed 49,820 sacks of grain, or 6,974,820 pounds. Out of all this, only about 2,500 sacks were barley. He will have six weeks' threshing yet to do. His average day's work is 1,060 sacks.

YOLO.

THE GLANDERS AGAIN.—*Democrat*, Aug. 28: On Tuesday last, at 2 o'clock P. M., a meeting of the citizens of North Putah township, at which H. M. La Rue presided, was held at Davisville to discuss the question of diseases now very prevalent among horses and mules throughout the county, and to adopt some system by which the same could be brought under control. Some weeks ago Supervisor Newton was appointed as a committee, whose duty it is, in conjunction with Dr. Coster, a

veterinary surgeon employed by the Board of Supervisors, to make a thorough examination of all the horses and mules in the county, with power to condemn all afflicted with glanders and other infectious and incurable diseases, and order their immediate destruction. These gentlemen have been very active for some time in the prosecution of this work, the result of which has been the condemning of 12 horses and putting a large number of others in strict quarantine until it is fully determined whether they are afflicted with glanders or not. At the meeting above mentioned both Mr. Newton and Dr. Coster were present, and reported the above facts, and the progress already made in eliminating the disease. Nearly every farmer present at the meeting expressed himself in favor of a thorough examination of the condition of all the horses and mules in that neighborhood, and many seemed to be greatly surprised when the report of Mr. Newton and Dr. Coster was laid before them, at the prevalence of the dreaded disease in the county. During the afternoon an examination of the horses within a radius of one mile of Davisville disclosed no less than four cases of chronic glanders, which were promptly condemned, and the discovery of which caused considerable excitement among all who were apprised of the fact. A subscription was immediately taken up for defraying the expenses of whitewashing every hitching post and railing in and about the town of Davisville, and the Dr. and Mr. Newton were urged to spare no pains in ferretting out all cases, and taking prompt measures for the extermination of the disease. This they are determined to do, and seem to be untiring in their endeavors to faithfully perform the duties assigned them. Mr. Newton informed us Tuesday evening that he is now determined to take a look at every horse and mule in the county, and will report to us the results of his investigations as they are made. This is a matter in which all are or should be interested, and it is to be hoped that all owners of horses will be prompt to assist the examining officers in the discharge of their duties.

YUBA.

PERUVIAN CORN.—Marysville *Appeal*: Last season a few kernels of corn, which was reported to be a native of Peru, South America, were scattered about among Yuma and Sutter farmers, with a request to plant as an experiment, as it was represented to be wonderfully prolific. Supervisor Wight was one of the lucky gentlemen who received a few seeds, which he planted. Yesterday Mr. Wight came into the city to report to W. T. Ellis, the donor of the seed. One of the six stalks of this corn, when laid down on the floor in the *Appeal's* sanctum, measured at the butt 6 inches in circumference, and in length 16 ft. and 2 inches. But the joke of the thing was in the crop of corn. Mr. Wight raised six stalks, but nary a kernel of corn. Other parties realized a few kernels, and we wait for further reports. [We had similar experience last year, and attributed it to a lack of proper co-operation between the tassel and the silk. Growing a few stalks by themselves requires pretty sharp shooting on the part of the pollen to reach its mark. It will be interesting to have reports from all Cuzco growers.—EDS. PRESS.]

ARIZONA.

UTILIZING THE WILD HEMP.—Yuma *Sentinel*: Mr. Thomas Threlfall, who has been visiting this place for the past two weeks, representing the California Ramie Machine Manufacturing Company, with a capital of \$500,000. Mr. Threlfall is the patentee of a machine for the purpose of preparing hemp, flax and ramie, and has carefully looked over the immense fields of "karsh," as the Indian terms it, or hemp, with a view to utilize them. The tract of land growing this is situated about 30 miles below here, and extends 40 miles down the river, with a varying width of from 1 to 20 miles, and so dense that a path has to be cut before a person can get through it. We were shown the different fibers, such as flax, ramie and hemp, which had been submitted to the machine by Mr. Threlfall, and were agreeably surprised at the perfection which he has attained, and all without a drop of water or the old and expensive method of retting, etc. Mr. T. left for San Francisco last evening, and will return again in about six weeks.

ENGLISH AND AMERICAN RAILROADS.—The contrast between the British and American system of railroads is very remarkable. The mileage of the former is only 17,696 miles, the latter \$6,497. The cost of the former is \$3,585,000,000, double our funded national debt and close upon the total of the English debt. The cost of our system in operation to December 31, 1879, is placed by Mr. Poor at \$4,416,000,000 on \$4,232 miles, or \$1,919,000,000 on the whole system of \$6,497 miles. The difference in the average cost per mile is very great—in Great Britain, \$202,000 per mile; in the United States, \$50,000 average per mile. The gross earnings, on the other hand, are directly reversed. The British lines, on 17,696 miles, last year took in \$308,000,000. The lines of the United States, on \$4,232 in full operation last year, took in \$529,000,000. The proportion of passengers to freight on the former is greater than in this country, though only 52% of the whole earnings. The operating expenses in Great Britain average 32%; in the United States, 58.40%.—*Springfield Republican*.

WYOMING has a population of 21,900. In 1870 it was 9,276.

News in Brief.

SINCE the beginning of the year there have been 140 duels in France.

FIVE cases of supposed yellow fever have appeared on a Mississippi tow boat.

FOUR colored Episcopal ministers are at work in Tennessee among the colored people.

ONE man was killed and three were injured by a collision on the Lake Shore road, Aug. 28th.

It is said that 16 bridesmaids will be one of the features of an October wedding at Trinity Church.

CALVIN SYKES, of Suffield, Conn., refuses to shake hands with any one, and has not done so for years.

FIVE boys riding on the top of a car were struck by a bridge and killed near Lowell, Mass., on Saturday night, Aug. 28th.

THE Mormons began work on their new temple 20 years ago, have expended \$4,000,000 on it, and it is now one-fourth done.

THOMAS SCOTT and Mrs. Heffner, while walking on the track near Mount Carbon, Pa., Aug. 30th, were killed by the fast express.

HORACE DAVIS has accepted an invitation to deliver the annual address before the State Agricultural Society at the State fair.

JAMES BENNETT, a fireman on the Denver and Rio Grande railroad, was murdered by drunken roughs at San Antonio, Col., Aug. 30th.

THIRTEEN steamers of the Dundee whaling fleet had taken up to the 15th of Aug., 105 whales, producing about 1,000 tubs of oil.

It is thought that six passengers and two sailors were lost at the time of the burning of the steamer *Marine City* on Lake Huron.

MR. CONWAY says that Carlyle neither reads nor writes, but lies on a sofa and longs for death. Carlyle will be 82 in December.

DR. W. S. BOWEN has examined 1,820 railroad employees in Rhode Island for color blindness, of whom less than 4% were rejected.

ALLEGED intellectual Boston girls at Swampscott call the beach "Neptune's lawn," and allude to shells as "products of the deep."

AT DALLAS, Texas, August 27th, 3,000 people, women predominating, collected to witness the hanging of Allen Wright, a colored man.

CAPT. SIR LAMBERT LORRAINE, well known in this country in connection with the *Virginian* massacre, is to take command of the *Cleopatra*.

C. M. CHASE has been appointed to fill the vacancy on the State Board of Agriculture caused by the resignation of Marcus D. Boruck.

THE city of Philadelphia has bought for \$10,000 the marble fountain made by the late Margaret Foley of Boston, and shown at the centennial.

THE authorities of Detroit, Mich., have refused to license a company of hare-legged blondes who sought to exhibit their figures there.

PERE HYACINTHE, Aug. 28th, solemnized the marriage of the Abbe Laine, until recently a priest of the diocese of Mans, with a Madame Woehsch.

THE Pope has assented to the proposal that a portion of the French Jesuits should form a society for the propagation of the faith in central Africa.

THE Province of Quebec Mortgage Bank has been founded by the Bank of Paris, with a capital of \$25,000,000, the first issue to be \$5,000,000.

FREDERICK FREY, living with John Chapman at Suffield, Conn., mistook a teaspoonful of arsenic last week for another drug, and died in consequence.

A LEICESTER (Mass.) woman who has felt something crawling about her stomach more or less for 15 years, vomited up a lizard over three inches long the other day.

PROF. SHELDON has been commissioned by the Canadian government to write a report on the advantages and disadvantages of Canada as a place of settlement for English farmers.

TWO or three short railroads run out of the city of Mexico for a few miles, and the trains are usually accompanied by a rear guard of soldiers for protection against the brigands.

THE reckless gambling at London clubs has become a scandal, for scarcely a week passes that the quarrels of the alleged gentlemanly gamblers do not extend to the police court.

JOHN RARNHART SHEFFLEY and his wife, Maria Barbara Sheffley, of Limerick square, Montgomery county, Pa., have been married for 71 years. The husband is 89 years old and the wife 88 years old.

MR. JOHN C. HAMILTON, son of Alexander Hamilton, is in vigorous health, despite his 86 years. He made a visit recently to Hartford to view the model of a statue of his father, which is being reproduced in granite.

PROF. TAIT, at a meeting of the Royal Society of Edinburgh, on the 8th of June, sent in a note on the theory of the "15" puzzle, and gave a rule for determining whether a particular arrangement was solvable or not.

REV. DR. THOMAS GALLAUDET, who sailed on Saturday on the White Star steamer *Britannic*, is a delegate to the convention of deaf mutes to be held at Milan next month. He is accompanied by his wife, who is a deaf mute, and by a young lady, also a deaf mute.

PROF. MOMMSEN, whose historical library and manuscripts were burned in Germany, has declined to have a fund raised in England. He says the property was insured for enough to cover its intrinsic value, and money cannot restore it. He is going soon to Italy to renew his copies of ancient Roman inscriptions.



-Dropping a Seed.

The land was stiff; the skies were gray with weeping;
Into the soft brown earth the seed she cast;
Oh, soon, she cried, will come the time of reaping,
The golden time when clouds and tears are past!
There came a whisper through the autumn haze,
"Yea, thou shalt find it after many days."

Hour after hour she marks the fitful gleaming
Of sunlight stealing through the cloudy lift;
Hour after hour she lingers, idly dreaming,
To see the rain fall and dead leaves drift;
Oh, for some small green sign of life, she prays,
Have I not watched and waited "many days?"

At early morning, chilled and sad, she hearkens
To stormy winds that through the poplars blow;
Far over hill and plain the heaven darkens,
Her field is covered with a shroud of snow;
Ah, Lord! she sighs, are these thy loving ways?
He answers—"Spake I not of many days?"

The snow-drop blooms; the purple violet glistens
On banks of moss that take the sparkling showers;
Half-cheered, half-doubting yet, she strays and listens
To finches singing to the shy young flowers;
A little longer still his love delays
The promised blessing—"after many days."

Oh, happy world! she cries, the sun is shining!
Above the soil I see the springing green;
I could not trust his word without repining,
I could not wait in peace for things unseen;
Forgive me, Lord, my soul is full of praise:
My doubting heart prolonged thy "many days."

—Sunday Magazine.

The Miller's Maid.

There is a lonely mill, close beside the little hamlet of Udorf, near the Rhine shore, between the villages of Hersel and Ursel, on the left bank below Bonn. This mill is said to have been the scene of the following story:

It was on a Sunday morning, "ages long ago," that the miller of this mill, and his whole family, went forth to hear the holy mass at the nearest church in the village of Hersel. The mill, which was also his residence, was left in charge of a servant girl named Hannchen, or Jenny, a stout-hearted lass, who had long lived with him in that capacity. An infant child, of an age unfit for church, was left in her charge likewise.

The girl was busily employed in preparing dinner for the return of her master and his family, when who should enter all of a sudden but an old sweetheart of hers, named Heinrich Botteler. He was an idle, graceless fellow, whom the miller had forbidden his house, but whom Jenny liked, with amiable perversity, peculiar to her sex, only, perhaps, all the better because others gave him no countenance. She was glad to see him and she told him so, too; and although in the midst of her work, she not only got him something to eat at once, but also found time to sit down with him and have a gossip, while he dispatched the food she set before him. As he ate, however, he let fall his knife.

"Pick that up, my lass," said he, in a joking way, to the good-natured girl.

"Nay, Heinrich," she replied, "your back should be more supple than mine, for you have less work to make it stiff. I labor all day long, and you do nothing. But never mind! 'Twould go hard with me an' I refused to do more than that for you, bad though you be."

This was spoken half sportively and half in good earnest; for, kind-hearted as the girl was, and much as she liked the scapegrace, she was too honest and industrious herself to encourage or approve of idleness and a suspicious course of life in anyone else, however dear to her. She stooped down, accordingly, to pick up the knife. As she was in the act of raising, however, the treacherous villain drew a dagger from under his coat and caught her by the nape of the neck, gripping her throat firmly with his fingers to prevent her screaming the while.

"Now, lass," he said, swearing out a bad oath at the same time, "where is master's money? I'll have that or your life; so take your choice."

The terrified girl would fain have parleyed with the ruffian, but he would hear nothing she could say.

"Master's money or your life, lass!" was all the answer he vouchsafed to her entreaties and adjurations. "Choose at once," was the only alternative he offered her; "the grave or the gold!"

She saw that there was no hope of mercy at his hands, and, as she saw it, her native resolution awoke in her bosom. Like the generality of the gentle sex, she was timid at trifles; a scratch was a subject of fear to her; a drop of blood caused her to faint; an unwonted sound filled her soul with fear in the night. But, when her energies were aroused by an adequate cause, she proved, as her sex have ever done, that in courage, in endurance, in presence of mind and in resources for every emergency, she far surpassed the bravest and coolest men.

"Well, well, Heinrich!" she said, resignedly, "what is to be must be. But if you take the money, I shall even go along with ye. This will be no home for me any more. But ease your gripe of my neck a little—don't squeeze so hard; I can't move, you hug me so tight. And

if I can't stir, you can't get the money; that's clear, you know. Besides, time presses; and if it be done at all, it must be done quickly, as the household will shortly be back from Hersel."

The ruffian relaxed his gripe, and, finally, let go his hold. Her reasons were all cogent with his cupidity.

"Come," she said; "quick! quick!—no delay. The money is in master's bed-room."

She tripped up stairs, gaily as a lark; he followed closely at her heels. She led the way into her master's bed-room, and pointed out the coffer in which his money was secured.

"Here," she said, reaching him an axe which lay in the corner of the room, "this will wrench it open at once; and while you are tying it up, I shall just step to my apartment and get a few things ready for our flight, as well as my own little saving for the last five years."

The ruffian was thrown off his guard by her openness and her anxiety to accompany him. Like all egotists, he deceived himself, when self-deceit was most certain to be his destruction.

"Go, lass," was all he said, "but be not long. This job will done in a twinkling."

She disappeared at the words. He immediately broke open the chest, and was soon engaged in rummaging its contents.

As he was thus employed, however, absorbed in the contemplation of his prey, and eagerly occupied in securing it on his person, the brave-hearted girl stole down stairs on tip-toe. Creeping softly along the passage, she speedily gained the door of the chamber unseen by him, and likewise unheard. It was but the work of a moment for her to turn the key in the wards and lock him in. This done, she rushed forth to the outer door of the mill and gave the alarm. "Fly! fly!" she shrieked to the child, her master's little boy, an infant five years old, the only being within sight or sound of her. "Fly! fly to father! fly for your life! Tell him we shall all be murdered an' he not haste back! Fly! fly!"

The child, who was at play before the door, at once obeyed the energetic command of the brave girl, and sped as fast as his tiny legs could carry him on the road by which he knew his parents would return from church. Hannchen cheered him onward, and inspired his little heart as he ran.

"Bless thee, boy! bless thee!" she exclaimed, in the gladness of her heart; "an' master arrives in time, I will offer up a taper on the altar of our blessed Lady of the Kreutzberg by Bonn."

She sat down on the stone bench by the mill door to ease her over-excited spirit; and she wept as she sat, at the thoughts of her happy deliverance.

"Thank God!" she exclaimed; "thank God for this escape. Oh! the deadly villain! and I so fond of him, too."

A shrill whistle from the grated window of the chamber in which she had shut up the ruffian Heinrich caught her ear, and made her start at once to her feet.

"Diether! Diether!" she heard him shout, "catch the child and come hither! I am fast. Come hither! Bring the boy here and kill the girl!"

She glanced hastily up at the casement from which the imprisoned villain's hand beckoned to some one in the distance, and then looked anxiously after her infant emissary. The little messenger held on his way unharmed, however, and she thought to herself that the alarm was a false one, raised to excite her fear and overcome her resolution. Just, however, as the child reached a hollow spot in the next field, the channel of a natural drain, then dry with the heat of summer, she saw another ruffian start up from the bed of the drain, and, catching him in his arms, hasten toward the mill, in accordance with the directions of his accomplice. In a moment she perceived her danger, and in a moment more she formed her future plan of proceeding. Retreating into the mill, she double-locked and bolted the door, the only apparent entrance to the edifice, every other obvious access to the interior being barred by means of strong gratings fixed against all the windows, and then took her post at an upper casement determined to await patiently either her master's return, and her consequent delivery from that dangerous position, or her own death if it were inevitable.

"Never," said she to herself, "never shall I leave my master's house a prey to such villains, or permit his property to be carried off before my eyes by them while I have life and strength to defend it."

She had barely time to secure herself within, when the ruffian without, holding the hapless child in one hand and a long, sharp knife in the other, assailed the door with kicks, and curses, and imprecations of the most dreadful character.

"Confound thee," he cried, applying the foulest epithets of which the free-speaking Teutonic language is so copious; "open the door or I'll break it in on ye."

"If you can you may," was all the noble girl replied. "God is greater than you, and in Him I put my trust."

"Cut the brat's throat!" roared the imprisoned ruffian above; "that will bring her to reason."

Stout-hearted as poor Hannchen was, she quailed at this cruel suggestion. For a moment her resolution wavered; but it was only for a moment. She saw that her own death was certain if she admitted the assailant, and she knew that her master would be robbed. She had no reason to hope that even the life of the infant

would be spared by her compliance. It was to risk all against nothing. Like a discreet girl, she consequently held fast in her resolve to abide as she was while life remained, or until assistance should reach her.

"An' ye open not the door," shouted the villain from without, accompanying his words with the vilest abuse and the fiercest imprecations. "I'll hack this whelp's limbs to pieces with my knife, and then burn the mill over your head. 'Twill be a merry blaze, I trow."

"I put my trust in God," replied the dauntless girl; "never shall ye set foot within these walls whilst I have life to prevent ye."

The ruffian laid the infant for a moment on the sward, as he sought about for combustibles wherewith to execute his latter threat. In this search he espied, perhaps, the only possible clandestine entrance to the building. It was a large aperture in the wall communicating with the great wheel and the other machinery of the mill, and was a point entirely unprotected, for the reason that the simple occupants had never supposed it feasible for any one to seek admission through such a dangerous inlet. Elated with this discovery, the ruffian returned to the infant, and, tying the hands and feet of the little innocent, threw it on the ground even as the butcher will fling a lamb destined for the slaughter, to await his time for slaying. He then stole back to the aperture, by which he hoped to effect an entrance. All this was unseen by the dauntless girl within.

In the meanwhile her mind was busied with a thousand cogitations. She clearly perceived that no means would be left untried to effect an entrance, and she knew that on the exclusion of her foe depended her own existence. A thought struck her.

"It is Sunday," said she to herself; "the mill never works on the Sabbath, suppose I set it agoing now? It can be seen far off, and haply my master, or some of his neighbors, wondering at the sight, may haste hither to know the cause. A lucky thought," she exclaimed, "'tis God that has sent it to me!"

No sooner said than done. Being all her life accustomed to mill gear, it was but the work of a moment for her to set the machinery in motion. A brisk breeze which sprang up, as it were, by the special interposition of Providence, at once set the sails flying. The arms of the huge engine whirled around with fearful rapidity; the great wheel slowly revolved on its axle; the smaller gear turned and creaked and groaned, according as they came into action, and the mill was in full operation.

It was that very instant that the ruffian Diether had succeeded in squeezing himself through the aperture in the wall and getting safely lodged in the interior of the great drum-wheel. His dismay, however, was indescribable when he began to be whirled about with its revolutions, and found that all his efforts to put a stop to the powerful machinery which set it in motion, or to extricate himself from his perilous situation, were fruitless. His cries were most appalling, his shrieks were truly fearful, his curses and imprecations were horrible to hear. Hannchen hastened to the spot, and saw him caught, like a reptile that he was, in his own trap. It need not be added that she did not liberate him. She knew that he would be more frightened than hurt, if he kept within his rotary prison; and she knew, also, that unless he attempted to escape, there was no danger of his falling out of it, even though he were insensible and inanimate all the while. In the meantime the wheel went round and round, with the ruffian along with it, steadily and unceasingly, too. In vain did he promise the stout-hearted girl to work her no harm; in vain did he implore her pity on his helpless condition; in vain did he pray to all the powers of heaven, and adjure all the powers of hell, to his aid. She would not hear nor heed him, and unheard and unheeded of them likewise muttering curses, he was whirled round and round in the untiring wheel, until at last feeling and perception failed him, and he saw and heard no more. He fell senseless on the bottom of the engine, and even then his inanimate body continued to be whirled round and round as before, the brave girl not daring to trust to appearances in connection with such a villain, and being, therefore, afraid to suspend the working of the machinery, or stop the mill gear and tackle from running at their fullest speed.

A loud knocking at the door was shortly after heard, and she hastened thither. It was her master and his family, accompanied by several of their neighbors. The unaccustomed appearance of the mill-sails in full swing on Sunday had, as she had anticipated, attracted their attention, and they had hastened home from church for the purpose of ascertaining the cause of the phenomenon. The father bore his little boy in his arms. He had cut the cord wherewith the child was tied, but he was unable to obtain any account of the extraordinary circumstances that had occurred from the affrighted innocent.

Hannchen in a few words told all; and then the spirit which had sustained her so long and so well while the emergency lasted, forsook her at once as it passed away. She fell senseless into the arms of the miller's oldest son, and was with great difficulty recovered.

The machinery of the mill was at once stopped, and the inanimate ruffian dragged forth from the great wheel. The other ruffian was brought down from his prison. Both were then bound, and sent off to Bonn under a strong escort, and in due course came under the hands of the town executioner.

It was not long till Hannchen became a bride. The bridegroom was the miller's son, who had

loved her long and well, but with a passion previously unrequited. They lived thenceforward happily together for many years, and died at a good old age, surrounded by a flourishing family. To the latest hour of her life this brave-hearted woman would shudder as she told the tale of her danger and her deliverance.

Hints to Girls.

Give your best sympathy. There is no greater human power than the tenderness of woman. If you can minister to some one in sickness, lessen somebody's distress, or put a flower in some poor home, you have done a thing you will always be glad to think of. You will be remembered, and a woman asks no grander monument than to live in hearts.

Not far from my home was the plain cottage of an Irish woman and her only son—a brave young fellow—dying of consumption contracted in the war. One day, in my visit to him, I carried him some lovely red roses. The next time I went the mother said: "He never let the roses go out of his hand, Miss. He held 'em when he died, and the last he ever said was, 'Give my blessin' to the young lady for bringin' the flowers.'" And the desolate mother buried them with him, as the most precious thing he possessed. The blessing of that poor Irish youth will always be a pleasant memory.

Be gentle. Strength of character and sweetness of disposition are in no wise incompatible. Doubtless, the most winsome nature on earth is that which combines the naturalness and dependence of a child with the strength of a true woman. There are people whose touch is balm to us; restful persons, whose companionship is a benediction—who draw out the best of our natures—whose presence we may scarcely note, but whose absence creates a void which the heart hungers to have filled.

The remembrance of a tender word will last long after you are in your grave. A little ragged boot-black fell on the icy streets of Chicago one winter's day. A cheery young lady, passing, said, as she helped him up: "Did you hurt you?" His whole face beamed as, after her departure, he said to his companions: "I'd like to fall a dozen times if I could have her speak to me like that."

A harsh voice in a woman is like discord in the sweetest music. One can easily get into complaining and dissatisfied tones. Have a sunny face; and nothing will do this save genuine kindness in the heart. Every girl ought to make it possible to have people say of her: "She brightens every life she touches." If you never do aught else in life, bring sunshine into every heart you meet.—Sarah K. Bolton, in *Earnest Worker*.

A SAMOAN WEDDING.—A great wedding is about to come off in Samoa, according to the latest news from the islands. A leading chief of Falefa has been courting Moe, daughter of the high chief of Apia. As the chief is an old man and Moe about 19, it has required the most strenuous efforts of both families to bring about the match. The Falefa family have carried to Apia over 300 pigs, killed and cooked, and distributed them among the young lady's relations. In return for these, the family of the expected bride must give fine mats, and they have been busily engaged collecting them from all over the islands, till the governor's house is half full. A vast deal of ceremony is connected with these weddings. All the maidens from Falefa went in procession to the governor's house, each carrying a stick with a bunch of red feathers suspended from the end. At the wedding some member of the government reads a chapter from the Bible, and then reads a ceremony. The couple being married are seated all the time, and join hands toward the close of the ceremony, as in more civilized countries. In this instance the young lady is amiable and interesting. Native dances were taking place nightly, and are a part of the wedding festivities. All the young dandies appear on the stage at such time, and the maidens of the villages assemble on the scene in costumes like the primitive garb of Eve.—*Home Journal*.

THOUGHTS ON THE OAKLAND FIRE.—Taken in all its sad and sickening features, the burning of the three children and mother at the Oakland fire from the result of intemperance on the part of the parents is one which should never be forgotten by those who are addicted to the intoxicating cup. Truly in this case were the sins of the parents visited upon the innocent children in a terrible way. The printed account stated that Chief Hill upon wading into the debris to where the bedroom had been, found the two little babes lying side by side, burned to a crisp. Imagine the sufferings of the innocent darlings as the cruel flames licked their bodies with its fierce heat. No chance to escape, helpless upon their burning bed, how the heart of the fond mother and father goes out to them and cries shame upon the worse than inhuman parents who were the cause of the fatal ending of their young and innocent lives. The father lives; the mother has gone to meet that just Judge whom no prevarication can blind to the effects of her evil course. The father's life has been spared, but go where he will, that burning house with the blackened children will ever arise up to haunt his vision. Intemperance has again secured its victim; may we hope never to record another such a scene as the Oakland fire has brought before us.

Chaff.

THE Arab who invented alcohol died nine hundred years ago, but his spirit still lives.

A oobb conversationalist may make himself heard at a feast, but, the small boy takes the cake.

A CHURCH down in Texas has on its inner door the following legend: "No smoking allowed."

WHEN a girl purchases a pair of kid gloves she always likes to have them sent home in a red wagon.

THEY enforced the rule the other day at a Cape May hotel against the admission of dogs, and one Philadelphia dame, who has a pug for a favorite, left in disgust.

A TAILOR, who was giving his pet dog some medicine to cure him of asthma, on being asked by a friend what he was doing, replied: "I'm mending my dog's pants."

THE Boston Globe is of the opinion that a well cooked breakfast will do more toward preserving peace in the family than will seven mottoes on the wall, even though they be framed in the most elaborate of gild moldings.

A CALIFORNIA man who counts his acres by the tens of thousands, upon being remonstrated for monopolizing tendencies, responded: "I don't want to monopolize any land. All in the world I want is the land that adjoins mine."

A LITTLE fellow, turning over the leaves of a scrap book, came across the well known picture of some chickens just out of their shells. He examined the picture carefully, and then, with a grave, sagacious look, slowly remarked: "They came out 'cos they was afraid of being cooked."

"Is there any opening here for an intelligent writer?" asked a seedy, red-nosed individual of an editor. "Yes, my friend," remarked the man of quills; "a considerate carpenter, foreseeing your visit, left an opening for you. Turn the knob to the right."

"THRASHING by steam," murmured a fond mother as she glanced at an article in the agricultural paper. "What git-ups they do have nowadays. If I'd had one of those steam thrashers for my four boys, my arms wouldn't have been as rheumatically as they are to-day," and she dreamily thought of the past as it might have been.

A LITTLE bootblack picked up a cigar stump in front of a Galveston hotel, and after examining it for a moment, said mournfully to a comrade: "I say, Bill, I believe we are going to be quarantined this year, and everything is going to be dear." "What makes you think so?" "Just see how short the cigar stumps are already."

WHEN Macaulay was an undergraduate he attended an election meeting in Cambridge, and was rewarded by a dead cat being thrown in his face. The man who hurled the offensive article apologized by saying that he had no wish to hit Mr. Macaulay, as he intended it for Mr. Adeane. "I wish," replied Macaulay, "you had intended it for me and hit Mr. Adeane."

VALUE OF WOMAN'S WORK.—Rev. Thomas K. Beecher, writing to the *Christian Union* of his camp life in the woods, gives the following advice: "All men ought to go to the woods, and religiously do their own washing and general work, such as sewing, cooking, housekeeping and dish-washing. The work of women is not spoken of sensibly by men till they have done it themselves. Gentlemen readers, it is easy to talk! But just try it on a very modest scale once, and you'll honor working women more than ever. Do as I have done—do a wash of six pieces, and then remember that a woman turns off 200 pieces in a day; Look at your watch and see how long it takes you. Look at your soap and see how much you have used. Look at your white clothes, handkerchief or towel, and see what you have done or not done, and never again speak harshly of or to a woman on wash-day, nor of laundry work as if it were unskilled labor. Try it. Don't talk. Don't sneer. Try it. A sympathetic gentleman, having washed two dozen pieces, will never change his shirt again without a glow of reverence and gratitude. She did this. A similar and salutary consciousness will come to him who darns his own socks, patches his trousers, splices his suspenders and washes dishes. Look not every man upon his own things, but every man also upon the work of a woman. Such an experience in the woods will go far towards settling the woman question, by teaching us that we are all members one of another, and there must be no schism."

HUSBAND AND WIFE.—A worthy wife of forty years' standing, and whose life was not made up of sunshine and peace, gave the following sensible and impressive advice to a married pair of her acquaintance. The advice is good: "Preserve sacredly the privacies of your own house, your married state of your heart. Let no father or mother, sister or brother, ever presume to come between you two, or to share the joys and sorrows that belong to you two alone. Build your own quiet world, not allowing your dearest earthly friend to be the confident of aught that concerns your domestic happiness. Let moments of alienation, if they occur, be healed at once. Never, no never, speak of it outside, but each other confess, and all will come out right. Never let the morrow's sun find you at variance. Review and renew your vow—it will do you good; and hereby your souls will grow together, cemented in that love which is stronger than death, and you will become truly one."

Young Folks' Column.

Our Puzzle Box.

Numerical Enigma.

I am composed of 29 letters.
My 9, 6, 3, 1 is a lakelet.
My 4, 16, 24, 14 is a boy's toy.
My 12, 8, 5 is a fluid measure.
My 1, 2, 7 is destiny.
My 15, 23, 11 is to conquer.
My 13, 10, 18 is an agricultural implement.
My 17, 21, 19 is recent.
My 20, 25, 29, 28 is to conceal.
My 27, 10, 26, 18 is a pretty flower.
My 22 is in recent novelties.
My whole is a bit of advice, which, if heeded,
does much toward preserving the health and happiness.
MELANCTHON.

Problem.

How is it possible to subtract 10 from 9 and leave 1, and to add 10 to 21 and obtain 20 as a result.

Decapitations.

1. Behead an islet and leave a pronoun.
2. Behead to support and leave a part of the head.
3. Behead to deceive and leave warmth.
4. Behead dismal and leave anger.
5. Behead a kind of fish and leave a resinous substance.

VERONE.

Diamond Puzzle.

1. A consonant.
2. A measure of distance.
3. A runner.
4. Merry.
5. To hinder.
6. A line of light.
7. In resonant.

CEPHIA.

Blanks.

[The blanks are to be filled with the same words transposed.]

1. John's daughter ——— to the house to bring me the floor.
2. The ——— stepped upon the ——— spilled on the floor.
3. I long to see my ——— very ———.
4. ——— bought a fine ——— and gave it to me.
5. At the ——— of the bell the culprit sprang to his feet and with a single ——— was away.

DICK N. S.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Manchester.
DECAPITATIONS.—1. Gale, alter; 2. Palter, alter; 3. Pimp, imp; 4. Pounce, ounce; 5. Charm, harm; 6. Blame, lame.
CHARADE.—Out-rage.
CONCEALED RIVERS.—1. Pot; 2. Nile; 3. Thames; 4. Isert.
5. Sago; 6. Dead; 7. Green; 8. Don.

DROPPED LETTERS.—
"There is a tide in the affairs of men
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of the life
Is bound in shallows and in miseries."

Hints for the Elder Sisters.

It used to be the custom of thrifty New England girls, and those in other sections, to begin very early to accumulate stock toward the "setting out" in that new home all expected some time to have.

It was a common topic of conversation among mothers; they compared notes with maternal pride concerning the number of bed-quits little Jane had pieced, and the stockings Eliza had knit.

Just as early as it could be done, the six little silver teaspoons were bought and marked, and lucky indeed was the little girl to whom grandma handed down her best feather bed and all its belongings.

I have heard my father tell of an old lady who said she would not think much of a girl who would consider her outfit complete without a pillow-case full of stockings of her own knitting. If that was the law now about a wedding outfit, I think the country would fill up with old maids.

Manners and customs change with the times, but it is still true that young girls begin very early to lay the foundation of their future homes. It depends more upon what a woman is than upon what she has, whether her home will be one of prosperity and happiness, or the reverse. The habits and temper which the little girl adopts are very sure to follow her on through life; they are parts of her "setting out."

Better than rosy quilts of most intricate devices is a sweet disposition in the housekeeper. No treasures of silver or embroidered tapestry can make a home delightful where this is absent. If sharp words ring through the halls and echo from room to room, one may well sigh for "a corner of a housetop alone."

I do not know of one thing besides intemperance that can make a home more thoroughly wretched than a scolding house-mother. It is an easy habit to take up. There is enough to try the patience and provoke the hasty speech almost every day. There is but one way of safety. The iron hand of self-restraint must be brought to bear upon the spirit, and the earlier it is commenced the easier the task.

People sometimes change greatly in mature years, but it is very seldom.

Think of it, girls, seriously while you are at home under father's roof, and ask yourselves this question: "Do I want to be known as a scolding woman when I grow up and have a home of my own?" Cultivate loving, gentle speech among your brothers and sisters. Keep back the hasty words; learn to forgive, and return soft answers to hard speeches.

It will never give you a moment's pain to do so, but will save you many bitter tears, and make you a blessing to others.

With this rare jewel you have in your hand an Alladin's lamp, that can make beautiful the plainest rooms in your future dwelling. Without it you would be poor in a queen's palace.—*J. E. M. in Rural New Yorker.*

Domestic Economy.

The Philosophy of Potato Cooking.

EDITORS PRESS:—There was a time when potatoes were worth a dollar each! How could that be? The man must have been starving to pay that price! It was not one man, but thousands of men who paid that price and right here in California, too. They had abundance of bread and meat (salt as a rule) and whisky; but still they were starved, and the starvation showed itself as scurvy. With scurvy at the doors potatoes were cheap at a dollar apiece. Of course this was in the gold days when agriculture was at a discount, and fruit and vegetables scarce. But this fact is a text, and bears on the question of how to cook a potato. Few seem to know how or to be willing to take the trouble to cook a potato so as to get the real food value of it. The common idea is that a potato is three-fourths water and the rest starch; and the fallacy hides entirely the health value of the potato. To the scurvy-stricken sufferer starch is of no use; he has abundance of it in his bread, his flour or rice. A potato is in reality three-fourth juice and about one-fourth starch, and it was the juice that the early Californians paid a dollar for. The juice which most of cooks throw away, serving up the less useful starch devoid of aroma and of flavor, except, perhaps, that of salt. The scurvy miners dared not cook their potatoes, but ate them raw; the juice was too precious to waste; the starch they did waste, for uncooked starch is almost indigestible by the human body.

In fruits and vegetables the blood (juice) is truly the life thereof, and any mode of cooking which does not preserve that, is at once foolish, extravagant and unhealthy. Mild scurvy, due to the want of those juices, is the most common cause (in children especially) of many skin diseases, of malformed bones, and of much physical weakness and liability to disease.

In cooking potatoes many people first pare them, losing thus the most nutritious part of the potato, for we find as a rule in all seeds and vegetable growth, that the flesh and bone-forming materials are most abundant toward the surface. Thus in wheat the central part of the seed is little more than pure starch, the albuminous and mineral matters existing chiefly near the outer surface. But our cook, not satisfied with wasting the outer and best part of the potato, proceeds further to waste the juice by steeping the cut potatoes in cold water. Boiling water would not be so wasteful, as it would coagulate the albumen near the surface, and thus put a new skin on the potato which would preserve the juices. The wasteful cook after steeping, now proceeds further to waste the life of the potatoes by boiling them in water. Analysis has shown that by this mode of cooking 42% (nearly one-half) of the potash is lost; and as potash is for scurvy, perhaps the most valuable part, it is safe to say that half of the juice is lost.

The juice of the potato contains, combined with the potash, the acid of oranges (citric acid) and others, probably those of apples (malic) and of grapes (tartaric). As regards quantity, the juice of a potato is just twice as rich in these anti-scurvitic acids and alkalies as that of the grape. Proper cooking should preserve all this. The German eats his potato raw, as salad; but this plan, as before remarked, is wasteful of the starch, though it makes sure of the juice. The Frenchman cooks his in nearly boiling oil, perhaps the best method of any, if the potato must be first pared, as it cooks them thoroughly, quickly and with no loss of anything but water. It, however, requires considerable practice, as, if the oil is too cold, it soaks into the potato, spoiling it in taste, as also for the ordinary dyspeptic American stomach. Again, if the oil be too hot it burns the outside of the potato; but this is the lesser evil. If rightly managed, the potato comes out dry, mealy and of a pale amber tint; no oil is absorbed, as may be tested by placing the potato on a piece of clean paper, which it will not stain. In this mode of cooking the potatoes are placed in a wire basket, and so plunged into a deep pot of hot oil; for how long, experience alone can tell.

Steaming is the only mode of cooking, free from all objection; and is at once easy, inexpensive and economical. An improvised steamer may be made by piercing with, say one-fourth or one-half inch holes, the bottom of an old saucepan, and placing this over another of rather smaller size, in which a little water is kept briskly boiling. The potatoes may be either pared or not, as desired; paring is of course always wasteful in itself; but the steaming extracts no further juice. Boiling with their jackets on is free from many of the objections mentioned against the boiling of pared potatoes. Analysis has shown a loss of only 3%. Putting plenty of salt in the water tends to prevent the loss of juice.

Baking, perhaps, of all modes of cooking, best brings out the flavor, aroma and quality of a good potato. Baked, or rather roasted in the ashes under the fire, makes a dish worthy of an epicure. But this mode wastes not perhaps as much, but a considerable proportion of the potato, and some of the juice, for much of the potato adheres to the burnt skin, and also the evaporation from the surface draws the inner juices towards the skin where much of them are burned beyond use.

Where fruit or vegetables are scarce, and

children are not very healthy, there is cheaper, easier and better medicine than potato soup. Cut the potatoes in thin slices and put them in cold water an hour or two before boiling, if convenient. Boil quickly and strongly till soft, after which stand them back on the stove, stirring them well till all is reduced to a granular soup. Add no salt till near the end. Tomatoes, or any other vegetable, may be added to taste. Meat too, of course, and milk, if it is abundant, will add to the richness of this soup, but the potato is its health value.

In boiling whole potatoes try and leave them all as near one size as possible. Watch particularly to boil them evenly, and without pause. If the boiling cease for a little, the potatoes cool and begin to suck in water. The good cook keeps up his boiling till the moment he pours off the water, and then he allows them some little time on the stove, with the lid off the saucepan, to dry. Those waxy, damp, badly cooked potatoes are a sore trial to a weak stomach. They are difficult to masticate. The saliva cannot penetrate to every starch cell, for they are already soaked with water—consequently their digestion must go on in the bowels instead of in the mouth; and to most persons that means flatulence and sometimes very uncomfortable feelings. But in a dry, mealy potato which has been evenly and quickly cooked, every starch granule has expanded itself double, has burst its cell wall and absorbed all the juice in its neighborhood. When it goes into the mouth it is easily reduced to a meal, and so rapidly absorbs the saliva that it is half digested before it reaches the stomach.

SANTARIAN, M. D.

GOOD HEALTH.

Bad Water as a Cause of Disease.

A correspondent of the *Scientific News* says: "It is not strange that doctors and old women believe that fevers are produced by drinking what is supposed to be unwholesome water. Any absurdity will be generally believed whenever it has been preached enough. And the bad water theory has been preached from generation to generation, perhaps from Adam's time down to date."

"Doctors frequently examine water with a microscope and see small 'dangerous' animals in the water, and report the fact with the bad cases of sickness 'thus produced' to medical journals, who innocently publish it all, and, without considering the fact that, with the same instrument, they can see as many animals in any and all water that healthy people drink."

"Now, the facts are, that any person may drink their fill out of any stagnant pool of swamp water with tadpoles, animalcules, lizards and all, without receiving any injury therefrom, simply because the stomach has a way of disposing of the animals; but the lungs have not. Hence, persons should cease to breathe while drinking. The lungs may inhale more than they can expel."

"The water was no worse while all Memphis was having the yellow fever than at any other time, and had nothing to do with producing the fever. While the prairies of Illinois were being broken, the people had more fevers per acre than in any other country, simply because there was more vegetation per acre rolled under to rot and poison the atmosphere; and, during the prevalence of fevers in Illinois, the water was no more dangerous than now."

"There are no fevers or ague in any country where the soil is generally poor, no matter what can be seen in the water."

"I believed the bad-water theory until I commenced to run a pump factory, which gave me an opportunity to know what people had in their wells. I did not need the microscope to see the slippery remains of dead toads, snakes, poisoned rats, skunks and woodchucks. Some people had a well and privy in a back yard, some respectable distance apart on top of the ground, but they were practically all one thing in the same strata of gravel at the bottom. I expected to see the people get sick (as they should) from using such water; but never knew of a case of the kind, which shows that people may live healthy on pure air and horribly bad water."

The editor of the *Scientific News* comments on the above as follows: "Our correspondent is at fault in his assumption that visible organisms, dead or living, in water, are supposed to be a cause of disease. The poison of typhoid or of yellow fever is no less a poison because invisible, and the former, at least, has been as distinctly proved to be carried by infected water as the poisons of yellow fever has been proven to be transported in clothing."

MEAT FOR INVALIDS.—The following is a good method of rendering raw meat palatable to invalids: To $\frac{1}{2}$ oz. raw meat from the loin, $\frac{1}{2}$ oz. shelled sweet almonds, 17 oz. shelled bitter almonds, and $\frac{1}{2}$ oz. white sugar—these to be beaten together in a marble mortar to a uniform pulp, and the fibers separated by a strainer. The pulp, which has a rosy hue and a very agreeable taste, does not at all remind one of meat, and may be kept fresh for a considerable time, even in summer, in a dry cool place. Yolk of egg may be added to it. From this pulp, or directly from the above substances, an emulsion may be prepared, which will be rendered still more nutritious by adding milk. A small quantity of wine or tincture of cinnamon may be added, if desired.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line.....25 .80 \$2.00 \$5.00
Half line (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 40.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, September 4, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Smut on Citrus Trees and Fruits; The Eastern Peanut Crop; Ensilage, 145. The Week; Hop Harvest and Outlook, 152. A New Style of Sofa Bed; Meeting of the State Horticultural Society; Peat Underlying Hayes' Valley, 153. Color Blindness; Notices of Recent Patents, 158.

ILLUSTRATIONS.—The Smut on Orange, Lemon and Olive Trees as Seen with the Microscope, 145. Laerman's Sofa Bed, 153.

QUERIES AND REPLIES.—Bots in Horses; Crab Grass in Los Angeles County, 152.

ENTOMOLOGICAL.—What to do About the Phylloxera, 152.

CORRESPONDENCE.—Notes in Tehama County; Agriculture in the State of Nevada, 148.

THE FIELD.—Non-Turning Plows, 146.

FLORICULTURE.—Growth of Flowers in Oakland, 146.

HORTICULTURE.—Fruit Growing—No. 2; Plums and Prunes, 147.

THE SWINE YARD.—The Tendency Toward Light Hogs; Notes on Essex Swine, 147.

PATRONS OF HUSBANDRY.—Dedication of St. Helena Grange Hall; Grange Re-unions; A Visit to Wall-to-Grange; New Hampshire Granges, 148.

AGRICULTURAL NOTES from the various counties of California and Arizona, 148-49.

NEWS IN BRIEF, on page 149 and other pages.

HOME CIRCLE.—Dropping a Seed (poetry); The Miller's Maid; Hints to Girls; A Samoan Wedding; Thoughts on the Oakland Fire; Chaff; Value of Woman's Work; Husband and Wife, 151.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; Hints for the Elder Sisters, 151.

DOMESTIC ECONOMY.—The Philosophy of Potato Cooking, 151.

GOOD HEALTH.—Bad Water as a Cause of Disease, 151.

MISCELLANEOUS.—Dust Showers; The Destruction of Game Food, 155.

METEOROLOGICAL.—Mountain Lakes of the Sierra Nevada, 154.

Business Announcements.

To Fish Raisers—J. A. Poppe, Sonoma, Cal.
Orange Orchard for Sale—C. T. Hopkins, S. F.
Strawberries—Wm. Parry, Cinnaminson, N. J.
Valuable Farm for Sale—C. T. Hopkins, S. F.

The Week.

To dwellers around the bay, and doubtless in some regions beyond, the first day of autumn seems like the beginning of summer. The long sway of the trade winds, with their unusually heavy fogs, have too long obscured the sun and sent chills to weak chests and pangs to rheumatic limbs. The warming up, which now seems promised, will be grateful to many, and the more generous gift of sunshine will bring forward the tardy fruit. Thus far grapes have been sour to him who has as well as to him who has them not, and the wine and raisin season has been long deferred.

The telegraph brings tidings that the President of the United States is now starting westward for a long journey through the States and Territories of our western coast. As his will be the first visit of a "live President" to our part of the country, it is expected that unusual greetings will be extended to him by the whole people irrespective of party feelings, which just now are running high. The President, it is expected, will visit the Mechanics' fair in this city and the State fair at Sacramento, and then will have opportunity to inspect our industrial progress, both in field and workshop. It is to be hoped that the State fair will, this year, contain a display of agricultural and horticultural products far better than has ever been gathered before, for not only will the President and his company gain good impressions of us, but thousands of our own people who know but little of the great industry around them will be drawn to the fair this year, and may learn what their fellow citizens are achieving and receive new impetus toward their own advancement. We are glad to notice that the various district fair enterprises are being pushed forward with zeal, and each part of the State seems disposed to celebrate this generous year with full displays of creditable material. It will be well to have good days of sight seeing and recreation before the rains and their retinue of labors come upon the scene.

THE Duke of Portland has had a site prepared on one of his English estates for a beaver village for a number of beavers imported from Canada.

Hop Harvest and Outlook.

The first carload of new California hops have gone Eastward, being shipped from Sacramento to Cincinnati. The hop harvest is now in active operation in the various hop-growing counties, and there will be a few more California hops to sell than last year. It is interesting and timely to review certain facts and deductions which bear upon the possible value of this year's crop.

The chief hop-producing region of the United States is, as is generally known, located in central New York, in a circle of rich counties, centering at Utica. We notice that there is now much more disposition among the growers to avail themselves of the advantages of association than there was when we lived in the region about five years ago. There is now in existence a flourishing hop growers' society, and its meetings elicit much information of interest and value to those who are in the business. There was held during the first week in August a large meeting, at which an elaborate address was made by W. A. Lawrence, whom the *Utica Herald* describes as "a universally recognized authority on hops." We shall compile from Mr. Lawrence's address a few leading considerations, which will be found of special interest to those who will have hops to sell.

The speaker alluded to the remarkable growth of the hop industry in the United States:

	Bales.
Total hops grown in the U. S. in 1839.....	6,193
Total hops grown in the U. S. in 1859.....	55,055
Total hops grown in the U. S. in 1879 (estimated).....	110,000

Notwithstanding the ups and downs of the yield in particular years, production increased some 50,000 bales in the 20 years from 1839 to 1859, and again some 50,000 bales more in the 20 years from 1859 to 1879. This steady gain of 50,000 bales every 20 years, is what measures and shows the steady advance in the great industry.

It is also an important fact that the average market value during the later period of production has kept pace with the increase in amount produced. Mr. Lawrence takes the 10 years preceding to the war of 1861 and compares the prices of best hops for that period with those obtained during the first 10 years ending 1850. The prices in New York City in February of each year for these two periods of 10 years each were as follows:

1853.....	23c	1871.....	12c
1854.....	45c	1872.....	65c
1855.....	33c	1873.....	45c
1856.....	10c	1874.....	40c
1857.....	10c	1875.....	43c
1858.....	10c	1876.....	17c
1859.....	13c	1877.....	20c
1860.....	10c	1878.....	13c
1861.....	32c	1879.....	16c
1862.....	23c	1880.....	35c
Average price for the 10 years.....	22c	Average price for the 10 years.....	30c

The average from the crop of 1870 up to that of 1880 was eight and a half cents per pound more than the returns from the crop of 1851 up to that of 1861, or an advance of 40% in favor of the prices obtained during the last 10 years.

These are interesting statistics. A review of even more importance, however, is Mr. Lawrence's summary of the prospects for the present crop, which gives assurance that there will not be excessive production. He finds that the great hop-raising counties of New York State promise a yield something less, rather than over, that of last year. The production of "Eastern" (New England) hops has dwindled down to only a few hundred bales. The same is true of "Michigan" hops. As to Wisconsin, Sauk county, where most of the Wisconsin hops are grown, had last year only 750 acres left in hops out of the former 2,000 acres. Reedsburg, Wis., indicates no increase over last year. Mr. Lawrence says: "The Pacific coast—California, Oregon and Washington Territory—raised altogether in 1877, 16,500 bales; in 1878, 15,000 bales; and last year 11,000 bales. They are figuring now on a yield this year about 50% larger than that of last year, which, if they realize on it, will give them an increase of about 5,000 bales. With only this small possible increase in one corner of the country to note, and with the best judges estimating a small decrease per acre throughout the more important hop regions of New York State, I think we shall certainly come within bounds, if we estimate the coming crop throughout the United States at the highest figures I have seen given for the crop of last year—120,000 bales. To be on the safe side, I will even add the anticipated increase on the Pacific and put the incoming crop of the United States at 125,000 bales."

The speaker then proceeded to compute the requirements of the coming year, arguing on increased consumption of beer because of the general prosperity throughout the country and the happening of a Presidential campaign, both of which heighten the consumption of the brewer's products and cause him to buy more hops. It is also a fact to influence prices that the amount of old hops is much reduced, indeed, almost swept away. Mr. Lawrence condenses his inquiries into the following statistics: The brewers of the United States will brew between the 30th of June past and the 30th of June next, 15,000,000 barrels of taxed beer, and consume 150,000 bales of hops. Last fall the stock on

hand, as near as we can discover, was about as follows:

New crop of 1879 in hands of growers.....	120,000 bales
Old hops in hands of growers.....	15,000 "
Old hops in hands of dealers.....	5,000 "
Old hops in hands of brewers.....	55,000 "

Total stock on hand, fall of 1879.....	195,000 "
Increased later in the season by hops imported, equal to.....	3,000 "

Grand total.....198,000 bales

During the year we have disposed of that large stock, as follows:

Consumed, as shown by 13,347,000 barrels taxed beer.....	133,000 bales
Exported from New York, Boston, Philadelphia and all parts.....	49,000 "

Total hops removed from market past year.....	182,000 bales
Hops from last year on hand to-day to balance.....	16,000 "

Grand total.....198,000 bales

Taking these 182,000 bales consumed and exported from the 195,000 bales supply, we have left in all hands this fall of old hops only 16,000 bales instead of 75,000 bales last fall, as figured above. Adding these 16,000 bales to 125,000 bales coming crop, we have this fall 141,000 bales against a home market for some 150,000 bales the coming year, or a supply likely to be short even of our own demand.

In addition to the possible demand in this country for all the hops that the yards will produce, there is a prospect that England will need more than 100,000 bales of imported hops this year as she did last year. Germany has a good crop this year, but to supply what England lacks will make prices so high in Germany that England may have to patronize our producers. It seems probable, according to all data which is now available, that the year will be one of good prices for hops, and hop growing will hold its seat among the profitable agricultural specialties.

QUERIES AND REPLIES.

Bots in Horses.

EDITORS PRESS:—Will you please let a subscriber know what is the best remedy for bots in horses, or if there is anything that will destroy them?—G. S. DABBY, Antioch, Cal.

EDITORS PRESS:—There are scores of nostrums recommended for the destruction of the bots—all of them worse than useless, for some are very dangerous. Bots do not generally accumulate in sufficient numbers to be any inconvenience to the horse, so that it is much better to leave them to nature. The *Oestrus equi* deposits her eggs during the summer months on parts of the horse that are within reach of his mouth. In depositing the egg she creates a tickling sensation, and the horse bites or licks the part, takes the egg into the mouth, where the warmth and moisture hatch out a small, lively worm, which finds its way into the stomach, and becomes attached to the cuticular portion of the lining membrane of that organ, where they remain until the middle of the next summer, when they will be voided with the feces. In post-mortem examination the stomach is sometimes found to be perforated. The bots do this after the animal is dead, trying to make their escape.—JNO. CASEWELL, M. R. C. V. S., Petaluma.

Dr. Casewell appends to the above answer a remark to the effect that the subject is one of great importance, and he would like to expatiate upon it at greater length, but has not time, at present, which we regret. For the purpose, therefore, of giving more full information upon the character of this internal pest of the horse, we shall quote a few paragraphs from the "Illustrated Horse Doctor" of Edward Mayhew, M. R. C. V. S. This author writes as follows: "Uninformed persons are always desirous to possess some medicine which will destroy bots; they wonder that science lacks invention sufficient to compound such an agent. An anecdote may probably dispel such astonishment. A patron of the Royal Veterinary College was once conducted by a pupil through the museum belonging to that establishment; the pair at last stood before the preparation of a horse's stomach, eaten through by, and also covered with, bots.

"What a spectacle!" exclaimed the visitor, after the nature of the specimen had been explained. "What a myriad of tormentors! And have you no medicine to remove such nuisances? Can veterinary science discover nothing capable of destroying those parasites?" "Why sir," replied the student, "only look at that preparation. To my knowledge, it has been put up in spirits of wine, and corked air-tight for two years. The creatures must be either very dead or very drunk by this time; yet, as you witness, they hold on. What sort of physic could accomplish more than is already effected by the spirits of wine and close confinement? I am at a loss to conjecture!"

"Bots, once within the stomach, must remain there until the following year, when, being matured, their hold of the lining membrane of the viscus will relax, and, in the form of a chrysalis, they are ejected from the system. No medicine can expedite the transformation. It has hitherto appeared easier to kill the horse than to remove the parasite."

"At its first hatching the bot is, as we have observed, a small active worm, long in proportion to its thickness, but as its growth advances, it becomes proportionably thicker and broader, and beset with bristles. They are very frequent in horses that have been at grass,

and are in general found adhering to the white insensible tissue or coat of the stomach. They usually hang in dense clusters to this white cuticular lining of the stomach, and maintain their hold by means of two dark-brown hooks, between which a longitudinal slit or fissure is seen, which is the mouth of the larva. When removed from the stomach by the fingers by a sudden jerk, so as not to injure them, they will, if fresh and healthy, attach themselves to any loose membrane, and even to the skin of the hand. For this purpose they sheath or draw back the hooks almost entirely within the skin, till the two points come close to each other; they then present them to the membrane, and keeping them parallel till it is pierced through, they expand them in a lateral direction, and afterward, by bringing the points downward toward themselves, they include a sufficient piece of the membrane, to remain firmly fixed for any length of time as at anchor, without requiring any further exertion. These bots, as is also the case with two or three other species, pass the autumn, winter and spring months in the stomach, and arrive about the commencement or middle of the summer at their full growth, requiring a twelvemonth fully to complete their structure."

Crab Grass in Los Angeles County.

EDITORS PRESS:—In your paper of the 28th of August, while speaking of the crab grass of the South, you say you are not aware of its having been tried in this State, but if it has you trust your readers will report. I have raised cotton in Tennessee myself, and am well acquainted with the growth of crab grass. I have pulled it many times by hand for hay, in corn fields where a scythe or cradle could not be used to advantage. It is more than 30 years since I did this, as I have been in California nearly 28 years, but according to my best recollection we could procure nearly or quite as much feed in a day pulling good crab grass, as we could by pulling corn fodder. When I came here, I think it was at least 15 years before I saw any crab grass, but at length by some means unknown to me it sprang up one year in an orchard that I owned, and now I have a place of about three acres where the crab grass is as thick as it can stand. It grows as luxuriantly here as any place I ever saw, and when fed off or cropped down by stock it comes up again from the roots, and keeps spreading until it is so thick you cannot see the ground. It will bear a great deal of tramping, and will keep green until it is bitten down by frost, if the ground is kept moist. I think if it was well set and kept grazed off, it would kill out most of the other weeds and grasses. I send you a bunch of the grass, as also a full grown head, and one that has not yet headed out.—J. W. POTTS, Los Angeles, Aug. 29th.

ENTOMOLOGICAL.

What to do About the Phylloxera.

We make the following extract from a letter lately written by Prof. Hilgard to a prominent vine-grower in the Sonoma valley: I would say that, just at this time, the most pressing thing to be done is to find out as much as possible about the local habits of the insect. We know what it does in France and Missouri; but it has progressed much less rapidly, though not less surely, in California. Before we can know what to do against it, it will be necessary to know what are its life habits under ordinary conditions. To put roots in jars is the easiest but not the most correct way of determining these matters. When the juices give out or become abnormal the animal feeding on them is likely to do the same. We must have it observed in the vineyards themselves. I am not yet satisfied that any large number of individuals acquire wings when feeding on vigorous vines. If it could be shown that the winged-form proceeds mainly or only from vines far gone, while the fat lice feeding on fresh stocks do not need that mode of renewal, it would be a long step toward knowing just how to stop its progress. If such is not the case, the whole proceedings must be based on a different and far more expensive scale.

The simplest mode of testing the question would be this: Tie gauze, or perhaps "fly sticking paper," around the infested vines close to the ground, covering a circle of say at least six inches radius. The winged-insects, when issuing and rising, will be caught and can be identified, and their relative abundance on fresh and on decrepit stocks determined. Of course, it would be also desirable to examine the roots for the winged or wing-padded lice. The captures would best be examined on the spot, first, and then forwarded to me.

The next thing that should be tested is the possibility of killing all the denizens of one vine by a poison applied at the cut end of the infested stock, cutting into the latter a large auger-hole or conical pit, and filling it with say dilute muriatic or sulphuric acids, as long as it is absorbed. This would be cheaper than bisulphid of carbon, at 60 cents a lb., applied to the soil. Digging or pulling up the vines is a very imperfect remedy, for the white root-lets, the chief abiding place of the insect, nearly all remain in the ground. If such poisoning process can be made effective, it would be easy to circumscribe affected spots at their first ap-

pearance, or to create a sanitary "belt of desolation" that only the winged-form could cross.

There is of course a great deal more that it would be desirable to do; but if you can fully test these two points on your grounds, you will have advanced the cause in a most material degree. At least we shall be able to say what are the cheapest and most effective means that can be employed to check the pest, if the vine-growers are willing to put their shoulders to the wheel. It is quite certain that until they acquire this frame of mind, it will be of little use for them to call for help on either Hercules, Science or the State. So far as the vine-growing region north of the bay is concerned, the only choice is either to fight, and that quickly and sharply, or else to give up the old vineyards gracefully and plant new ones on resistant stocks. No, there is a third choice yet: To give up grape-growing altogether. But there you may be sure the alternatives end.

Experiments with the Wine Cask Borer.

Mr. J. J. Rivers, curator of the museum of the University of California, read a paper before the Arthrozoic Club last week, giving the results of his experiments to arrest the evil work of the wine cask borer, as follows: During the summer of 1879 Mr. Jacob Schram, of Napa county, vine-cultivator and wine-maker, forwarded to me some beetles that were very ruinous to wine casks, at the same time asking me to investigate them for the purpose of discovering some practical method of preventing their depredations. Mr. Schram stated the destruction was great, amounting to thousands of dollars annually, and that a formulation of a preventive would be much esteemed by viticulturists generally. The beetle referred to is the *Sinoxylon dective* (Lec.) of the destructive family of *Bostrichidae*. Its primary mischief is caused by the habit of the parent insect boring a hole three or more inches for the purpose of depositing eggs. As casks are usually much less than three inches in thickness, the beetle taps the liquid contents and loss accrues by leakage.

The remedy I first thought of was to select some species of wood suitable for cask-making that would be unpalatable to this insect. My endeavors in that way have resulted in failure, for the reason that this beetle appears to have no particular dislike to oak, chestnut, pine, whitewood and several of the encalypti. The next step was to saturate the outside of the cask with a strong solution of alum water, applied hot, and when dry a coat of linseed oil, this latter to prevent the alum from being washed out, as it would be in time. This proved a success, for all the examples treated with the solution were untouched, while the unprepared were riddled by the borer.

A New Style of Sofa Bed.

One of the most desirable pieces of furniture in a small house, where, in case of a descent of company, a sleeping apartment has to be improvised out of a sitting-room or parlor, is a sofa bed or bed lounge, as they are sometimes called. There have been several styles of these lounges invented, and some of them have been found cumbersome, quick to get out of repair, etc. There is a new style of sofa bed now on exhibition at the Mechanics' fair which strikes us as peculiarly excellent, simple and adapted to its purpose. It is a California invention, by Frank Laereman, of 528 Washington street, S. F., and was patented through the agency of Dewey & Co.

The back of the sofa is made of a strong webbing, and is abundantly supplied with good springs. The front part of this back is upholstered to correspond with the sofa portion. The rear part, however, is covered with ticking and resembles an ordinary mattress.

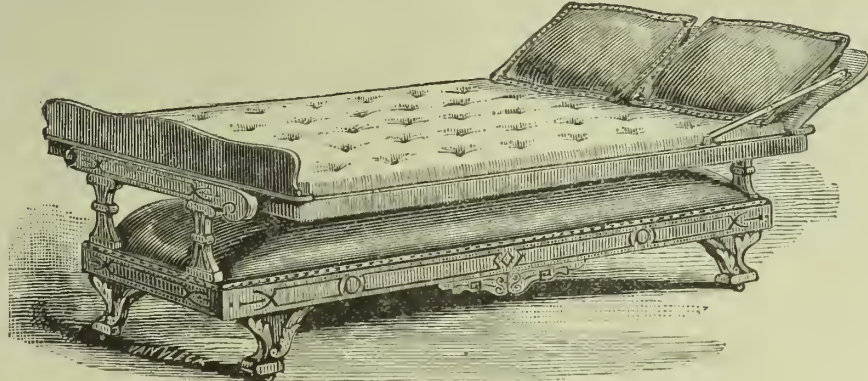
When the sofa is used as such the back is in a nearly vertical position, as shown in one of the engravings presented herewith. To form the bed the back is tilted down to a horizontal position and then drawn forward—rollers on the frame fitting in grooves in the arms. In this position a perfect bed is formed, as shown in the engraving. When placed ready for use as a bed the back rests firmly on the arms of the sofa, at about the ordinary height of a bed. The user then lies on the ticking and does not come in contact with the upholstered covering of the sofa at all, as is the case with the common sofa beds. A hinged slanting head-board and hinged foot-board, arranged to fold back, make a complete bed of the device, and give it a greater length, when opened, than any of the beds in the market.

The connection between the back and arms is a very ingenious, though simple, idea, but one which has taken a good deal of thought and study to perfect. Mr. Laereman has been for a long time devising this sofa bed, and feels confident that he now has the best in the market. The bed is some eight inches longer and two or three inches wider than those usually made. It has no hinges, springs, cords, panels or other devices to get out of order. The rollers on the frame which move in the grooves in the arms connect the back and front in a manner which renders the change from sofa to bed, or vice versa, easy to make. There is no chance to make a mistake. In connection with this Mr. Laereman has devised a folding mosquito net, or canopy frame, which, when not in use, is folded into the bed.

LATELY the blueberry plains in Washington county, Maine, were a vast camp ground, 1,000 pickers tenting there.

Meeting of the State Horticultural Society.

The August meeting of this organization was held in this city on Friday, August 27th. The meeting was well attended, and the proceedings of much interest. President Hilgard presided. Several names were proposed for election at the next meeting, and the following, proposed last month, were elected by ballot. Regular members: J. P. J. Catber, M. Shydecker, John Conner, San Francisco; B. D. T. Clough, Niles, Alameda county; Dr. S. Porter, Napa; Nelson Carr, Santa Rosa; W. C. Cridham, Healdsburg; Dr. John A. Lockwood, Elmira; J. M. Asher, San Diego. Corresponding members: J. I. Bleasdale (Secretary Viticultural Commission), San Francisco; Prof. J. Henry Comstock (Entomologist Department of Agriculture), Washington, D. C.; Baron Ferd. Von Muller, Melbourne, Australia; Richard Schomburgk, Adelaide, South Australia; Prof. Andrew Llaurodo, Escuela Especial, Ingenieros des Montes Esccorial, Spain; Justin P. Moore, San Rafael;



LAEREMAN'S SOFA BED ARRANGED AS A BED.

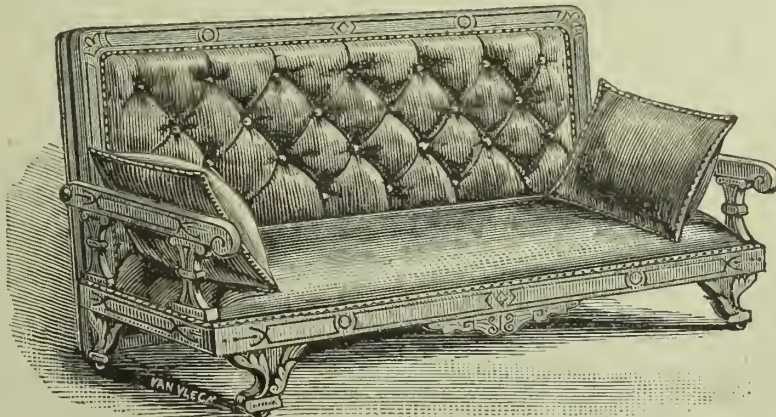
Prof. Charles S. Sargent, Brookline, Mass.; A. Lacretelle, France.

Apricots.

Dr. Strentzel, of the committee appointed to decide upon the apricots submitted from Santa Barbara at the July meeting, reported as follows:

Your committee on the apricots sent in by Joseph Sexton, of Goleta, Santa Barbara county, for a name, after close scrutiny, are of the opinion that the sample comes nearer to the description by Downing of the "Large Early," and are very nice specimens of the same. The tree of said variety is an upright, rampant grower, and rather a shy bearer here, requiring close shortening in of the long shoots to stimulate the fruit spurs into bearing.

Owing to the great interest taken in the cul-



LAEREMAN'S SOFA BED AS A SOFA.

ture of the apricot and the importance of satisfactorily filling the ever-increasing foreign demand, a few remarks upon the growth and the varieties desirable for market culture may be admissible. Great discrimination is required in selecting a favorable site for an apricot orchard to counteract the evil effects of spring frosts, and to secure a rich soil to nourish the fruit to perfection. Some localities near the bay of level land do exceedingly well; still further inland, a chaparral hillside is decidedly more satisfactory. Many orchardists prefer peach seedlings to apricots or plums for stock to bud upon, owing to the influence exercised by the stock over the graft. Peach seed, from yellow-fleshed seedling fruit, should be used to raise stock from, as they are of more thrifty growth.

The nomenclature of the fruit requires revision and close definition and description of the distinguishing characteristics of each variety, owing to the many seedlings being raised and propagated under old names. The pecuniary success of the orchardist depends upon the choicest fruit being raised, the fruitfulness of the trees, early ripening, size and quality of the product; and varieties should therefore be well-defined. Early fruit offers desirable advantages in drying or canning to seasonably supply distant markets—large fruits of clear and bright color, in shape oblong and flattened, admitting of nioer and closer packing, freestone, and its economic value enhanced by a sweet kernel, which is in some varieties very palatable, and

would soon find a market demand, are qualities accepted as standards of eminence.

The orchard culture could be with advantage restricted to two or three kinds—the Large Early, Royal Peach and Moorpark are favorites at present, and their uniform fruitfulness could be secured by a judicious system of pruning, shortening yearly the long shoots and thinning out the fruit when required. The trees should have ample room and exposure to full sunlight; and for facility in cultivation, 25 feet between the rows is not too much. To keep the soil mellow and in good condition, the use of the plow should be restricted to opening drainage furrows, and the subsequent culture should be done with chisel cultivators, harrows and horse hoes. The prunings require to be carefully husbanded by burning them in small piles on the spot and distributing the ashes around the trees. This proceeding should find favor not only to prevent waste and impoverishment of the soil, but as furnishing the best material to sift over the trees for the destruction of parasitic insects and fungi.

The report of the committee was adopted by the society.

In answer to inquiry, Mr. W. B. West, who has had charge thus far of the society's exhibit at the Mechanics' fair, remarked that the ex-

hibit was, in some respects, quite creditable, but was much more limited than it would have been had the season been more propitious. It is expected that the last two weeks of the fair will show a fuller variety of fruits and better specimens.

Plums and Prunes.

There was on exhibition at the meeting quite a collection of plums and prunes, to which contributions were made by Leonard Coates, of Yountville; J. Lewelling, St. Helena; J. V. Webster, Fruit Vale; W. H. Jessup, Haywards; J. Shinn, Niles, and others. The regular discussion of plum and prune growing was introduced by W. B. West, of Stockton, in an essay which is printed on page 147 of this week's PRESS.

In the discussion which followed, Mr. Redding remarked that he had given the sub-

a man has a large plantation of prunes, and packs them in uniform style under his proper brand and wins a market for them. Small producers, each following his own style, there is no uniformity of product, and no dealer can get enough of one thing to build a trade on. Small growers should agree on some prune and on some style of packing and brand which would give the market a uniform article.

There was some discussion concerning the nomenclature of several plums and prunes between Mr. Dwinelle and Mr. J. Shinn. Both agreed that the nomenclature of this class of fruits needed careful revision by a competent committee. Dr. Strentzel remarked that the fruit commonly called the Hungarian prune, had never been seen by him in Hungary. The prune used in Hungary is much like one of the prunes grown here under the name of the German prune; the same variety is also grown in Turkey.

Mr. Trumbull reverted to the need of uniformity in the style of preparing and packing prunes. We can grow good prunes, but the right style of packing has not yet been adopted. This is also true of most of our dried fruits. California producers must meet the French in the New York market with as good an article in as good a style, and there must be a supply large enough to make the fruit desirable to large dealers. Our society should take the lead in determining the style in which fruit should be packed and marketed.

Mr. Hatch asked if the society could not reach a decision as to the proper size box in which plums and prunes should be packed. Another thought the society should name a list of desirable varieties of plums to plant for different purposes. Upon motion of Mr. Webster, the following committee were appointed to report proper size boxes for plums, and packages for dried plums and prunes; also to name a list of plums for planting: W. B. West, B. S. Fox, J. Shinn.

Mr. Redding said he hoped that Mr. West's essay would be published in order that it might be generally read, and possibly it would draw out the experience of some one here who had lived in the prune regions of France and could give more detailed accounts of growing and curing. We must surely profit by all the arts of the foreign producers and then we can substitute our products for theirs.

Mr. Haas remarked that in the part of France he came from the dealers bought orchards with the fruit on the trees and gathered it themselves. Mr. West said it was not so at Agen.

There were remarks by other members, and a general agreement, that the subject must be given another meeting, as it had been but touched upon so far. Plums and prunes will, therefore, be the subject for the meeting of September 24th, and will be introduced by Mr. W. H. Jessup, of Haywards.

A letter has been received from Prof. J. Henry Comstock regretting his absence at the August meeting, and intimating that he will accept the invitation of the society and address the members upon "scale insects injurious to fruit trees" at the meeting of September 24th.

PEAT UNDERLYING HAYES' VALLEY.—At the last semi-monthly meeting of the Academy of Sciences, an interesting discussion occurred over the discovery of vegetable peat in an artesian well in Hayes' valley. In boring this well to the depth of 60 ft. plus, the work passed through three or four different strata of peat, each layer being about six inches thick. Specimens of this peat had been thoroughly tested by Mr. C. D. Gibbs, and presented to the Academy. He reported the peat as more or less impure, but excellent for fuel; it burns freely, and leaves a brown ash. The point discussed by the members was, whether this peat, which is unmistakably a vegetable formation, was situated below the ocean level, and whether it revealed a subsidence of the earth's surface at some remote time; or, whether it disclosed simply a deep boghole, which had been gradually filled by the ever-shifting sands of the ocean boundary of this peninsula. It is worthy of mention that Mr. Gibbs is preparing a map and diagram of the various underlying stratifications of this city, and will read a paper on the subject as soon as he shall obtain fuller data. He earnestly requests all artesian well-borers to preserve some samples, or record, of their borings at various depths, and forward them to him, and thus assist in completing a very much-desired geological map of our peninsula. He has already classified over 200 specimens of such borings, and more are needed, especially in some localities.

POULTRY ASSOCIATION.—The *Poultry News*, of San Leandro, is urging the formation of a State poultry association, and the holding of poultry shows in this city. The project is warmly approved by a number of our leading breeders. Some time ago we set forth the advantages of such a society as is now proposed and we trust they will soon be realized. A first class poultry show would draw immensely in this city, and give an impetus to the high class fowl interest, which would repay the members of the society for all effort the enterprise would cost them.

A FIRM in Leeds, England, has engaged to furnish the State prison, at San Quentin 100 looms for the manufacture of jute burlaps for grain bags, the looms and machinery to cost \$100,000. It is expected that they will be in working order by next spring.

Notes on Essex Swine.

[CONTINUED FROM PAGE 147.]

are not in themselves objectionable qualities; they may be associated with hardness, vigor and good digestion. But such hogs are not profitable. It costs too much to produce the pork, and when produced the pork must be sold at from 20% to 30% discount. Take one of these large sows and put her to a pure-bred Essex boar, and if the result is not in every respect advantageous then I do not know anything about pigs. A second cross with the pure-bred Essex will be a still greater improvement. The cross-bred or grade sows will be better breeders and better mothers.

I have just seen an article in an agricultural paper saying that the English objected to our hogs because they were too fat, and the editor advised us to feed less corn and more barley. This is all very well; but if our hogs are too fat (which I very much doubt), the way to correct the difficulty is not merely by feeding less corn, but by introducing better breeds and by adopting a better system of feeding and management. A large, lean hog does not furnish the pork or bacon which either the American or English market requires. Large boned, lean hogs are not scarce. If the improved breeds are too fat, it is because we do not manage them properly. We may have to let them get more growth before we fatten them. Instead of selling them at 9 or 10 months old, we may have to keep them till they are 15 or 18 months old. Keep them in a thrifty growing condition. In the summer and autumn, the food will consist principally of grass or corn-fodder; in the winter we can feed corn, bran, ensilage, etc. The point is to keep the pigs constantly gaining till they are shut up to fatten.

With good pasture, well-bred pigs, that have been properly cared for during the winter, will keep fat and thrifty with little or no extra food. They will be in a healthy, growing condition, and can be fattened in three or four weeks, at any time deemed desirable. For such a system of management, I feel sure that the Essex and their grades stand unrivaled. This is because they are so quiet and so refined. A restless hog, or one having large bones and large, coarse ears, will need so much food to sustain the vital functions that he cannot be profitably kept on grass alone. He will need all the nutriment he can find to sustain his restless activity. He will have very little "lean meat," and what he has will be coarse and tough. The food which should have produced nice, tender, juicy flesh, has gone to produce hair, gristle and offal. If consumers find our pork too fat—in other words, if they find too small a proportion of tender, juicy, lean meat, it is due not so much to corn diet, as to bad breeding and bad feeding. We have every facility for producing the best and cheapest pork, bacon and hams in the world. We have all the leading breeds of swine in perfection, and we have an abundance of the best and cheapest foods, and our packers are not wanting in science, skill, enterprise or capital. Pig breeding and pork packing in America are already among our most important industries, and are destined to attain vast dimensions.

The Essex swine are good breeders. One of my neighbors has a pure-bred Essex sow that produced this spring at one litter 14 strong healthy pigs. This is more than is desirable. My own sows rarely have over 10. This spring I had seven sows that produced 67 pigs. Twelve sows produced 107 pigs. Had there been one more pig, the average would have been nine to a litter. Sixteen sows produced 135 pigs, an average of 8½ pigs to a litter. Twenty-two sows produced 171 pigs, an average of over 7½ pigs to each litter. Thirty sows produced 213 pigs, an average of over 7 to the litter. Thirty-five sows, some quite young, produced 230 pigs, or an average of over 6½ pigs to each litter. These are not selected cases. I have included every breeding sow in the herd. Farmers who do not keep over half a dozen breeding sows could, of course, show better results. These figures, however, show that pure-bred Essex are good breeders. That they are good mothers all admit.

NEGLECT OF AMERICAN HISTORY.—One of our critical writers remarked recently that the reading-public of the country was too busy with other things to bestow any attention on American history. This would appear to be the normal condition of the American reader; for John Adams said, with characteristic heat, over 70 years ago, "while thousands of frivolous novels are read with eagerness and got by heart, the history of our own native country is not only neglected, but despised and abhorred." After the purely elementary course American history ought to have the first place in our public schools. It would be well if, at commencements, the graduate who was most proficient in the history of the country received, not only the highest number of marks, but some additional and special honor. American history ought to form the conspicuous feature of every advanced class in our schools, even if the languages or the classics, or other mainly ornamental and useless studies were displaced in part or altogether.

TO MAKE SELF-SHARPENING HORSESHOES.—Self-sharpening horseshoes are made by the simple expedient of rolling a steel plate in the center of the iron from which the shoe is made, so that the calks of the shoe have a hard steel center, and as the soft iron wears away by use the sharp steel is left to prevent slipping.

METEOROLOGICAL.

Mountain Lakes of the Sierra Nevada.

(By PROF. JOHN LE CONTE.)

Hundreds of little Alpine lakes, with their clear, deep, cold, emerald waters, are embosomed among the crags of the Sierra Nevada mountains. Their origin may be traced to the more powerful actions of glacial agencies in past times; in some cases, gorges dammed up by ancient moraines. The streams that now supply these "Gems of the Sierra" are born in the cold, gloomy solitudes of the upper mountain region, amid perpetual snow banks. Many of these charming lakes are nestled in the least explored portions of the "High Sierras," and have not been mapped or described; nay, some of them have as yet no designating names. They are the reservoirs of melting snows, and some of them—as those near the headwaters of the Yuba—are the sources of summer supply for hundreds of miles of mining ditches. Hence, the existing condition of our topographical knowledge of these wild and imperfectly explored mountain fastnesses renders it impossible to furnish anything like a complete catalogue of the mountain lakes of the Sierra Nevada. The following table embraces some of the more conspicuous lakes embosomed among the crags of that portion of the Sierra Nevada extending from Lassen's Peak (lat. 40° 30') in the north, to Mt. Brewer (lat. 36° 30') in the south. With the exception of Tahoe, most of them are comparatively small:

Mountain Lakes of the Sierra Nevada.

NAME.	Max. Length in Miles.	Max. Width in Miles.	Approx. Area in Sq. Miles.	Height of Surface above Sea Level in Feet.	Max. Depth in Feet.	Height of Bottom above Sea Level in Feet.
Gold.....	4	2	.....	6,904	90	6,814
Truckee.....	2	1	.....	65	180	.....
Eureka.....	2	1	.....	5,964	.....	.....
Meadow.....	2	1	.....	5,006	.....	.....
Donner.....	2½	1½	.....	6,247	1,645	4,602
Washoe.....	3½	2½	.....	.....	.....	.....
Tahoe.....	21½	12	192	6,247	1,645	4,602
Tenaya.....	1	½	.....	.....	.....	.....

These Alpine lakes, with their clear, fresh, snow-fed waters, surrounded by lofty snow-clad peaks, whose slopes are covered with magnificent groves of pine and fir, constitute the most attractive feature in the lesser summit valleys of the Sierra Nevada. The charmingly picturesque character which they impart to the wild and rugged scenery of these mountains has not been overlooked by tourists, poets and artists. But the inaccessibility of most of these "emerald gems" has prevented them from receiving that notice which their exquisite beauties deserve. As civilization penetrates into these mountain retreats, they will become more accessible, and consequently better appreciated by cultivated visitors. The most extensive, as well as the most celebrated, of these bodies of fresh water is Lake Tahoe. This lake deserves more extended notice:

Lake Bigler, or Lake Tahoe.

Situation.—Lake Tahoe, otherwise called Lake Bigler, the largest and most remarkable of the mountain lakes of the Sierra Nevada, occupies an elevated valley at a point where this mountain system divides into two ranges. It is, as it were, engulfed between two lofty and nearly parallel ridges, one lying to the east and the other to the west. As the crest of the principal range of the Sierra runs near the western margin of this lake, this valley is thrown on the eastern slope of this great mountain system. The boundary line between the States of California and Nevada makes an angle of about 131° in this lake, near its southern extremity, precisely at the intersection of the 39th parallel of north latitude with the 120th meridian west from Greenwich. Inasmuch as north of this angle this boundary line follows the 120th meridian, which traverses the lake longitudinally from two to four miles from its eastern shore-line, it follows that more than two-thirds of its area falls within the jurisdiction of California, the remaining third being within the boundary of Nevada. It is only within a comparatively recent period that the geographical co-ordinates of this lake have been accurately determined.

Dimensions.—The greatest dimension of this lake deviates but slightly from a meridian line. Its maximum length is about 21½ miles, and its greatest width is about 12 miles. In consequence of the irregularity of its outline, it is difficult to estimate its exact area; but it cannot deviate much from 192 to 195 square miles.

Altitude.—The railroad surveys indicate that the elevation of the surface of its waters above the level of the ocean is about 6,247 ft.

Drainage Basin.—Its drainage basin, including in this its own area, is estimated to be about 500 square miles. Probably more than 100 affluents of various capacities—deriving their waters from the smothered snow-clad mountains which rise on all sides from 3,000 to 4,000 ft. above its surface—contribute their quota to supply this lake. The largest of these affluents is the Upper Truckee river, which falls into its southern extremity.

Outlet.—The only outlet to the lake is the Truckee river, which carries the surplus waters from a point on its northwestern shore out

through a magnificent gorge; thence northeast through the arid plains of Nevada into Pyramid lake. This river, in its tortuous course, runs a distance of over 100 miles, and for about 70 miles (from Truckee to Wadsworth) the Central Pacific railroad follows its windings. According to the railroad surveys this river makes the following descents:

	Distance	Fall.	Fall per Mile.
Tahoe to Truckee.....	14 miles	428 ft.	30½ ft.
Truckee to Reno.....	34 "	1322 "	39 "
Reno to Wadsworth.....	35 "	420 "	12 "
Wadsworth to Pyramid lake.....	18 "	187 "	10 "
Tahoe to Pyramid lake.....	101 "	2357 "	23½ "

Discovery.—There is little doubt but that this is the lake of which the Indians informed John C. Fremont on the 15th of January, 1844, when he was encamped near the southern extremity of Pyramid lake, at the mouth of Salmon, Trout or Truckee rivers, for, he says, "they (the Indians) made on the ground a drawing of the river which they represented as issuing from another lake in the mountains, three or four days distant, in a direction little west of south, beyond which they drew a mountain, and further still two rivers, on one of which they told us that people like ourselves traveled." (Vide. Report of exploring expedition to Oregon and north California in years 1843-4. Doc. No. 166, p. 219). Afterwards, when crossing the Sierra Nevada near Carson pass, Fremont seems to have caught a glimpse of this lake, but deceived by the great height of the mountains on the east, he erroneously laid it down on the western slope of this great range, at the head of the south fork of the American river. It is evident, therefore, that the Indians had at that time a more accurate idea of the mountain topography than the exploring party. On Fremont's map the lake is laid down tolerably correctly as to latitude, but is misplaced towards the west about one-fourth of a degree in longitude, thus throwing it on the western slope of the Sierra Nevada and making the head branches of the American river its outlets.

Name of Lake.

Few natural features of our country have enjoyed a greater diversity of appellations than this remarkable body of water. On Fremont's map this lake is called Mountain lake, but on the general map of the explorations, by Charles Preuss, it is named Lake Bonpland, in honor of Humboldt's companion. Under one of these names it appears, in its dislocated position, on all the maps published between 1844 and 1853.

About the year 1850, after California began to be settled in its mountain districts, several "Indian expeditions" were organized by the military authorities of the State. It seems probable that this lake was first named Bigler by one of these "parties of discovery" (probably in 1851) from "Hlangtown" (now Placerville), in honor of Gov. John Bigler. Under the name of Lake Bigler it was first delineated in its trans-mountain position on the official map of the State of California, compiled by Surveyor-General Wm. M. Eddy, and published in 1853; and thus the name became for a time established. From 1851 to 1863 this name seems to have been generally recognized, for it is so designated on the maps and charts of the United States prepared at Washington. About the year 1862 the first mutterings of discontent in relation to the name by which this lake had been recently characterized came from the citizens of California. On two occasions it has been brought under the notice of the Legislature of this State. During the 13th session (1862) of the Legislature of California, Assemblyman Benton introduced a bill to change the name of "Lake Bigler." The bill was rejected. The friends of Gov. Bigler did not hesitate to ascribe the desire to change the name of this lake to the inspiration of partisan animosity intensified among the political opponents of the Ex-Governor by the state of feelings engendered during the progress of the civil war.

During the session of the Legislature of California for 1869-70, an act was passed to legalize the name of "Lake Bigler" (Vide "Statutes of California," 1869-70, p. 64.) Notwithstanding this statutory enactment, for the past ten years there has been a very strong tendency in the popular mind to call this lake by the name of Tahoe.

On the map of California and Nevada published in 1874 it is still put down as Lake Bigler, but on the map of the same two States published in 1876 it has the double designation of Lake Bigler or Tahoe lake. At the present time this beautiful body of water seems to have entirely lost its gubernatorial appellation, for it is now almost universally designated Lake Tahoe. It is so named on the "Centennial map of the United States," compiled at the "General Land Office," at Washington, and likewise on the "map of California" contained in the ninth edition of the "Encyclopedia Britannica, Article California." Moreover, it is designated Lake Tahoe in the reports and maps of the Board of Commissioners of Irrigation, published in 1874, as well as in those of the "Water Supply of San Francisco," published in 1877. The cause of this change of name can hardly be sought exclusively in the waning popularity of the worthy Ex-Governor, but rather in the following considerations: 1st. In the strong tendency of the American people to retain the old Indian names whenever they can be ascertained; 2d, in the instinctive aversion in the popular mind to the perpetuation of names of political aspirants, by attaching them to conspicuous natural features of our country; and 3d, in the fact that the

State of Nevada designated its portion of said lake by the Indian name.

Meaning of Tahoe.

The meaning of the word Tahoe is by no means certain. It is usually said to be a Washoe Indian word, meaning "Big Water;" according to others, "Elevated Water;" others, "Deep Water;" and others, "Fish Lake." Whatever may be the meaning of this name, there can be no question but that the Washoe Indians designated this remarkable body of water by some characteristic name long before the earliest pioneers of civilization penetrated into its secluded mountain recess.

Physical Studies of Lake Tahoe.

During the summer of 1873, the writer embraced the opportunity afforded by a six weeks sojourn on the shores of this lake, to undertake some physical studies in relation to this largest of the "gems of the Sierra." Furnished with a good sounding-line and a self registering thermometer, he was enabled to secure some interesting and trustworthy physical results in regard to this beautiful lake.

(1) **Depth.**—It is well known that considerable diversity of opinion has prevailed in relation to the actual depth of this lake. Sensational news-mongers have unhesitatingly asserted that in some portions, it is absolutely fathomless. It is needless to say that actual soundings served to dispel or rectify this popular impression. The soundings indicate that there is a deep subsqueous channel traversing the whole lake in its greatest dimensions, or south and north.

Beginning at the south end, near the "Lake House" and advancing along the long axis of the lake directly north towards the "Hot Springs" at the northern end, a distance of about 18 miles, we have the following depths:

Station.	Depth in Feet.	Depth in Meters.
1	900	274.32
2	1,385	422.14
3	1,495	455.67
4	1,500	457.19
5	1,506	459.02
6	1,540	469.38
7	1,504	458.41
8	1,600	487.67
9	1,640	499.86
10	1,645	501.39

These figures show that this lake exceeds in depth the deepest of the Swiss lakes, (the lake of Geneva,) which has a maximum depth of 334 meters.

On the Italian side of the Alps, however, lakes Maggiore and Como, are said to have depths respectively of 796.43 and 586.73 meters: These two lakes are so little elevated above the sea that their bottoms are depressed 587 and 374 meters below the level of the Mediterranean.

Systematic soundings such as would be required to furnish contour sections of the bed of the lake along various lines could not be executed in row-boat excursions. The time of the small steamers which navigated the lake could not be controlled for such purely scientific purposes. Operations in small boats could be carried on only during calm weather and it required from 30 to 40 minutes to execute a single sounding of 1,500 ft.

Dust Showers.

M. Daubree has given an account of the dust showers that were observed from the 21st to the 25th of April, 1880, in the departments in the Lower Alps, Isere and Ain. Heavy dark clouds, resembling a dense yellowish mist, traversed the valleys during the day, depositing a reddish dust with a little water. The neighboring mountains were covered with snow, which assumed a rusty hue to the height of about three kilometers (1,864 miles), and above that height it remained white. The snow, upon melting, left a deposit of a yellowish brown color, a little redder than limonite dust and almost impalpable. When heated in a tube it blackened, with a disengagement of water and some organic matters of a strong odor. With dilute chlorhydric acid it effervesced strongly, showing a considerable proportion of carbonate of lime. Boiling chlorhydric acid destroyed the yellow color and left a residuum which was fusible under the blowpipe into a white globule. This residuum contained numerous flakes of white and colored mica, together with some particles which appeared to be feldspar. None of the particles were attracted by the magnet, so that the dust was not probably cosmic, but it resembles in its structure the sand of Sahara. F. de Jussieu reports a similar shower at Antun, on the 15th of April, in which there were traces of iron and perhaps also of lead. A shower occurred in Sicily on the 10th of April, which is said to have deposited considerable quantities of metallic iron covered with a thin layer of oxide. Prof. Orazio Silvestri, of the Meteorological Institute in Catania, gives an account of a shower during the night of March 29th-30th, in which the dust contained particles of iron, small infusoria and organic molecules. Some of the particles were spherical, as if they had been melted.—*Comptes Rendus, Fortsch. d. Zeit.*

EARTHEN FILTERING PLATES.—G. W. Reye & Sons, of Hamburg, make filtering plates from a mixture of one part of gypsum with three parts of imperial earth in water. They can be purified after using by washing or burning. When impregnated with carbolic acid they also become useful as disinfectants.

THE DESTRUCTION OF GAME FOOD.—So long as America continued in the occupation of the aborigines, the order of nature was apparently but little disturbed. The buffalo and deer, the wild fowl and turkeys, furnished abundant food to the savages without serious encroachment upon the fertility of nature. In savage life there appears to be no wanton or unnecessary destruction of the natural means of support. It was reserved for the civilized white man to carry on wanton against the bounty of nature, and to kill and destroy, without thought or study of those imperative laws under which nature holds in trust, the food supply of man. From the first settlement of the country, the process of eradicating and annihilating the useful animals, birds and fishes natural to the country has been carried on with an energy and success, but too characteristic of the Saxon race. Large tracts of land have been entirely depopulated of their animals and useful birds. The buffalo on his native plains has become an object of rare curiosity. Deer are limited to the remoter mountain ranges or extensive tracts of barren woods. The wild fowl which swarmed in New England during the first settlement of the country, and for a long time afterwards, have almost disappeared. The last wild turkey was killed in Massachusetts nearly half a century ago. There is probably no sportsman living who has killed a grouse on Martha's Vineyard, the last refuge in the northeast of that most valuable bird. Plover still migrate, though in diminished numbers, from their breeding places in the far North to their winter homes in the South, but they carefully avoid the northeastern coasts. No one in this generation has seen a wild swan alighting on the waters of Massachusetts. They once abounded there. Even the wild geese find no resting place there, but are expelled as if they were tramps and vagabonds.—*International Review.*

TOBACCO SMOKE PRODUCTS.—MM. Le Bon and Noel presented, the other day, in the French Academy, three flasks containing the following products extracted from tobacco smoke: 1, Prussic acid; 2, an alkaloid of agreeable odor, but dangerous to breathe and as poisonous as nicotine; 3, aromatic principles still undetermined, but contributing, with the alkaloid mentioned, to give tobacco smoke its perfume. The alkaloid in question is thought to be identical with a compound—collidine—the existence of which has been observed in distillation of various organic substances, but whose physiological and toxic properties have been overlooked.

AERIAL PHOTOGRAPHS.—By placing a camera in an aperture in the bottom of the car of a balloon very successful negatives have been recently obtained in Paris of the landscape below.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

SHEEP AND GOATS.

J. B. HOYT, P. O. Address, Birds Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams, \$30 and \$40 each. Ewes, \$40 per head. Also cross-bred Rams from Choice Merino Dam and Shropshire Sire; price, \$20 and \$25 each. Also 2 Shropshire and 2 Merino Rams for sale.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

Mining & Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice, free.

Address,

DEWEY & CO.,

202 Sansome St., N. E. Cor. Pine, San Francisco.

CRANCERS' BANK Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000, In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

SEND FOR THE \$1.50 Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address BOERICKE & TAFEL, Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—218 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses, Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$66, \$84, \$103, to \$500 and upward. Also for easy payments, \$5 a month or \$6.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHBRED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

FOR SALE.

THOROUGHBRED

POLAND CHINA SWINE

Of all ages, from 6 weeks to 3 years of age.

Being desirous of closing out my stock of SWINE, I will sell for the next 10 days Choice Breeding Stock of any age desired, at low figures. Also a few trios of

Black Cochon Chickens,

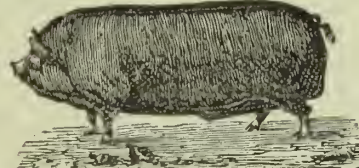
Three to four months old at \$5 per Trio.

T. C. STARR,

San Bernardino, Cal.

August 9, 1880.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in

Sheep

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

300 Choice Rams

FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE, Stockton, Ca'.

B.K. BLISS & SONS' HAND BOOK. A COMPLETE GUIDE FOR THE GARDEN & FARM SEEDS, PLANTS, BULBS, SMALL FRUITS GARDEN REQUISITES. 300 ILLUSTRATIONS 150 PAGES. PRICE 10 CTS. 34 BARCLAY ST. NEW YORK.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apia, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Lands for Sale and to Let.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T 25 and 26 N, R 6 W, M D M; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 26th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

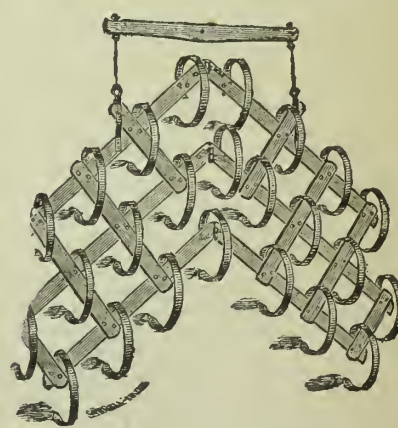
McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE, Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

VICTORY



THE CALIFORNIA Spring Tooth Harrow AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING to PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO., 900 & 902 K St., Sacramento.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents STEVENS BROS., Northford, Conn.

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

Color-Blindness.

The knowledge of color-blindness has become developed to the extent that it enters into the practical business of life; for in one State (Connecticut), at least, it governs the retention and choice of the men employed on the railroads. Lately, William Pole, an English amateur in science, and himself a victim of color-blindness, has written a paper on the subject, which embraces all that is known about it. He shows just what the color-blind see. The affection is confined almost exclusively to men, although instances of it have been known in women. It is estimated that about 1 in every 25 men is defective in color perception. The peculiarity is assumed to be hereditary and of great antiquity, although it is only within a century that it has been definitely described.

A poor English shoemaker, named Harris, was the first to notice the defect in himself and to suspect its existence in others. His case was the subject of a paper read before the Royal Society in 1787. It was reserved, however, for the distinguished English chemist, John Dalton—author of the "New System of Chemical Philosophy," in the first volume of which he explained his atomic theory—to elaborate and generalize the facts of color-blindness. Dalton was nearly 30 years of age before he noticed his defective vision, for one day while comparing his impression of the color of a flower with that of his friends, he became convinced of his visual peculiarity, and was led into its investigation. The result was the first distinct setting forth of the difference between the color-blind and people of normal sight. Sir John Herschel, who became interested in Dalton's case, set him to matching various tinted skeins of silk, the result of which clearly revealed that the color-blind was lacking.

Mr. Pole was also, like Dalton, about 30 years old before he was conscious of his defective vision, and his investigations show that color-blindness presents similar general characteristics in all its subjects. He says that, "strictly speaking, Daltonism (the name sometimes given to color-blindness) has only two color impressions—yellow and blue; yet the sensations of one color-blind give him, 1, pure white; 2, pure black; 3, infinite varieties of gray; 4, yellow in a great variety of intensities; 5, combinations of these with the varieties of gray; 6, blue in a variety of intensities; and 7, combinations of these with the varieties of gray." Such color sensations as red, green, orange, violet and all their combinations are unknown to the color-blind. Still, these colors make upon him distinct impressions. Red, for instance, appears dark yellow or yellow brown; pink or crimson seems simply gray or a dark blue. Green is more perplexing: yellow greens, such as predominate in nature, appear as a combination of gray and yellow; neutral greens, varieties of gray; and blue greens, combinations of blue and gray. Violet appears a dark or shaded blue, and brown a mingling of yellow or gray. Mr. Pole is convinced that genuine color-blindness is past remedy. It is a constitutional defect, and is generally hereditary. There are still conflicting theories respecting this visual defect, and it is an open subject of investigation.

Considering the disadvantages of the color-blind in following many pursuits, Mr. Pole says it is remarkable how well they have got along. Dalton became famous in chemistry, a science in which color is one of the important elements of observation; and Mr. Pole himself succeeded as a draftsman and colorist of drawings. His remarks on color-blindness in those employed on railroads are highly interesting. He says:

"Most people know that red and green lamps are used at railway junctions, the former to stop a train, the latter to allow it to pass on; and at sea the use of red and green lights on the two sides of a vessel indicates to other ships the way she is going, in order to avoid collisions. Now, as one of the most common symptoms of color-blindness is the confounding, under certain circumstances, of red with green, it is taken for granted that a color-blind engine-driver or helmsman must be unable to distinguish between the contradictory signals, and frightful pictures are drawn of the danger that the public are constantly incurring. But what says the inexorable logic of facts? In this country we have not only had a tolerable experience of the working of railways for half a century, but we have gathered a mass of information about railway accidents which is unknown elsewhere. Every casualty that occurs in the three kingdoms is carefully inquired into by a government board, and a report is published as to its causes; and yet, so far as I know, never, in a single instance, since railways have been in use, has an accident been traced to the mistaking of a red for a green night signal. And when we consider that, according to the statistics, about one in every 25 engine-drivers must have been color-blind, it follows that, if the notions of the alarmists had been true, numbers of collisions would have occurred every day—in fact, that the traffic of the country could not have gone on. The truth is, the agitation has arisen from the difficulty the normal-eyed investigators have in understanding exactly what we, the color-blind, really see. We could tell them that although the red and green lights do not give us

the true red and green sensations, yet still they are strongly contrasted to us, and we are in no danger of mistaking one for the other. On the whole, then, I think the alarm on this subject is unnecessarily magnified; but at the same time I do not deny a possibility of danger under certain circumstances, and I would by no means discourage reasonable precautions in the selection of men."

THE LAW OF ENTAIL.—Much apprehension exists in this country as to the present powers of entail in England. There is no such thing as a law of primogeniture, except in so far that if a man die intestate his real estate would pass to his eldest son, except in Kent, where it would be divided among all his sons. Up to the close of the last century, the power of entail was illimitable. It was curtailed in consequence of the extraordinary will made by a merchant named Thellusson, of Swiss origin, who accumulated a vast fortune in London, partly by buying up jewels from French emigrants at the time of the great revolution. Mr. Thellusson intended his money to accumulate until it would have reached about \$700,000,000. The government deeming it undesirable that any subject should possess wealth so colossal, introduced a bill limiting entail to living persons and 21 years afterward. This is not much greater than the power of entail in New York, and almost identical with that in Massachusetts. Many estates in and around New York—the Lefferts, Rhinelanders, for example, are entailed. In England hundreds of great properties are completely unentailed, and it is purely the custom, not the law, of the country which will cause them to be transmitted to the eldest son. Men who are very liberal in politics favor the custom, because they think it keeps up the position of a family, and that were an estate divided up in the next generation none would be better for such division. It is not generally understood here that the law in England permits a man to leave his property precisely as he pleases, and that a duke can leave all to his footman. The great estates, for instance, of the duke of Hamilton, premier duke of Scotland, were, up to the time of his marriage, absolutely unentailed. This came out in some law proceedings. —*Springfield Republican.*

A CURIOUS INCIDENT.—Mrs. Cannon, wife of Mr. Will Cannon, of Robinsonville, Tex., was on her way home from church on horseback, one evening lately, when she felt something stuck her in the face, and supposing it to be a limb of a tree, threw up her hand to ward it off. While undressing for bed after her arrival home, she was horrified to find a rattlesnake in the sleeve of her dress. The reptile dropped out on the floor and was killed. The lady had not previously felt much inconvenience from the slight abrasion on her face, but it now commenced swelling, and became so painful that a physician was called in to attend her. It is supposed the snake had taken refuge in the tree, and that it hit her and transferred itself to her sleeve as she rode under it.

REMARKABLE LACE WORK.—One of the chief lace-makers of Brussels is at work upon the veil and train which are to be worn by the Princess Stephanie, the daughter of the King of Belgium, upon her marriage to the prince imperial of Austria. Three hundred women have already been four months employed upon this veil and train, which will be more than three yards wide by five yards long. The lace is point d'aiguille, with the arms of Belgium and Austria on the border, and will be a wedding gift from the city of Brussels to the bride.

CONGRESSIONAL LIBRARY.—The disposition of the Congressional library, the contents of which have grown enormously, is the subject of serious consideration at Washington. It is estimated that within 50 years a building will be required as large as the Capitol itself to hold the books, and plans are being drawn already for such a building, which, for architectural reasons, must be erected so far from the present site as to be at an inconvenient distance.

EXHUMING A MONSTER.—A dispatch from Chicago, Aug. 24th, says that while some laborers were excavating for a sewer in the north-western part of the city they came upon the remains of a mastodon at the depth of 18 ft. below the surface. Among the pieces already secured are a section of the tusk, 4 inches in diameter at one end and 6 inches at the other, and a tooth weighing 6 lbs.

NEWSPAPER POSTAGE.—The information comes from Washington that on and after Oct. 1st, the postage charge on newspapers addressed to countries or colonies included in the universal postal union will be the same as on printed matter generally for the same destinations, viz., one cent for each two ounces or each fraction of two ounces.

In the beautiful Church of St. Mary, at Bury St. Edmunds, England, is an altar-tomb surmounted by a recumbent figure of a starved man, the details of which are well executed and ghastly enough. It was erected to the memory of John Baret, who died of starvation in 1463 while attempting to fast 40 days and 40 nights.

The electric light burns brightly under water. During the past year the German army used it successfully for submarine operations.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

KNOB ATTACHMENT.—Silas Harris, 7 Liberty street, San Francisco. Patented August 17, 1880. No. 231,223. The object of this invention is to provide a means of securing door-knobs to ordinary locks, so that they will not be loosened by any ordinary strain. It consists in making a separate threaded spindle for each knob, these spindles being screwed into the internally threaded socket of the lock from opposite sides of the door. The end of one spindle is recessed and split, so that when the pointed end of the other enters this recess the split spindle is spread open and holds the spindles immovable in the socket, and the pressure of the two spindles, one against the other, jams the threads against those at the socket, so that each answers as a jam-nut for the other, locking them in the socket.

POTATO DIGGER.—Joseph L. Roderick, Petaluma, Sonoma Co., Cal. Patented Aug. 10, 1880. No. 231,101. This apparatus will dig the potatoes from the ground, size or sort them, and sack them, all at one operation, throwing back the dust and dirt and separating the weeds. The improvements consist in providing a rotating wheel with diggers or hooks, which take the potatoes from the ground and elevate them to an inclosed double screen, where they are automatically sorted, the small potatoes going into one receptacle and the larger ones into another, the dirt and lumps being separated by the peculiar construction of the wheel.

HAND-MIRROR HOLDER.—Myron S. Webb and Robert L. Myrick, Stockton, Cal. Patented August 10, 1880. No. 231,126. This invention relates to a novel extension-arm for holding a hand glass, in conjunction with a clamp, by which the same may be supported and adjusted with reference to a mirror frame so that the hand glass may be held in any desired position with reference to the mirror for the purpose of the toilet.

PAPER BAG.—Fred. W. Kroeber, Idaho City, Idaho. Patented August 10, 1880. No. 251,026. This invention consists in attaching permanently to one side of the edge or mouth of said bag, by means of a lap of the material when it is made, a piece of twine with loose extended ends, this twine serving to secure the package when the bag is filled. Each size of bag has just enough twine attached to it to tie up when filled to its utmost capacity.

FARMS FOR SALE.—We call attention to the announcement of two farms for sale by C. T. Hopkins of 318 California street, San Francisco. One of these properties is located in Alameda county, the other in Los Angeles county. The standing of the advertiser is such that we can freely commend his announcements as worthy of attention by those who are on the lookout for agricultural property.

"THE PACIFIC RURAL PRESS—pre-eminently the farmer's paper of the State."—*Lompoc Record.*

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

Nothing short of Unmistakable Benefits Conferred upon tens of thousands of sufferers could originate and maintain the reputation which AYER'S SARSAPARILLA enjoys. It is a compound of the best vegetable alteratives, with the Iodides of Potassium and Iron, and is the most effectual of all remedies for scrofulous, mercurial or blood disorders. Uniformly successful and certain in its remedial effects, it produces rapid and complete cures of Scrofula, Sores, Bolls, Humors, Pimples, Eruptions, Skin Diseases and all disorders arising from impurity of the blood. By its invigorating effects it always relieves and often cures Liver Complaints, Female Weaknesses and Irregularities, and is a potent renewer of vitality. For purifying the blood it has no equal. It tones up the system, restores and preserves the health, and imparts vigor and energy. For forty years it has been in extensive use, and is to-day the most available medicine for the suffering sick anywhere.

FOR SALE BY ALL DEALERS.

FRESH attractions are constantly added to Woodward's Gardens, among which is Prof. Gruber's great educator, the Zoographicon. Each department increases daily, and the Pavilion performances are more popular than ever. All new novelties find a place at this wonderful resort. Prices remain as usual.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

PAY IN ADVANCE and get the RURAL PRESS for \$3 a year

Of Interest to Subscribers to the "Rural Press."

The publishers of the PACIFIC RURAL PRESS are desirous that all subscribers should avail themselves of our reduced rates for cash-in-advance subscriptions. We therefore urge all who have not paid in advance to settle up arrears as to date at the old rates, and then subscribe for 12, or as many months as practicable, in advance at the rate of \$3 per year. We cannot afford to issue a journal, which costs us so much outlay and effort, at \$3 per year, on trust. We presume all can see the reasons why we prefer a payment in advance, although, under existing circumstances, it does not seem for the best of all concerned that we should be arbitrary in the matter.

We aim to make the RURAL PRESS of a great deal higher value to our readers than the amount of money it costs them. The investment of \$3 from each subscriber very little more than covers the actual expense of maintaining his share of the co-operative enterprise into which we enter with our subscribers. Beyond this there is a value returned to each reader, and to the community at large, in the shape of salutary food for mind and heart. We hold it to be much more important to the general good that the reader should secure, for himself and his family, reading matter charged with incentives toward purity of thought and life than he should get the greatest amount of reading for the least money, without regard to the influences which such literature exerts. Our readers can judge how well we succeed in furnishing them a journal of pure tone, devoid of evil and struggling for the right. We trust our readers will perceive this disposition on our part and not place us upon the same plane with publishers who do not hesitate to send forward that class of matter which pays best, because it caters to evil propensities and satisfies longings which should be repressed. We feel that we have a duty to discharge in the interest of the better progress of our readers and of the community at large. Hence we place our standard high and refuse to participate in the rewards of those who serve lower aims and purposes.

We may repeat plainly, that there may be no misunderstanding, that every subscriber in arrears is invited to pay up to date at our old price of \$4 per year, and from date forward at the rate of \$3 per year. We may remark also, that we have never advertised the paper at reduced rates, in clubs or otherwise, except it be paid cash in advance.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVES, Propr.

J. G. COLMBERNI is requested to report to this office from Humboldt Co.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$3.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Sept. 1, 1880.

The markets are still dull and there is little done except discussion of the possibilities. The downward tendency abroad discourages shippers from any investment, especially as freights are about \$1 higher per ton than at this time last year. Meantime the grain is going into the warehouses, or is still lying in piles in the fields.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice
	Cal. Wheat.
Thursday.....	9s 5d to 9s 10d
Friday.....	9s 5d to 9s 10d
Saturday.....	9s 5d to 9s 10d
Monday.....	9s 5d to 9s 10d
Tuesday.....	9s 4d to 9s 9d
Wednesday.....	9s 4d to 9s 9d

The Foreign Review.

LONDON, Aug. 31.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: Three weeks of fine weather has proved of the utmost value to all the Grain crops, and greatly forwarded harvest operations. The absence of bright sunshine, however, has made this work rather slow in all the later districts; while in the southern and southeastern districts, the bulk of it has been completed. Complaints continue of mildew in Wheat. Some early threshings are not very satisfactory. A quantity of new English Wheat has already been marketed in London and the country, and samples show a much better quality than last season. Prices ranged from 44s to 48s for White, and 43s to 45s for Red. The demand for foreign, although slightly improved by lighter shipments cabled from America, has been mostly inactive, and to-day's decline has not been recovered. It would be unwise to predict that prices have reached the lowest, as the period is approaching when imports at the close of the week are calculated rather to arrest the downward movement. Barley had a slow sale. Oats were fairly active. Maize was occasionally 3d higher. Sales of English Wheat for the week were 12,229 quarters, at 44s, against 17,760 quarters, at 43s, for the corresponding period last year. Imports into the Kingdom, for the week ending on Aug. 21st, were: Wheat, 1,797,066 cwt; Flour, 18,617 cwt.

Freights and Charters.

The following engagements are reported: *Challenger*, 1,450 tons, Wheat to Cork, 61s 6d; *Loch Fergus*, 546 tons, chartered prior to arrival at 61s 3d for Cork, is rechartered at 65s.

Eastern Wool Markets.

NEW YORK, Aug. 28.—Wool is very dull, and prices are uncertain, with a weak tone. The cable reports a steady

tone in London sales. Transactions include 15,000 lbs Spring California at 27¢33c.
 Boston, Aug. 28.—The Wool market is dull, with few buyers present, and the purchases have been mostly Fall lots. In some instances concessions were made, but the bulk of the Wool is still held at previous rates, although, with any disposition to force sales, lower prices would follow. Manufacturers are indifferent, and will not stock up with Wool until goods move more freely. All kinds of washed fleeces are very inactive, but there is a firm feeling for combed and delaine fleeces. California and Territory Wools are quiet, and in pulled Wools the movement is light. Transactions in foreign Wool are unimportant. Territory, 21¢30c; Georgia, 36c; unwashed and unmerchantable, 26¢37c; Spring California, 27¢38c; Fall California, 19c.

The London Wool Sales.

LONDON, Aug. 28.—At the Wool sales to-day, prices were firm and bidding spirited. Prices, except for cross-breeds, approximate closely to the closing rates of the last sales. The amount sold was 8,200 bales, chiefly New Zealand, Sydney and Cape.

LONDON, Aug. 31.—The Wool sales to-day were spirited, foreign buyers taking fair proportions. Prices were quite firm. Six thousand five hundred bales were sold, chiefly Sydney and New Zealand.

Eastern Grain and Provision Markets.

New York, Aug. 31.—The general markets are moderately active, while there is an absence of speculative influence. Breadstuffs are more active at a marked decline under the pressure of cash stock. Wheat declined 1¢13, the latter on Winter. Shippers bought more freely at the decline to fill old orders, but were not inclined to anticipate their wants. Pork is dull and neglected. Lard is in better demand and 10 higher. Small sales of California White Mustard Seed are being made at 5¢.

Chicago, Aug. 28.—Wheat has been weak without reason the past week, and Corn has declined under the influence of drenching rains, which have done much to counteract the effects of the long drouth in the fields. A double influence is wrought by the rains, and the tendency is to lower prices. The prospect of Corn is made better and the grass is encouraged to grow, so that there will be more grazing and less feeding of Corn this fall than has been anticipated. On the other hand, European advances are, on the whole, pretty firm, and there is a good, strong demand at present rates for all offerings. It seems likely that English buyers, learning wisdom from their experience of a year ago, intend to fill their bins while prices are fairly low, instead of waiting for a depression or panic that is not likely to come at all. Oats weakened in sympathy with Corn. Provisions remained quite firm, although the outside prices were not fully maintained. The corner on Pork was not relaxed, and the unfortunate who have sold short may be squeezed much harder yet. Hogs continue to arrive in unheard of quantities, but the prices are stiff and higher than for many years. It is a question whether the high price of Hogs strengthens the corner, or the corner strengthens Hogs. The packing for the year is nearly a million head larger than for the preceding year. The fluctuations of the October option were as follows: Wheat, 88¢02; Corn, 30¢42; Oats, 26¢28; Pork, 16¢20; Lard, 8¢77; 8¢42. The closing October prices were: Wheat, 88¢; Corn, 30¢39; Oats, 26¢; Pork, 16¢70; Lard, 8¢75; 8¢70. The closing cash prices were: Wheat, 86¢; Corn, 38¢; Oats, 26¢; Pork, 17¢; Lard, 8¢75.

August Wheat Exports.

Eleven vessels were loaded and cleared with Wheat, and one with flour, at this port during the past month. One of the ships went to Dublin, 2 to Cork, 4 to Queenstown and 5 to Liverpool. Three of these vessels were loaded by H. J. Glenn, 3 by Rodgers, Meyer & Co., 2 by Parrott & Co., and one by each of the following firms: Balfour, Guthrie & Co., G. W. McNear, Robert Sheehy and Starr & Co. The 11 vessels carried 365,435 cts of wheat valued at \$537,810. Only 3 cargoes were cleared in July, making 15 for the first 2 months of the harvest year, against 33 last year and 54 in 1878. There are now 20 vessels engaged to follow.

BAGS—The price is unchanged, and the market is weak. The combination held a meeting during the week, but nothing has been heard of them.

BARLEY—Prices are unchanged. We note sales: 600 cts fair Chevalier, \$1.35; 400 cts choice Feed, 80c; and 800 and 600 cts fair do, 77¢.

BEANS—Nothing new; the low range long established still continues in force.

BUCKWHEAT—There is some new Buckwheat arriving, and this breaks the rate, being sold at 2¢ 3/4 cts.

CORN—There has been rather more activity, but the sales have not covered much Corn. Prices are about 6c lower. We note sales: 1,000 cts Large White, \$1.05 at 1.10; 175 cts do, \$1.07; 100 cts Small Round Yellow, \$1.06; 800 cts do, \$1.05; and 500 cts Large do at \$1.01 3/4 cts.

DAIRY PRODUCE—Prices are just about the same as last week, but there is rather more stock now visible, and the talk is a little off. The best Cheese now rules at 14c, but occasionally a sale is made at 15c.

EGGS—Strictly choice fresh California sometimes bring 22¢, but ordinary fresh sell at 30c. Some store Eggs called fresh go at 20¢30c.

FEED—There is no change in Ground Feed, except that Corn Meal is sometimes sold at \$25.50 per ton, a reduction of 50c from the old rate. Hay is a shade lower, \$13 3/4 per ton being the outside rate for choice Wheat.

FRESH MEAT—Fresh Beef and Lamb are reduced about 4c per lb.

FRUIT—There is but very little change, except in the gradual cheapening of Grapes and the elevation of Peaches. There is a fair quantity of Fruit coming in, and it sells rapidly.

LIVE STOCK—We note sales: 2,400 Wethers, in Sonoma county, \$2.22 1/2 each; 5,000 do, in Fresno, at \$2.25; 3,000 do, in Salinas, at \$2.25 each; 500 Lambs, in Fresno, at \$1.50 each; 500 Lambs, Salinas, \$1.25; 500 Cattle, southern California, \$22.50 per head; 8 carloads large Calves, \$10 each; 4,000 Hogs at 4¢35c.

OATS—Oats are dull and quiet.

ONIONS—Reds are a little lower; Silverskins are unchanged.

POTATOES—Potatoes have shaded off again about 10c per cts.

PROVISIONS—California Smoked Beef is reduced 1c per lb. Other meats are unchanged.

POULTRY AND GAME—Unchanged.

VEGETABLES—A few changes will be noticed in our price list.

WHEAT—The market is weak on most grades, although the millers are paying a little more for strictly choice Milling lots. We note sales: 500 cts gilt-edged Milling, \$1.50; 600 cts do, 1.47; 1,000 and 200 cts No. 2, \$1.37; 6,000 cts do, \$1.35; 100 tons fair Shipping, \$1.32; 700 and 220 cts superfine, \$1.25; 500 cts do, \$1.17; and 700 and 570 cts off grade, \$1.15.

WOOL—The market is still dull and quotations to a great degree nominal. The price of Spring lots still remaining unsold are being shaved a little to meet buyers' views, but the sales are but few as yet.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Sept. 1, 1880.

BEANS & PEAS.	
Bayo, cts.	95 @ 05
Butter, ...	120 @ 25
Castor, ...	325 @ 50
Pea, ...	125 @ 35
Red, ...	95 @ 05
Flour, ...	105 @ 15
Small White, ...	5 @ 00
Lim, ...	10 @ 00
Field Peas, blk eye, ...	25 @ 50
do, green, ...	10 @ 25

BROOM CORN.	
Southern, ...	14 @ 2
Northern, ...	24 @ 3

CHICKORY.	
California, ...	4 @ 4
German, ...	64 @ 7

DAIRY PRODUCE, ETC.	
Butter, ...	27 1/2 @ 30
Cal. Fresh Roll, lb, ...	30 @ 31
Pickle Roll, ...	25 @ 27
Firkin, new, ...	24 @ 26
Western, ...	— @ —
New York, ...	— @ —

CHEESE.	
Cheese, Cal, lb., ...	13 @ 14
N. Y. State, ...	— @ —

CAL. FRESH DOZ.	
Ducks, ...	30 @ 32 1/2
Oregon, ...	25 @ 26
Eastern, by exprs., ...	19 @ 22
Pickled here, ...	— @ —
Utah, ...	25 @ 27

FEED.	
Brn, ton, ...	— @ 120
Corn Meal, ...	50 @ 25
Hay, ...	9 @ 13
Middlings, ...	— @ 17
Oil Cake Meal, ...	30 @ —
Straw, bale, ...	40 @ 50

FLOUR.	
Extra, City Mills, ...	50 @ 25
do, Country Mills, ...	45 @ 37 1/2
do, Oregon, ...	45 @ 75
do, Walla Walla, ...	25 @ 50
Superfine, ...	30 @ 75

FRESH MEAT.	
Beef, 1st quality, lb, ...	5 @ 5 1/2
Second, ...	5 @ 6
Third, ...	4 @ 6 1/2
Mutton, ...	3 1/2 @ 4
Spring Lamb, ...	4 @ 4 1/2
Pork, undressed, ...	4 1/2 @ 4
Dressed, ...	7 @ 7 1/2
Veal, ...	6 @ 7
Milk Calves, ...	6 1/2 @ 6 1/2

GRAIN.	
Barley, feed, cts, ...	75 @ 85
do, Brewing, ...	85 @ 95
Chevalier, ...	135 @ 150
do, Coast, ...	100 @ 25
Buckwheat, ...	— @ 00
Corn, White, ...	05 @ 10
Yellow, ...	05 @ 10
Small Round, ...	05 @ 10
Oats, ...	20 @ 50
Milling, ...	55 @ 60
Rye, ...	25 @ 35
Wheat, No. 1, ...	40 @ 45
do, No. 2, ...	32 1/2 @ 35
do, No. 3, ...	10 @ 25
Choice Milling, ...	45 @ 50

HOPS.	
Hops, dry, ...	18 1/2 @ 19
Wet, ...	10 @ 10 1/2

HONEY, ETC.	
Beech, lb, ...	22 1/2 @ 25
Honey in comb, ...	12 @ 13
do, No. 2, ...	— @ —
Dark, ...	— @ —
Extracted, ...	7 @ 7 1/2

HOFS.	
Oregon, ...	— @ —
California, new, ...	18 @ 22 1/2
Wash. Ter., ...	— @ —
Old Hops, ...	6 @ 10

NITS—Jobbing.	
Walrus, Cal., ...	15 @ 15
do, Chile, ...	8 @ 10
Almonds, db sbl, lb, ...	3 @ 10
Soft sh., ...	18 @ 18
Brazil, ...	14 @ 15
Pecans, ...	16 @ 17
Peanuts, ...	8 @ 9

ONIONS.	
Red, ...	60 @ 65
Silver Skin, ...	57 1/2 @ 60

POTATOES.	
Petaluma, cts., ...	— @ —
Tomato, ...	— @ —
Humboldt, ...	— @ —
" Kidney, ...	— @ —
" Peachblow, ...	— @ —
Cuffey Cove, ...	— @ —
Early Rose, new, ...	40 @ 50
Half M'n Bay, new, ...	— @ 40
Alvarado, red, ...	— @ 60
Sweet, ...	12 @ 25

POULTRY & GAME.	
Hens, doz., ...	5 50 @ 7 00
Roosters, ...	5 50 @ 7 00
Broilers, ...	3 50 @ 4 50
Ducks, tame, doz., ...	4 00 @ 5 00
Mallard, ...	— @ —
Spring, ...	— @ —
Wildgeon, ...	— @ 00
Geese, pair, ...	2 00 @ 2 25
Wild Gray, doz., ...	— @ —
White do, ...	— @ —
Turkeys, ...	16 @ 18
do, Dressed, ...	17 @ 18
Salmon, Eng., ...	— @ —
do, Common, ...	— @ —
Quail, doz., ...	— @ —
Rabbits, ...	1 00 @ 1 25
Hare, ...	1 75 @ 2 00
Venison, ...	7 @ 10

PROVISIONS.	
Clear Bacon, extra, ...	11 @ 11 1/2
do, Medium, ...	11 1/2 @ 12
Light, ...	12 @ 12 1/2
Lard, ...	10 @ 11 1/2
Cal. Smoked Beef, ...	11 1/2 @ 12
Shoulders, ...	8 @ 8 1/2
Hams, Cal., ...	— @ 12 1/2
Reliable, ...	15 1/2 @ 16 1/2
Whittaker, ...	— @ 16
Royal, ...	15 1/2 @ 16
Magnolia, ...	16 @ 16 1/2

SEEDS.	
Alfalfa, ...	10 @ 12
do, Chile, ...	4 @ 8
Canary, ...	5 @ 5
Glover, Red, ...	14 @ 15
White, ...	50 @ 55
Cotton, ...	— @ 20
Flaxseed, ...	24 @ 30
Hemp, ...	— @ 10
Italian Rye Grass, ...	30 @ —
Perennial, ...	30 @ —
Millet, German, ...	10 @ 12
do, Common, ...	7 @ 10
Mustard, White, ...	3 @ 5
Brown, ...	1 1/2 @ 2
Rape, ...	3 @ 8
Ky Blue Grass, ...	20 @ 25
2d quality, ...	16 @ 18
Sweet Grass, ...	20 @ 25
Orchard, ...	20 @ 25
Red Top, ...	— @ 15
Hungarian, ...	8 @ 10
Lawn, ...	30 @ 50
Mezquit, ...	10 @ 12
Timothy, ...	10 @ 12

TALLOW.	
Crude, lb., ...	5 1/2 @ 5 1/2
Refined, ...	7 1/2 @ 7 1/2

WOOL, ETC.	
Southern and San Joaquin, ...	— @ —
Long, free, ...	20 @ 22 1/2
Short, free, ...	18 @ 20
Seedy, ...	17 @ 18
Slightly burry, ...	18 @ 20
Northern, ...	17 @ 19

CHOICE, FREE.	
Choice, free, ...	28 @ 30
Burly, ...	24 @ 25
Oregon, Eastern, ...	23 @ 25
do fine, heavy, ...	18 @ 21
do Valley, ...	28 @ 30

FALL—Lamb's Wool.	
Southern, ...	13 @ 15
Northern, burly, ...	15 @ 16
do free, ...	18 @ 21
Fall, ordy, south-ern, ...	12 @ 14

LEATHER.	
[WHOLESALE.]	
WEDNESDAY M., Sept. 1, 1880.	

CARGO PRICES OF REDWOOD.	
Rough, M., ...	14 @ 15
Surface, ...	24 @ 00
Rustic, ...	24 @ 00
do, No. 2, ...	18 @ 00
Flooring, ...	24 @ 00
do, No. 2, ...	17 @ 00
Beaded Flooring, ...	25 @ 00
Refuse, ...	20 @ 00
Half-inch Siding, ...	20 @ 00
Refuse, ...	16 @ 00
Half-inch Surfaced, ...	24 @ 00
Refuse, ...	18 @ 00
Half-inch Battens, ...	16 @ 00
Picket, Rough, ...	11 @ 00
Rough, Pointed, ...	8 @ 00
Fancy, Pointed, ...	13 @ 00
Shingles, ...	1 @ 75

REDWOOD.	
Rough, M., ...	18 @ 00
Pickets, Rough, ...	15 @ 00
Pointed, ...	16 @ 00
Fancy, ...	22 @ 50
Siding, ...	20 @ 50
Surfaced & Long Beaded, ...	30 @ 00
Flooring, ...	25 @ 00
do, No. 2, ...	17 @ 00
Rustic, No. 1, ...	20 @ 00
do, No. 2, ...	18 @ 00
Refuse, ...	16 @ 00
Battens, lineal ft., ...	2 @ 00
Shingles, M., ...	1 @ 00
Rough, M., ...	18 @ 00
Pointed, ...	13 @ 00
Laths, ...	3 @ 50

RETAIL PRICE.	
Rough, M., ...	18 @ 00
Pickets, Rough, ...	15 @ 00
Pointed, ...	16 @ 00
Fancy, ...	22 @ 50
Siding, ...	20 @ 50
Surfaced & Long Beaded, ...	30 @ 00
Flooring, ...	25 @ 00
do, No. 2, ...	17 @ 00
Rustic, No. 1, ...	20 @ 00
do, No. 2, ...	18 @ 00
Refuse, ...	16 @ 00
Battens, lineal ft., ...	2 @ 00
Shingles, M., ...	1 @ 00
Rough, M., ...	18 @ 00
Pointed, ...	13 @ 00
Laths, ...	3 @ 50

PUGET SOUND PINE.	
Rough, M., ...	18 @ 00
Pointed, ...	13 @ 00
Laths, ...	3 @ 50

RETAIL PRICE.	
Rough, M., ...	18 @ 00
Pickets, Rough, ...	15 @ 00
Pointed, ...	16 @ 00
Fancy, ...	22 @ 50
Siding, ...	20 @ 50
Surfaced & Long Beaded, ...	30 @ 00
Flooring, ...	25 @ 00
do, No. 2, ...	17 @ 00
Rustic, No. 1, ...	20 @ 00
do, No. 2, ...	18 @ 00
Refuse, ...	16 @ 00
Battens, lineal ft., ...	2 @ 00
Shingles, M., ...	1 @ 00
Rough, M., ...	18 @ 00
Pointed, ...	13 @ 00
Laths, ...	3 @ 50

RETAIL PRICE.	
Rough, M., ...	18 @ 00
Pickets, Rough, ...	15 @ 00
Pointed, ...	16 @ 00
Fancy, ...	22 @ 50
Siding, ...	20 @ 50
Surfaced & Long Beaded, ...	30 @ 00
Flooring, ...	25 @ 00
do, No. 2, ...	17 @ 00
Rustic, No. 1, ...	20 @ 00
do, No. 2, ...	18 @ 00
Refuse, ...	16 @ 00
Battens, lineal ft., ...	2 @ 00
Shingles, M., ...	1 @ 00
Rough, M., ...	18 @ 00
Pointed, ...	13 @ 00
Laths, ...	3 @ 50

RETAIL PRICE.	
Rough, M., ...	18 @ 00
Pickets, Rough, ...	15 @ 00
Pointed, ...	16 @ 00
Fancy, ...	22 @ 50
Siding, ...	20 @ 50
Surfaced & Long Beaded, ...	30 @ 00
Flooring	

NEW MUSIC BOOKS!

CURIOSITIES OF MUSIC. A collection of facts not generally known, regarding the music of Ancient and Savage Nations. (\$1.00). By LOUIS C. ELSON.
Here is a Musical History in a most entertaining form, the salient and important facts being wrought into very readable stories of what happened in China, Japan, India, Egypt, Greece and Ancient Europe. There are also stories of the middle ages, and of the early days of Opera.

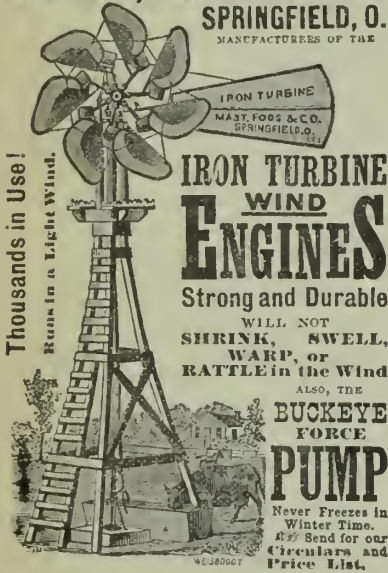
Examine Our Splendid New Books.

- For Schools:
Song Bells. L. O. Emerson.....\$.50
For High Schools:
Welcome Chorus. W. S. Tilden..... 1.00
For Sunday Schools:
White Robes. Abbey and Munger..... .30
For Temperance:
Temperance Jewels. Tenney & Hoffmann... .35
Temperance Light. Hugg & Servoss..... .12
For Singing Schools:
Voice of Worship. L. O. Emerson..... 1.00
Temple. W. O. Perkins..... 1.00
Johnson's Method. A. N. Johnson..... .60
For Reed Organs:
Parlor Organ Instruction Book. By A. N. Johnson..... 1.50
Sudds' National School. By W. F. Sudds.. 1.50
Any book mailed for retail price.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.
SPRINGFIELD, O.



Thousands in Use!
Runs in a Light Wind.
IRON TURBINE WIND ENGINES
Strong and Durable
WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind
Also, THE **BUCKEYE FORCE PUMP**
Never Freezes in Winter Time.
Send for our Circulars and Price List.

To D. E. GOLDSMITH,
General Agent for the Pacific Coast.
425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN
IMPROVED GALVANIZED IRON, PORTABLE COMBINED
FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speech of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

The Excelsior Animal Trap



Is Guaranteed to be the Best
GOPHER TRAP
Ever Invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D. for \$9 per doz. Address, G. W. JOLLY, Paraiso Springs, Cal. Pat. appld for

HOPE FOR THE DEAF
Garnore's Artificial Ear Drums

PERFECTLY RESTORE THE HEARING and perform the work of the Natural Drum. Always in position, but invisible to others. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address: **JOHN GARNORE & CO.**, 8 W. Corner 6th & Race Sts., Cincinnati, O.

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR**, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

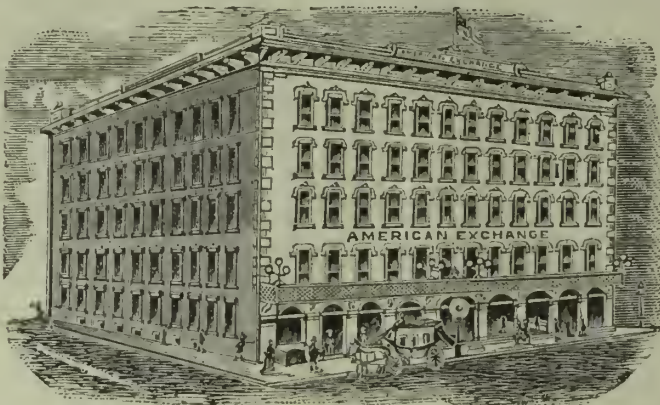
52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokchors, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

RECORD OF SUPERIORITY.

1878-AWARDED	1879-AWARDED
J. H. STROBRIDGE, First Premiums: Pen 5—Breeding Ewes.....\$22.50 Pen 5—Yearling Ewes..... 22.50 Pen 5—Ewe Lambs..... 22.50 Pen 3—Ram Lambs..... 22.50 Yearling Ram (1st and 2d)..... 22.50 Two-year-old Ram..... 22.50 Ram and five of his Lambs..... 30.00	J. H. STROBRIDGE, First Premiums: Pen 5—Breeding Ewes.....\$22.50 Pen 5—Yearling Ewes..... 22.50 Pen 5—Ewe Lambs..... 22.50 Two-year-old Ram..... 22.50 Yearling Ram..... 22.50 Ram and five Lambs..... 30.00 Pen of 3 Ram Lambs..... 22.50
Sweepstakes: For best Ram of any age or breed, and five of his Lambs..... 75.00	Sweepstakes: For best Ram and five of his Lambs, of any age or breed..... 75.00

THOROUGHBRED SPANISH MERINO SHEEP.
We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda Co., Cal. E. W. PEET, Agent.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GARGOY

50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct

M. W. DUNHAM
Just Imported 36 Head

FOR HIS OAKLAWN STUD OF

Percheron-Norman Horses.

ANOTHER IMPORTATION

Arrived April. 1, 1880.



Largest and Most Complete Establishment of the Kind in the World.

More than 200 Stallions and Mares

Imported from Best Stud Stables of France.

Winners of First Prizes in Europe and America, awarded First Prizes and Gold Medals at the Universal Exposition at Paris, 1878, over all. First Prizes and Grand Medals at Centennial Exhibition, 1876.

The public appreciation of its merits is indicated by the great demand for stock from every part of the country. During the past twelve months, the provinces of New Brunswick, Canada, and the States of New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana, Colorado, Nevada, California and Oregon, and Utah, Washington and Idaho Territories have drawn supplies from its Stables.

100-page Catalogue—finest thing of the kind ever issued; 25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,

Wayne, DuPage County, Illinois.

13 N. B.—All Imported and Pure Native Bred Animals Recorded in Percheron-Norman Stud Book.

PATREY'S

Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment.

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN, CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. HAMMERT.

SPRING VALLEY, COLUBA CO., CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAINES.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY Dear Sir: Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and will most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

NEWSOM'S

ARROYO GRANDE WARM SPRINGS.

D. F. NEWSOM, - - Proprietor.

SAN LUIS OBISPO CO., CAL.

Located 14 miles south of the city of San Luis Obispo, 12 miles from Port Harford, where passage can be had directly to the Springs. The Coast Line Stage connects daily at the Arroyo Grande.

The Waters of the Several Springs

ARE A SPECIFIC FOR

Piles, Nasal Catarrh, Neuralgia, Liver and Kidney Complaints, Rheumatism, Gout, Dropsy, Paralysis, Diseases of the Stomach, Scrofula, Female Complaints, Sore Eyes, Etc.

The ocean beach, which affords one of the finest drives in the State, and where surf-bathing, clammimg and fishing are always in order, is within an easy drive of the Springs. The climate is delightful. No Summer, no Winter; Spring and Fall being the only seasons. Villa lots to lease for 10 years on most favorable terms. Neat and comfortable cottages to let.

Board, lodging and baths at rates to suit the times. Rent ers and Campers supplied with fresh Milk, Butter, Eggs, Fruits, Vegetables, etc., at current prices.

KEY THAT WILL NOT WEAR OUT. AND NOT SOLD FREE. J. S. BIRCH & CO., 38 Dey St., N.Y.

50 Perfumed, Snowflakes, Chromo, Motto Cards, names in gold and jet, 10c. G. A. SPRING, E. Wallingford, Ct

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,

Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.

Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.

Also TOP DRAPER for Header Spout. This Draper prevents the wind from blowing the straw away and wasting wheat. Not reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.

WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT

Self Regulating

WINDMILLS,

Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes.

Positively self regulating with no coiling or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do.

Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale,

San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S

AMERICAN CHIEF

GANG PLOW.



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,

Stockton, Cal.

Windmills!

HORSE POWERS!

TANKS AND PUMPS

Built and repaired at

No. 51 Beale Street, S. F

Send for circulars.

F. W. KROGH & CO

(Successors to W. I. TUSTIN.)





TRADE

MARK.

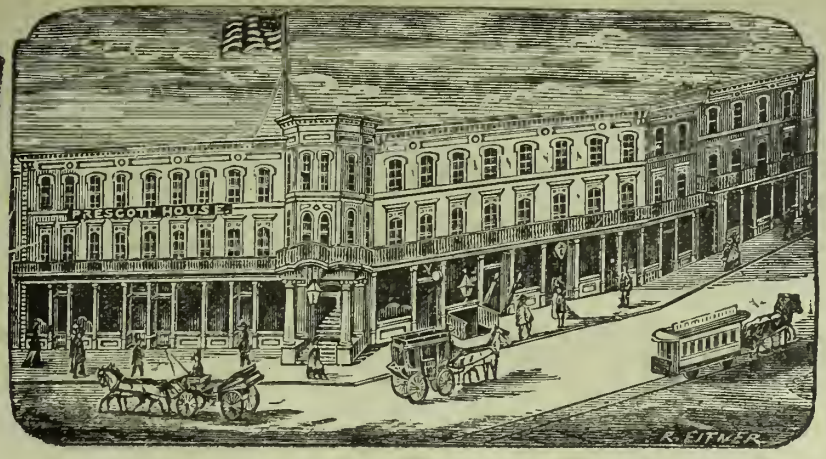
LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to

FAULKNER, BELL & CO.,

Sole Agents, 430 California Street, S. F.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House

RICKARD & DURDEN'S

Anti-Scale Compound.

FOR THE PREVENTION AND REMOVAL OF

INCRUSTATION IN STEAM BOILERS.

Ten years' trial in widely separated localities, having demonstrated the value of this invention, and its applicability to different qualities of waters, we now offer it to Engineers and Steam Boiler Owners, with the fullest confidence as to the result.

SOLD ONLY BY

BERRY & PLACE MACHINERY CO.

323 & 325 Market Street, - - - San Francisco.

JACKSON'S AGRICULTURAL MACHINE WORKS,

Established at Woodland, 1872, moved to San Francisco, 1879.

HARVESTING MACHINERY A SPECIALTY.



JACKSON'S LIGHT WEIGHT HORSE FORK

BAYLEY'S PATENT SPREADER, for Elevators or Feeders, spreads the grain more evenly than men will. Absolutely preventing large bunches from going into the cylinder, thereby saving labor, grain, damage to the machinery and increasing its capacity. Sold on trial. Price, \$50.

Manufacture WINDMILLS at popular prices. They are noiseless, anti-friction, SELF-REGULATING, durable and ornamental, have less number of parts and greater power than any other mill. Be sure and see it before purchasing else where.

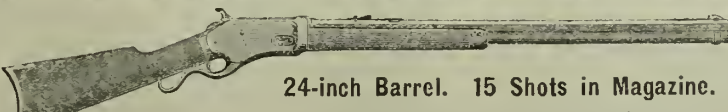
THE JACKSON LIGHT-WEIGHT FORK excels any Fork yet invented for either headings or hay. The heavy Forks were thrown away in the field last season because of the superior strength and lightness of the Light-weight.

Orders solicited for Foundry Castings, Pattern Work and all kinds of Machinery. Special attention to the Headley Straw Burner and Engine Governor.

Buy and sell second-hand Threshers and Engines. See them before purchasing new. Prices and terms to suit the customer.

Address BYRON JACKSON, 6th and Bluxome Sts., San Francisco.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

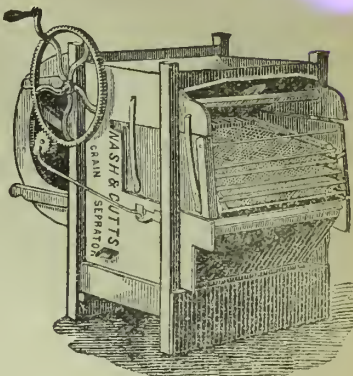
115, 117 and 119 Kinzie Street,

(CHICAGO, ILLINO.S.)

STILL AHEAD!

Trade Mark.

"The Improved Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly.

Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted.

Prices at Factory—No. 1, \$35; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

47 We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE.

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,

Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.

San Francisco, Cal.

DO

NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use.

with over 1,200 Illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address,

MONTGOMERY WARD & CO.,

227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wheats. Apply to

A. SCHULLER,

209 Sansome St., S. F.

SADDLES, HARNESS, WHIPS, LEATHER.

W. DAVIS,

410 Market St., S. F.

Manufacturer and Dealer in All Goods in this line.

47 Send for Catalogue

60

Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser.

N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE)

C. T. HOPKINS,

No. 318 California St., S. F.

W. E. CHAMBERLAIN, JR.

THOS. A. ROBINSON



Life Scholarships, \$70.

SEND FOR CIRCULAR.

MARBLE WORKS.

Monuments and Headstones

—IN—

Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. McCORMICK

827 Market St., between Fourth and Fifth.

BLOOMINGTON NURSERY.

Established 1852. 600 acres; 13 greenhouses. We offer a large stock of Trees, Shrubs, Roses, Bulbs, Apple Seedlings, Orange Plants, etc. New Fall Price List free. Address BAIRD & TUTTLE, Agents, Bloomington Nursery, Ill.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

DEWEY & CO.'S

Scientific Press



Patent Agency.

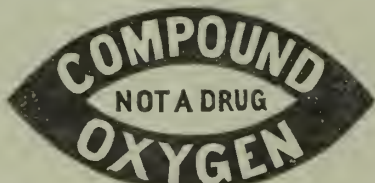
(ESTABLISHED 1860.)

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION.

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address: DR. STARKLEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 66 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.



PETER SAXE & SON,

IMPORTERS AND BREEDERS OF

Thoroughbred Live Stock,

Horses, Cattle, Berkshire Hogs and Pigs. and Sheep.

We can fill orders at any time for the best families of PURE BERKSHIRES, "Short Horns," and "Jersey or Alderney" Cattle, Jacks and Mules, Spanish and French Merino, Cotswold and SHROPSHIRE SHEEP.

All at moderate prices and perfectly pedigreed.

Importing to and breeding on this coast has been a specialty with us for the past 10 years. Satisfaction guaranteed.

PETER SAXE,
H. POLK SAXE,

Address Lick House, San Francisco.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

Dewey & Co. 202 Sansome St. Patent Ag'ts

FINE ORANGE ORCHARD FOR SALE.



Three Miles South of Los Angeles.

174 56-100 ACRES,

Comprising 63 acres of ten-year old trees, 5,800 in number, now just beginning to bear. Irrigated from surplus city water at a cost of \$80 per annum. The remainder of the land, 106 56-100 acres is of the finest quality of

DEEP, SANDY LOAM,

The very best of land for Orange, Grape, Olive or General Cultivation. The tract is surrounded by streets, and lies favorably for subdivision. The orchard can be cultivated at a total cost of \$1,800 per annum, and within two years will pay a handsome interest on the investment, which with good management will soon afterwards reach 20%, 30% and 50% per annum on the sum for which it now can be bought.

For Sale at Foreclosure Prices.

A rare opportunity for a Fortune.

C. T. HOPKINS,

No. 318 California St., S. F.

THE IMPROVED EVAPORATORS



For Making
**SUGAR,
SYRUP
AND
APPLE
JELLY.**

Make the best syrup and sugar with less fuel and labor than any other apparatus. Will condense sweet cider into delicious Jelly at the rate of four barrels per hour. Agents wanted. Send for descriptive circulars.

VT. FARM MACHINE CO.,
BELLOWS FALLS, VT.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layres Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes Pacific Rural Press (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2. Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1850. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the Mining and Scientific Press and Pacific Rural Press, No. 202 Sansome St., San Francisco.

COPP'S

AMERICAN SETTLERS' GUIDE.

Public Land System Explained; How to tell Township and Section Corners; How to Homestead and Pre-empt land; How to Enter land under Timber Culture, Desert, Townsite and other Laws. Sent by mail postpaid for 50 cents.

DEWEY & CO.,

202 Sansome St., S. F.

STRAWBERRIES

The two largest best, and most productive—Mt. Vernon Seedling and Kirkwood, each yielded in 1880 at the rate of 10,000 quarts per acre, and averaged in market \$6 per quart. 40 acres Strawberries and Raspberries. Kieffer's Hybrid Blight-Proof Pear. "Forty Years' Experience in Pear Growing," telling how to avoid the Blight. "Forty Years' Experience in Small Fruits," telling what and how to plant. Either sent by mail for 25c; both for 50c. Catalogues of Fruits and Flowers free. WM. PARKY, Cinnaminson, N. J.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorsey, 527 Commercial St., S. F.



Volume XX.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 11, 1880.

Number 11

The Silkworm Cocoon and Moth.

Now that the silken industry seems fairly given over to our sisters, our cousins and our aunts, and the hurden of developing the possibilities of sericulture in this country has been accepted by them, the subject takes on new interest. The new phase of the old problem will no doubt attract the attention of many who do not know the difference between a silkworm and a tent caterpillar, and we have thought it timely to give engravings of a common species of silkworm cocoon and moth, with brief descriptions of the transformations of the insect. We take these mainly from the writings of Prof. C. V. Riley, who is a firm believer in household silk culture.

The egg of the silkworm moth is called by silk-raisers the "seed." It is nearly round, slightly flattened, and in size resembles a turnip seed. Its color when first deposited is yellow, and this color it retains, if unimpregnated. If impregnated, however, it soon acquires a gray, slate, lilac, violet, or even dark green hue, according to variety or breed. It also becomes indented. As the hatching point approaches, the egg becomes lighter in color, which is due to the fact that its fluid contents become concentrated, as it were, into the central, forming worm, leaving an intervening space between it and the shell, which is semi-transparent. Just before hatching, the worm within becoming more active, a slight clicking sound is frequently heard, which sound is, however, common to the eggs of many other insects. After the worm has made its exit by gnawing a hole through one side of the shell, this last becomes quite white. Each female produces on an average from 300 to 400 eggs, and one ounce of eggs contains about 40,000 individuals. It has been noticed that the color of the albuminous fluid of the egg corresponds to that of the cocoon, so that when the fluid is white the cocoon produced is also white, and when yellow the cocoon again corresponds.

The larva, or worm, is shown in Fig. 1. The worm goes through from three to four molts or sicknesses, the latter being the normal number. The periods between these different molts are called "ages," there being five of these ages, including the first from the hatching and the last from the fourth molt to the spinning period. The time between each of these molts is usually divided as follows: The first period occupies from 5 to 6 days, the second but 4 or 5, the third about 5, the fourth from 5 to 6, and the fifth from 8 to 10. These periods are not exact, but simply proportionate. The time from the hatching to the spinning of the cocoons may, and does, vary all the way from 30 to 40 days, depending upon the race of the worm, the quality of the food, mode of feeding, temperature, etc.; but the same relative proportion of time between molts usually holds true.

The color of the newly hatched worm is black or dark gray, and it is covered with long, stiff hairs, which upon close examination, will be found to spring from pale-colored tubercles. Different shades of dark gray will, however, be found among worms hatching from the same batch of eggs. The hairs and tubercles are not noticeable after the first molt, and the worm gradually gets lighter and lighter, until, in the last age, it is of a cream-white color. When full grown it presents the appearance of Fig. 1. It never becomes entirely smooth, however, as there are short hairs along the sides, and very minute ones, not noticeable with the unaided eye, all over the body.

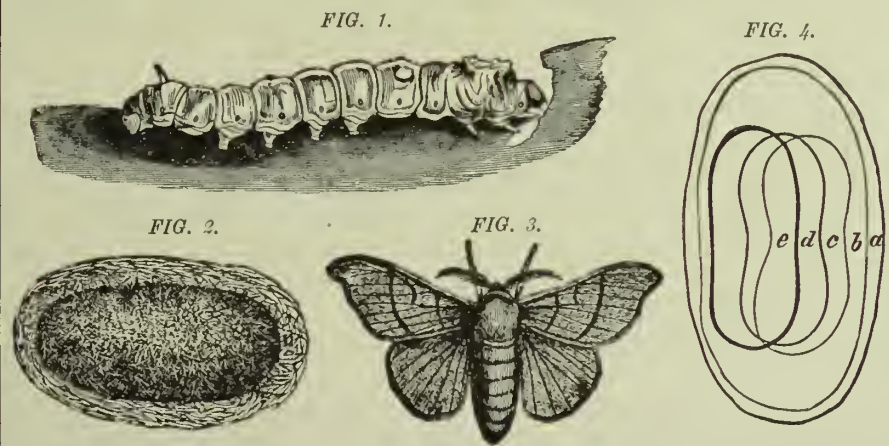
Having attained full growth, the worm is ready to spin up. It shrinks somewhat in size, voids most of the excrement remaining in the alimentary canal; acquires a clear, translucent, often pinkish or amber colored hue; becomes restless; ceases to feed, and throws out silken threads. The silk is elaborated in a fluid condition in two long, slender, convoluted vessels, one upon each side of the alimentary canal. As these vessels approach the head they become less convoluted and more slender, and finally unite within the spinneret from which the silk issues in a glutinous state and apparently in a single thread. The glutinous liquid which combines the two, and which hardens immediately

on exposure to the air, may, however, be dissolved in warm water. The worm usually consumes from three to five days in the construction of the cocoon, and then passes, in three days more, by a final molt, into the chrysalis state.

The cocoon, Fig. 2, consists of an outer lining of loose silk, known as "floss," which is used for carding, and is spun by the worm in first getting its hearings. The amount of this loose silk varies in different breeds. The inner cocoon is tough, strong, and compact, composed of a firm, continuous thread, which is, however, not wound in concentric circles, as might be supposed, but irregularly, in short figure of 8 loops, first in one place and then in another, so that in reeling several yards of silk may be taken off without the cocoon turning round. In form, the cocoon is usually oval, and in color yellowish, but in both these features it varies greatly, being either pure silvery-white, cream or carnelous, green, and even roseate, and very often constricted in the middle.

The chrysalis is a brown, oval body, considerably less in size than the full-grown worm. In the external integument may be traced folds corresponding with the abdominal rings, the wings folded over the breast, the antennae, and the eyes of the inclosed insect—the future moth. At the posterior end of the chrysalis, pushed closely up to the wall of the cocoon, is the last

hatch or die soon after being laid. The *Trevoltins* produce three annual generations. There are also *Quadrivoltins*, and, in Bengal, a variety known as *Dacey*, which is said to produce eight generations in the course of a year. Some varieties molt but three times, instead of four, especially in warm countries and with *Trevoltins*. Experiments, taking into consideration the size of the cocoon, quality of silk, time occupied, hardness, quantity of leaves required, etc., have proved the *Annals* to be more profitable than any of the *Polyvoltins*, although *Bivoltins* are often reared; and Mr. Alfred Brewster, of San Gabriel, Cal., says that he found a green Japanese variety of these last more hardy than the Chinese *Annals*. Varieties are also known by the color of the cocoons they produce, as greens, or whites, or yellows, and also by the country in which they flourish. The white silk is the most valuable in commerce, but the races producing yellow, cream-colored or flesh-colored cocoons are generally considered to be the most vigorous. No classification of varieties can be attempted, as individuals of the same breed exported to a dozen different localities would, in all probability, soon present a dozen varieties. The three most marked and noted European varieties are the Milanese (Italian) breed, producing fine, small yellow cocoons; the Ardeche (French), producing large yellow cocoons; and the Brouse (Turkish), producing large



SILKWORM, COCOON AND MOTH, WITH COCOONS OF DIFFERENT VARIETIES.

larval skin, compressed into a dry wad of wrinkled integument. The chrysalis state continues for from two to three weeks, when the skin bursts and the moth emerges.

The moth is shown in Fig. 3. With no jaws, and confined within the narrow space of the cocoon, the moth finds some difficulty in escaping. For this purpose it is provided, in two glands near the obsolete mouth, with a strongly alkaline liquid secretion, with which it moistens the end of the cocoon and dissolves the hard, gummy lining. Then, by a forward and backward motion, the prisoner, with crimped and damp wings, gradually forces its way out, and when once out the wings soon expand and dry. The silken threads are simply pushed aside, but enough of them get broken in the process to render the cocoons from which the moths escape comparatively useless for reeling. The moth is of a cream color, with more or less distinct brownish markings across the wings, as in Fig. 3. The males have broader antennae or feelers than the females, and may by this feature at once be distinguished. Neither sex flies, but the male is more active than the female. They couple soon after issuing, and in a short time the female begins depositing her eggs, whether they have been impregnated or not.

Domestication has had the effect of producing numerous varieties of the silkworm, every different climate into which it has been carried having produced either some changes in the quality of the silk, or the shape or color of the cocoons, or else altered the habits of the worm. Some varieties produce but one brood in a year, no matter how the eggs are manipulated; such are known as *Annals*. Others, known as *Bivoltins*, hatch twice in the course of the year; the first time, as with the *Annals*, in April or May, and the second, eight or ten days after the eggs are laid by the first brood. The eggs of the second brood only are kept for the next year's crop, as those of the first brood always either

white cocoons of the best quality in Europe. Owing to the fearful prevalence of *pebrine* among the French and Italian races for 15 or 20 years back, the Japanese *Annals* have come into favor. The eggs are bought at Yokohama in September, and shipped during the winter. There are two principal varieties in use, the one producing white, and the other greenish cocoons, and known respectively as the White Japanese and the Green Japanese *Annals*. These cocoons are by no means large, but the pods are solid and firm, and yield an abundance of silk. They are about of a size, and both varieties are almost always constricted in the middle (Fig. 4, c, green, d, white.) Another valuable race is the White Chinese *Annual* (Fig. 4, e), which much resembles the White Japanese, but is not as generally constricted. Fig. 4, a and b, represent, respectively, White and Yellow French *Annals*.

STOCK BY THE CARLOAD.—We have received several letters from Eastern breeders of thoroughbred stock to the effect that they are receiving many letters of inquiry from Californians who desire to purchase a few animals each, but cannot afford to do so because the freight rates overland are so high. Messrs. Smiths & Powell of Syracuse, N. Y., who advertise horses and Holstein cattle, have added to their announcement in this week's *PRESS* the suggestion that Californian buyers let their orders accumulate until there is enough for a carload, and then the cost for each animal will not be large. Mr. Joseph Harris, of Rochester, makes the same suggestion in his catalogue of Essex swine, which we alluded last week. The idea seems a good one, and if those who desire to buy at the East would do so with the understanding that the purchase is to be sent as soon as a carload can be made up, there will be a material saving in cost of transportation.

What They Say of Us.

In California an almost tropical climate gives one year superabundance and the next absolute dearth, according as the rains are heavy or hold off.

The cultivation of wheat in California has been unprofitable to most of those who have made it their exclusive or chief business. The yield and the price are both subject to fluctuations much greater than for the wheat-growers in other regions. California is subject to tropical variations of climate. It is as dependent upon certain rains as is Egypt upon the rising of the Nile. This is frequently forgotten by Englishmen, who generally think of California as having a temperate climate.—*London Farmer*.

The above are a few of the statements made by our contemporary about California. The errors into which the writer falls are those into which one naturally falls who knows but little of his subject. We could ourselves do about as well if we should set out to write about the causes of agricultural depression in England.

Our friends should understand that California is a huddle of climates, so to speak; consequently there is no such thing as a general failure of crops. There is a large district in the interior which is most sensitive to variations in rainfall and only once in three or four years does it produce its greatest yields. There are other districts which in what we call a "dry year" produce but partial crops, and there are still other districts, which never fail of enough rain to produce paying crops and in which the farmers are most prosperous in a dry year because of the enhanced prices which their produce commands. We have not space to define these districts which are well known to those who know the State, but we merely cite them to show our critics that they must inform themselves better. As for an "absolute dearth," that is a pretty strong term. One would suppose it meant starvation, and the sending of relief ships and collections of money, clothing and supplies in all charitable countries. The folly of applying such a term to California may be seen in the fact that in 1877, the driest year for a generation, and when, of course, we had "absolute dearth," according to the arrangement of our "almost tropical climate," we sent England 4,929,690 cts. of wheat, and received for it \$11,017,353—which was pretty good for a year of "absolute dearth."

As to the culture of wheat being "unprofitable to those who have made it their main business." A business which is unprofitable is generally understood to be one which men lose money at. Of course there are cases where men have gambled in wheat growing and have been broken by a turn in the season, but they are not the regular wheat producers of the State. Those who have grown wheat year after year in a business-like and sensible way, have not found it unprofitable by any means. They have done fairly well as a rule, and have lived in comfortable homes, educated their children, and have accumulated a surplus or wasted it in speculation in mining stocks, as the case may be. In truth most failures which have come upon farmers have been induced by outside losses of what their lands yielded; and many would have easily tided over short years if they had made any good use of the surplus which the productive years supplied.

As to variation in yield and the "tropical climate," which our critic seems to think the cause of all ills, we can only say that if our recollection serves us aright, England has had four crops in succession, which were all below the average, and it would seem to one at this distance that if it is evil to be where the Nile fails to rise, it is worse to be where the Nile forgets to set. A "temperate climate" may be a good thing, but we prefer our "almost tropical climate," so long as we do not have to dry our hay with a bonfire and the grain does not sprout in the sheaf.

THE HUMANE CATTLE CAR PRIZE.—It is understood that the offer made some time ago of a prize of \$5,000, under the auspices of the American Humane Association, for an improved cattle car, has had the designed effect of stimulating the ingenuity of inventors, and that a large number of specifications or models will be offered for competition before the 1st of October, the time appointed. The judges, of whom Edwin Lee Brown of Chicago, is chairman, announce that their decision will be reached soon after that date.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

A Glimpse of Monterey.

[Written for RURAL PRESS by LAURA J. DAKIN.]

We left Soquel at half-past ten and expected to reach Monterey by one o'clock, but found we must stay at Pajaro station three hours, waiting for our train. That was rather trying to the patience of a sight-seeing party who felt sure that the beauties of Pajaro valley would be exhausted in ten minutes. However we agreed that it was quite a picturesque little valley, stretching its level acres of farming land away to its border of mountains.

When at last our train came and we were allowed to continue our journey, we soon found ourselves in a different country, for after passing Castroville the scenery changes—no more trees, no more farming land, only sandy levels and sandy hills spotted thickly with low bushes—greasewood, sagebrush and lupin. Here and there between us and the coast were hills of clear, shifting sand utterly destitute of vegetation, and it was only when we neared Hotel del Monte that the trees began to grow again, and then they were but low-topped oaks few and far between; so finally when the cars stopped at El Monte station we were glad to see trees of more luxuriant growth, and such a grove of them as quite hid the hotel from our view. In vain we gazed about for the faintest outline of the famous building of which we have heard so much; we were obliged to content ourselves with noticing the pretty pavilion built near the track and speculating on the possible beauties of Laguna del Rey. Then we looked on the opposite side of the cars for a glimpse of the ocean and bathing beach, but we saw only a stretch of fine, clean sand, elevated enough to conceal the water's edge. Footprints crossing it remind one of tracks in newly-fallen snow. A little farther on is a fine, new bath-house 250 ft. long. These are the points we notice as we whirl along again to Monterey, where the railroad terminates and coaches are waiting to take us on through the old town to the Camp grounds in Pacific Grove Retreat.

The old town! Well, truly; how very old it is, and how very odd to see it in this new State of California. See the old stone wall eight ft. high, with turf growing on its top, and a mysterious door opening in the side instead of a gate. It is only a yard walled in nearly a hundred years ago. See the old houses with tiled roofs and adobe walls. Not one house only, but many houses scattered all through the town. Indeed there are no modern houses at all to spoil the delightfully ancient air that pervades the scene. How the roofs project—two or three ft. on all sides. How old-fashioned are the windows, with the small panes cut in perfect squares. One could almost expect to see equally old-fashioned men and women come out of the low door-ways; but in that we cannot be gratified. On leaving the town we come to the wharves built out into the bay, and beyond these are a number of whaling boats turned up under cover. There are the shining white bones of whales near the arches where the oil is extracted. An old log-house is going to decay near by; and on the hill farther away stands an old log fort.

After riding a mile or more we were surprised to find our road enter a pine wood—tall, straight pine trees everywhere. I never in my life saw such a grove before. When we reached the camping ground the pines were still about us, and down towards the shore white tents gleam among them. As we entered the enclosure we noticed several plain wooden buildings; on the left was first a chapel and then some lodging houses quite comfortably furnished and well kept. On the right was the office where visitors may call and register their names and learn whatever they wish to know about cottages and tents to rent. Then there is a grocery store, a restaurant and a large parlor containing an organ, plenty of chairs and a wide, deep fireplace always glowing morning and night with a cheerful pine wood fire. Here every evening campers from all parts of the grove assemble for a social chat, while the bright, happy children seem greatly to enjoy their own games, which they carry on quietly in their especial corner.

We visited the beach at the bathing hour and found it picturesquely rocky, with no chance to promenade or drive on the sand; but if bathing is the object, this tiny beach can accommodate a large party; and every one seemed to enjoy it immensely. Following the shore toward Monterey, the beach in several places gives a chance for shell hunting, and any one used to walking could easily keep on till they reached the old town itself; or, walking a mile in the opposite direction you come to Moss Beach; and still farther on you pass the wonderful white sand hills that stretch their snowy length for five miles along the way toward Cypress point. Loads of this sand are carried to San Francisco for the manufacture of glass.

On our second day here a party was made up to drive to Point Lobos and other places of interest. There were nine of us, all ladies, except the driver; so we meant to have a jolly time, take our lunch along, and see everything that could be seen in one day. First we drove to Monterey, passing the house where was held

the first Constitutional convention in 1849; it is an old adobe house two stories high, with roof projecting in the old-fashioned way, only it is not covered with tiles. We passed the barracks, which is also a long two-story adobe. Stopping at the postoffice, with letters from Pacific Grove campers, we had the good fortune to see Anna Pitts Stephens coming out with her morning mail. She is considered an excellent lecturer on temperance and the rights of women. Our next stopping place was Hotel Del Monte, which, I am glad to say, is about a mile from town; for though it is a wonderfully beautiful structure, it would be out of place among the ancient ruins of Monterey, but here surrounded by the beautiful grove, lawns, and flower plats, it is magnificent. Alladin's lamp could not have conjured anything more delightful. There have already been full accounts of it published, so I will say no more, and only tell you of the curiously leaning trees which we noticed as we drove out of the enclosure. Every oak on the ground tips its head and body away from the sea till they look like a troop of school boys chasing each other. I suppose the sea breeze began to blow upon them when they were saplings, and kept them bent in that direction so much of the time that at last they grew at such an angle and could never lift themselves any more; so their tops lap one over the other like shingles on the roof of a house.

We next visited the old church at Monterey, built in 1794. It shows few signs of decay, being well cared for. There were pictures in every window, life-sized figures of the prophets or saints. Some of the paintings were probably very old. The further end of the church was filled with decorations and images—Christ on the cross, the Virgin Mary and the babe, Joseph with the child in his arms, and various other figures. Then there were many candles, in candle sticks, of every description, silver, bronze, glass, china and brass. There were also many vases filled with artificial flowers. The altar cloth was of heavy cream-colored silk, embroidered with brighter colors. At the foot of the altar there knelt a white-haired old woman, with a prayer book in her hand, and it seemed as though the scene would not have been complete without her.

Going on toward Point Lobos we passed a still older church—the Carmel Mission—said to be over 100 years old. Parts of it are fallen to ruins, though the front is well preserved and resembles the one at Monterey in style of architecture.

Being past noon when we reached the Point, we halted near some cypress trees, and, sitting upon the ground, we opened our lunch baskets and ate our dinner in the style of roving campers. Having fortified ourselves with some very expensive sandwiches, with accompaniment of doughnuts and eggs, we proceeded to explore the mysteries of the ocean cave. Standing on a rocky elevation, about 200 or 300 ft. from the shore, we looked down into an opening in the rocks where the water surged and beat through the long narrow channel. After seeing this evidence that the water did come in so far, we wished to go down and see the mouth of the cave, but finding no path, we climbed down some pretty steep and "scareful" places, coming at last directly over the seething water-way, the waves making such a noise beneath as to remind us of earthquakes and volcanoes. The mouth of the cave was rather small, but to see the fierceness with which the water struggled into it, repaid us for the hard way we had come.

Most of the shore along here was composed of rocks resembling "pudding stone," the little cobble stones being so firmly cemented together as to resist our efforts to break them off. There are large rocks rising out of the sea at some distance from the main land. The waves break over them in white foam; then come on and dash with greater fury on the rocky shore. We lingered here about an hour, some of our party hunting shells and pebbles on the sandy beach of a little cove, where a fisherman was camping with his fish nets.

As we drove homeward, we passed a dairy ranch just as the proprietor was driving up his cows; there seemed to be about 100 head of cattle. The land looked fairly well here, though most of the land over which I passed seems poorly adapted to farming; but I saw only a very small portion of the country.

We reached Pacific Grove Retreat in time to walk over to Caledonia park and drink water from the mineral springs. This spring is within sight of the encampment, and might prove beneficial to any one using the water. Let every one judge for themselves of taste and efficacy.

Many families or friendly parties bring to this grove their own tents and cooking utensils, and, with the wonderful little oil stove, can live as cheaply and happily as they please. There are 50 tents to rent; price, \$17.50 to \$33 per month, which I think is high, even with beds and chairs thrown in, for you have still to provide your own board, at restaurant or some other way. But rich people do not mind the price as poorer ones must, and there is a chance for all. One extra fine tent has even been rented for \$60 per month, but was empty when I was there. Two thousand names have been registered this season, and probably twice as many have visited the grove who have not left their names.

I do not see how California could spare Monterey, with its pine and cypress groves and delightful old houses, any more than it can spare Santa Cruz, with its wonderful redwoods, 50 and 60 ft. in circumference, its lovely madrones, laurels and maples, and fruitful hills and valleys. They are so very different, tourists should

see them both. We met some ladies who had first spent a few weeks at Camp Capitola, on Soquel beach, and then came over to try Monterey. We also met some old friends from Stockton and other places, who added very greatly to our enjoyment, and I could write many more pages in praise of our "good times," but must desist; and will only say to my traveling companions, "May all the days of your lives be as pleasant as were the days at Monterey."

HORTICULTURE.

AN OVER-FRAGRANT FUNGUS.—An Oakland man lately dug out of his garden some specimens of *Phallus impudicus*, and was at a loss to know what they were. He may recognize his discovery by the following description which Prof. Beals, of the Michigan Agricultural College, gave of some sent to him, as follows: "The cigar box containing three specimens in sawdust arrived in good order. The odor had not yet all departed. There was enough left for a whole neighborhood. The full-grown specimen may be 6 to 8 inches in length, and in the narrowest portion 1½ inch in diameter. It is a kind of fungus, and is classed with molds, mushrooms and toadstools. They feed on dead or decaying animal or vegetable matter, and sometimes the fungi cause living plants or animals to dwindle and die. This species is *Phallus impudicus*, common stinkhorn, the last name being quite significant of its shape and odor. It is not uncommon in woods in the United States. The mass when young, below ground, is as large as a hen's egg or larger, and consists of two coats distended with jelly. Some plants of this sort have several times appeared near the door-step of the house of one of our professors, much to the disgust of the whole family. I do not know that they are good for anything except for students to play tricks on a professor, who asks them to bring in samples of all the fungi they can find. They are the vegetable skunks of creation. This odor attracts insects which may help to distribute the spores."

A NEW FRUIT PICKER.—The *Prairie Farmer* says that a fruit picker is the latest invention. It is simply a ring or collar of sheet metal four or five inches high, and the same in diameter, with the upper portion formed into half a dozen points like a crown, each point being covered with an india-rubber disk or shield to prevent the fruit from injury by contact. A socket in the side receives a light pole of any required length, and from the bottom of the ring or crown extends a light hose of cotton drilling, or other light material, to convey the fruit down to the hand of the operator, or into a basket, wagon, or wherever desired. Standing on the ground the operator reaches for the fruit, the points of the crown passing on each side of the stem, and a light upward shove easily detaches the fruit, and it drops down through the crown and hose. The operator can hold the pole in one hand and the hose in the other, or the hose can be hooked to a small, movable bracket placed on the pole for that purpose, thus allowing of handling the pole with both hands, or an assistant can manage the hose.

A NEW GUAVA.—A. I. Bidwell sends the *Sun and Press* of Jacksonville, Florida, some new guavas of the species called *Psidium cattleianum*. He says: "They are entirely distinct from the ordinary kind grown in Florida. The bush bore last season about 60 fruit; this season over 200. The tree has the merit of standing a degree of frost that would kill to the ground the common variety." In commenting on the fruit the receiving editor remarks: "The specimens were received and found to be ripe, and a few had begun to decay. This species of guava does not resemble in the least the common guava of the country. The peculiar catly odor which characterizes all kinds with which we are familiar, and which some fastidious people object to, is entirely wanting in this variety. The fruit is globular, rather small; average specimens measure about 1½ inches in diameter; skin rusty red, or claret color; pulp tender, juicy, with a very pleasant blending of sugar and acid. This guava seems to be more juicy and melting than any other we have ever tasted, and we think it would be much sought for on account, both as a dessert and for sauces and jelly."

STILL AN EARLIER PEACH.—H. M. Shaw, of Augusta, Carroll Co., Ohio, writes to the *Farm and Fireside* as follows: Mr. Nathaniel Marshall, a very enterprising and successful farmer of this vicinity, planted some peach pits in the spring of 1877. This summer one of those seedlings ripened about 30 peaches. Mr. Marshall took the first fruit from the tree on the 25th of June, and on the 5th of July the last. The fruit looks very much like the Early Beatrice, but is larger, very juicy and sweet, and adheres closely to the seed. The tree grows on the northwest slope of a high hill, and if it stood on the south side would have ripened several days sooner. The Amsden and Early Beatrice ripened here on July 10th, thus making Mr. Marshall's seedling 10 days to two weeks earlier than the earliest peach known. We expect to get up a stock of them as soon as possible, but will further test them before sending any trees out. If the peach proves as early as it ripened this year, it will certainly be a valuable addition to the peach list.

THE DAIRY.

Points on Cow Feeding.

EDITORS PRESS:—I would like to know, of some experienced farmer or dairyman, the best and most profitable way to feed a family cow to get the best yield of milk in quality and quantity, especially quality. I want to know how much to feed and what kind of food.—E. J. SQUIRES, Calistoga, Cal.

EDITORS PRESS:—No fixed rule can with propriety be laid down for the best method of feeding any one cow, or any number of cows. Cows vary in their dispositions, likings and dislikings, consequently must be humored now and then with a change in their general treatment, and here is where the exercise of a little tact on the part of the person in whose keeping the cow is, sometimes has a charming effect, and a little observation will soon give a person a good idea of the particular humoring required to suit the disposition and temperament of any single cow. Regularity in time of feeding and milking, kind treatment and plenty of good, wholesome food, varied as occasion may require, are the principal points to be observed. However, as your correspondent seems solicitous about the kind and quantity of food required, I will briefly give my opinion on that subject.

The quantity of milk of average quality that will make three pound of cheese will only make one pound of butter; therefore it stands to reason that a cow in full milk requires food rich in flesh-forming principles, such as linseed cake, bean or pea meal, ground oats or wheat bran, all of which are rich in the constituents required to make wholesome milk—which is a perfect food, containing all the elements of nutrition. But it is necessary that those elements should be duly proportioned in order to make a perfect food. Milk may be rich in cream and deficient in flesh-forming principles, or vice versa. Therefore the perfect milk for rearing young animals—bipeds or quadrupeds—is that which contains the materials for making flesh, bone and sinew, wherewith to build up the framework of young and growing animals, for which purpose fat alone would be of no use; nor either one without the other.

Of the above named foods linseed cake and wheat bran only are in the market in this State; if the others are wanted they have to be ground to order, which would not be worth while when only one or two cows are kept, and it is not often that beans and peas can be bought cheap enough for the purpose.

I look upon equal weights of bran and oil cake as the best food for growing stock, and as what makes flesh makes milk, I have always found it to answer better than any other feed for quantity of milk; and when I can add a portion of bean meal the quality of the milk is improved and the cattle keep in better condition, especially when they are getting their usual liberal allowance of roots or vegetables. At present I am using of linseed cake about 150 pounds a day; bean meal, 100 pounds; bran, 230 pounds, in cut feed moistened, with hay twice and green fodder corn once a day. I give this merely to show the proportion in which I use bran to the richer and heavier meals, considering it best, when the price allows of it, to use nearly double the bulk and nearly the same weight of bran as of the more concentrated foods.

Compared with the above regimen, my experience with corn meal has not been at all satisfactory, when substituted for a portion of it only. Whenever I have tried it, the milk would be both less in quantity and poorer in cream; though when the milk is required specially for butter, I would recommend about equal proportions of linseed oilcake, bran and corn or barley meal, giving a cow in full milk about three lbs. of each a day, with as much good hay as she will eat, and some vegetables if possible. Cabbage, beets, carrots and potatoes, when perfectly sound, are all good when used, in moderate quantities, in addition—not as a substitute—to the above-named food, for it is always best to have a variety, and 40 or 50 lbs. of roots a day, or more, is a great help to a cow. It will not pay to use such large quantities when they have to be bought at the rate of \$4 or \$5 a ton; but even at that price 20 to 30 lbs. a day may be profitably used.

In regard to hay for milch cows, the clovers—alfalfa being one—are undoubtedly the best for the production of milk when judiciously used and mixed with a fair proportion of other kinds. If used alone, and in large quantities, clover hay gives a strong flavor to milk and butter, unless under the most favorable circumstances. A few years ago there was a great demand for alfalfa hay for use in the milk dairies in the neighborhood of San Francisco, the owners of which, using it exclusively (of other hay) for their cows, soon began to hear complaints of a disagreeable taste about the milk, which would not have been the case had they mixed it with equal quantities of some other kind of hay, or even with good sweet straw, for, theoretically, clover hay and good straw cut up and mixed together make a food equal in nutritive value to the best meadow hay; but purely theoretical values do not always hold good in practice.

The quantity of food required by a cow will be best regulated by a cow's appetite, and somewhat by the quantity of milk she gives. All my own cows that are in milk, have as much

hay as they will eat twice a day; also mangolds, cabbage or green corn for six months in the year at least; but the richer food, consisting of a mixture of cut hay and meal, as above mentioned, is apportioned to them according to the quantity of milk they give.

Cows must have their paunches filled up in order to digest their food properly, consequently a good supply of bulky, as well as nutritious, food is necessary; and it is not till the daily demands of the bodily system have been supplied that any portion of the food will go towards making either milk or meat. As a rule, high feeding affects the quantity of milk more than the quality.

ROBERT ASHBURNER.

Baden Station, San Mateo Co., Aug. 28, '80.

THE FIELD.

Growing Potatoes with Irrigation in Chile.

EDITORS PRESS:—The following method is adopted in many parts of Chile, S. A.: The ground is first saturated with water from a canal or its off-shoot, and is allowed to dry up, undisturbed, until it is in a good state for plowing. It is then in a mellow condition, and is plowed with the old-fashioned Spanish wooden plow to the depth of five inches, a little more or less. This completed, the ground is brushed crossways to pulverize the soil; in some instances a drag in the shape of a log of wood is used to mash up any lumps that remain after plowing. Once the soil is in proper condition, so as not to adhere, the rows for the seed are marked off and the lines followed by the plow, the seed being dropped behind it, say four inches apart. It will be well to observe that the poor classes, or "Peon," are in the habit of planting unsalable potatoes, such as are too small for use in market. The potatoes are covered by brush drags drawn by oxen, and when the work is done the field is quite leveled off, and the rows of planted seed, which were made favorable for irrigation, running along the slopes, are unobservable. Once the potatoes sprout and are well above ground, water is allowed to spread slowly over the whole surface, and this is repeated about every 15 days, according to the land and the heat of the season. Generally, a little over one month before the potatoes are ripe all irrigation ceases.

Early seed takes about four months and a half to mature, and late from six to seven months. Potatoes under irrigation are more watery, will not keep as well, and are not as mealy as when raised in drier soil. There is one advantage gained sometimes: where potatoes will not grow from dry soil and climate, they will grow and thrive in artificially-applied moisture. It was supposed at one time that the above plan of planting, etc., prevented the worms from destroying the crops, the theory being that, planted deeper, "seed reached the depth of the worm's home"—that they did not seek a living above it. One or two seasons of success gave belief in the truth of the experiment, but later experience shows the theory incorrect. "The home is above, as well as below, where the potato is." The worm will make it his home; besides this, it is in the seed when planted.

Besides the example given, there are other ways of raising potatoes successfully—such as plowing between the rows, and watering in the furrows; to allow the water to run slowly over the potato rows, and not between them. It is only by trying all ways of irrigation that the farmer can tell which is most suitable to his land and the climate, and which gives the best results. In addition, there is a great deal to be taken into consideration: the difference in effects of the application of cold water from running streams, and water heated by the sun; the season or time of the year in applying; the necessity of irrigating by day, or by night, with the effects of each application upon the soil and plants. My impressions from observations are, that water, applied so as to receive the extreme heat of the day, is detrimental to both soil and plants, and that the effects are not each year alike; with constant irrigation the earth changes its character, and productiveness is deteriorated. Sand becomes sometimes baked hard, like sun-burnt brick; the more water you apply, the more it seems to require. Irrigation should never be used except as a necessity, and its use in the fruit orchard is a delicate operation. To enter into the effects of cold water or warm upon land, or to enter fully in the different modes of irrigation, results, etc., would take up a large space in the columns of the RURAL PRESS, and, after all, the experience of this country might be the reverse in California. Quillota, July 23, 1880. W.

HOW TO USE OIL-STONES.—Instead of oil, which thickens and makes the stones dirty, a mixture of glycerine and alcohol is used by many. The proportions of the mixture vary according to the instrument operated upon. An article with a large surface, a razor, for instance, sharpens best with a limpid liquid, as three parts of glycerine to one part of alcohol. For a graving tool, the cutting surface of which is very small, as is also the pressure exercised on the stone in sharpening, it is necessary to employ glycerine almost pure with but two or three drops of alcohol.

POULTRY YARD.

Money in Chickens.

EDITORS PRESS:—While on a trip to Calis. toga, recently, my attention was called to an unusually fine-looking flock of chickens on the ranch of Mr. A. J. Lineback. There were about 250 laying hens, quite uniform in size, all having a bright and healthy look, and mostly of the White Leghorn variety. It was the largest and most beautiful flock of laying hens I have ever seen, there being no old birds, no young pullets and only three cocks in the entire company. They were confined to a yard of about one acre, fenced in with pickets about seven or eight ft. high. In the middle of the yard were several black oak trees, which furnish ample shade, and in which the chickens roost at night. This was their only roosting place all last winter, but Mr. Lineback proposes to house them the coming winter.

Chicken House.

His style of chicken house is very cheap and simple, but it has some good points. He makes a number of light, movable coops out of thin slats or pickets, about five or six ft. high, eight ft. long and four wide, and covered with a double roof of "shakes." The width of the coop is just adapted to two lengths of "shakes" for covering, giving them a good fair pitch to turn all water. Handles are provided at the corners, and two men can carry one of these coops with ease. They are intended to hold about two dozen hens, the perches being about four ft. from the ground. They contain no floor, and would serve an admirable purpose where chickens are kept in an orchard, saving all the droppings and always being sweet and clean with the least possible amount of labor. Every intelligent farmer knows that chicken manure is worth money, and most of them also know that it is often wasted, being either washed away by winter rains, or else left to accumulate too long in one place, thus producing very offensive odors and causing disease in chickens. This plan of light, movable coops will leave the manure well distributed over the land where it will do most good and never become an offense.

Feeding.

I noticed in the yard a pile of loose, unthreshed wheat, upon which the hens could work at will. Nothing better suits a hen than this arrangement; there is no method of feeding more economical, and none that will give greater returns. These hens were reported to have done excellently since the new wheat in the straw had been brought in. But this method of feeding is, of course, not adapted to all seasons of the year. Mr. Lineback feeds liberally with shorts or bran mixed with sour milk, wheat perhaps once a day most of the year and some corn in the coldest weather. He also gets, from the city, shells so thin and brittle that the hens can easily pick them in pieces. They are very small, and come in barrels at a cost of about \$1.75 per barrel. It strikes me that this method of providing lime is much superior to pounding up oyster shells, or to any other method I have ever known. Can the editor tell us through whom these shells can be procured? [No. Who can?—EDS. PRESS.]

The yard aforesaid contains an abundance of coarse and fine gravel, an old creek bed passing through it. Last year he gave them a much broader range, but with less satisfactory results. The hens hid their nests too much, and seem just as healthy with less range.

Eggs.

Mr. Lineback assured me that his chickens were proving a good investment—"more money in them than in dairying," which he had tried the year before. He has shipped to San Francisco about 60 dozen eggs per week throughout the spring and summer months; the lowest price being 19 cents, and from that to 25. This would be over 100 eggs per day for the entire season from 250 hens. But I know from experience that the Leghorns—either White or Brown—will do it, and they often do better than that throughout the entire year. It is to be noticed right here that the profit comes in largely from the farmer turning his own products into cash through his chickens. His wheat and corn he could sell direct, but at a much less profit. His sour milk, cabbage leaves, etc., would bring him next to nothing if used in any other way. His shells, ground feed, etc., cost but little. He turns the produce of his own farm into eggs, and this is the main secret of his success. "If I had to buy all I feed my chickens," says Mr. Lineback, "that would be quite another thing;" it might still pay, but of course not nearly as well.

Varieties.

Mr. Lineback is crossing his White Leghorns with Brown Leghorns, Black Spanish and one or two other kinds; but he avoids the Brahmas. He thinks the hens lay just as well without roosters as with, and during the breeding season he shuts two or three dozen of his choicest hens in a small yard by themselves with three or four roosters. Thus he gets his eggs for setting, and avoids feeding a gang of noisy cocks all the year, whose main use, he thinks, is to worry the hens and raise bedlam generally. I am sure about the bedlam, but I am not so sure

about hens laying as well and being as healthy when entirely separated from the male birds. Great is nature, and this violates it violently; still, I am in doubt.

But there is one thing that I am not in doubt about, and that is that the Chinese rule, "Big chickens and few eggs," is true. And in an extensive tour this summer through Sonoma, Napa and Solano counties, I was convinced that the farmers generally have reached the same conclusion. Everywhere I find them mixing the White and Brown Leghorns with Black Spanish, and everywhere they testify that they get showers of eggs; but they all avoid the large varieties, and especially the Brahmas.

W. C. DAMON.

Napa, Aug. 28, 1880.

Moulting.

EDITORS PRESS:—Please publish in your paper the time it takes a hen to moult, and how long after until she begins to lay.—INVESTIGATOR, Oakland.

EDITORS PRESS:—That depends a good deal on the condition of the fowl at the beginning of the moult, and the treatment she gets during that process. Taking it for granted that she is in good flesh and health on the start, she will probably be in good laying condition in six weeks or two months. There is a great difference, however, in breeds. I have had many hens lay right on during their moult and until they are in their glossy new dress. But then would come their resting spell. Others will cease laying when the feathers begin to drop, and by the time they are fully feathered are ready to lay again.

Of two hens just killed and beginning their third moult, one a Hamburg the other a Houdan, I found the first named had no eggs larger than peas, while the other had eggs of all sizes, from those just ready to be dropped to the tiniest ones. Now it is evident that the Hamburg would begin laying after the moult much the sooner, as she has already had her rest. But bear in mind that fowls do not moult by rule in California, whatever they may do in climates that are more decided. There are very few months in the year that one cannot find some ragged fowls, although most of the moulting is done in August, September and October. As we hatch chicks almost every month in the year it is not strange that they be ready to shed their feathers at different times.

L. J. WATKINS.

San Jose, Cal.

TOBACCO FOR HEN LICE.—A correspondent of the *Country Gentleman* writes: "There need be no trouble in keeping setting hens free from lice. All one needs to do is to get tobacco stems and cigar-makers' refuse, and break them up small; then put them into the nest boxes about four inches deep. No matter how thick the lice are, in half an hour there cannot be one seen inside of the box. The tobacco odor will get into the hen's feathers, and thus will keep the chicks free from lice for some time. Those who cannot get the stems can buy cheap tobacco; steep it up, and wet a quantity of straw with the strong liquor. When the straw is dry, make the nests from it. Tansy leaves or stems, cut green and cured, are also good for nest material to keep off the lice. To clear the hen-house and roosts of lice, I put a quantity of the tobacco stems in some vessel that will hold two or three pails of water, and let them soak for two or three days, stirring the stems once in a while, until the water looks as red as dye. I then, with a swab, wash the roosts, and all parts of the hen-house that I can reach, with the liquor, and with a syringe, squirt it into the corners and cracks. If the liquor is very strong, this work need not be done more than twice in a season, in order to keep the hen-house clear from lice. I consider it a great deal better than kerosene. I have put kerosene on the roosts at 2 o'clock, and at evening I have gone out with a light and found the lice running over the perches, the wood having absorbed all the kerosene. They do not run around where the tobacco has been. I think a very strong suds, made out of soft soap, is as good as kerosene."

TURKEY GROWING IN NEVADA.—The *Reno Gazette* has the following: J. M. Forsyth has a poultry ranch near the northern entrance to the race track. He has been in the business of poultry raising for years, coming to Reno from California last March. This season he has devoted his time principally to raising turkeys. He now has a flock of 300 of these birds in fine condition. He had 500, but has lost nearly 200. Some of them were stolen, but the majority died from over-indulgence in grasshoppers. Mr. Forsyth says that Washoe valley is the best place to raise turkeys that he knows of. In California turkeys are subject to epidemics which sometimes carry off an entire flock. Nearly all the turkeys in California have perished this year from sickness—at least in those districts from which he has heard. Turkeys thrive and fatten on grasshoppers. It was the expectation of an abundance of grasshoppers which induced him to come to Reno this year. Mr. Forsyth says that turkeys stand cold better than chickens. He thinks poultry raising in this section, if properly carried on, should prove a very profitable business. There is a good market for fowls in Carson and Virginia, and the California market is certain. He has only 15½ acres on his ranch. Three acres are alfalfa and five wheat. The birds require plenty of green stuff, and are allowed to range at will. Mr. Forsyth expects to do a fairly profitable business this year. Last season he lost 600 turkeys in California. Per-

haps the raising of turkeys on a large scale would do much to kill out the grasshopper in this section. Suppose the farmers turn Washoe valley into a vast poultry yard, a grasshopper refinery as it were, converting the pestiferous hoppers into turkey meat worth \$400 a ton.

SHEEP AND WOOL.

The Best Breed of Sheep for the West.

The large numbers of grade Merino sheep now being taken from our State to found flocks on the wide ranges of Wyoming, Montana and Colorado invites attention to the adaptability of such sheep to the life they will lead. Mr. Henry Stewart, author of the "Shepherd's Manual," lately gave the *Rural New Yorker* an article on the Merino as the best sheep for western flocks. If he bear too heavily on some of the other breeds, we hope our readers will cite contrary experience. We quote as follows:

There is, perhaps, more disappointment in regard to sheep than any other sort of live stock. With the exception of swine, no other stock is so easily impressed by breeding and feeding as sheep. Therefore a skilled shepherd may soon get up a model flock, as regards size, healthfulness and fleece, which enraptures (there is no better or truer term for it) the ordinary sheepman, and impels him to go and do likewise. But he soon finds that is not so easy. The model flock has been skillfully bred and tended, generously fed with roots, grain, oil-cakes and rich pasture, and they are plump, and covered with a silky wool of great length, closeness and beauty of staple. The envious beholder picks out and purchases a few sheep from this flock, and intends to astonish the natives at home and sweep all the prizes at the fairs. He puts them in a good pasture (for him), but a poor one for the sheep; feeds them liberally with grain, but gives them too much; keeps them sheltered from every wind of heaven, lest it might visit them too roughly; and in a short time finds his pets looking downcast about the jaws, dull about the eyes, with a dry, harsh fleece; some of them begin to cough, run at the eyes, take on diarrhea, and in general the flock becomes what the old poet knowingly remarked, "infelix pecus." By and by the model sheep "go to the dogs," literally and otherwise, and the owner says: "Oh, these high-bred sheep will not thrive in this country; they are too tender for our very changeable climate; the food is not right—and, in short, they are exotics which require the best of nursing." And he is right.

We have imported the finest South-Downs, Leicesters, Lincolns, Cotswolds, Hampshire-Downs, Oxford-Downs, Shropshires and black-faced Scotch, and have tried them here and there, and where are they now? A few flocks have become acclimated, pulling through the trial "by the skin of their teeth," and with the aid of the most careful management; and the farmer—"as is a farmer" and not a breeder—is yet to be seen who has been able to keep a pure-bred flock up to the standard which he hoped to attain. In the East, in small flocks and upon highly cultivated farms, there have been some successes which, however, have been in general narrow escapes from failures, and these have been owing to a concatenation of favorable circumstances.

For the West, with its spare herbage, its dry summers, its hot sun, its windy and dusty plains and its fluke-infested swales and marshes, none of these heavy-bodied breeds of sheep will be found satisfactory. I do not think even the hardy South-Down can there be kept in good condition; certainly not any of those of the Walsingham breeding, which are brought into this country looking "as pretty as a picture" and as if modeled by an artist and dressed by a fashionable barber; but which are too artificial for common use. I might here except from the general term "West."

The Merino is the sheep for the West upon which to found a hardy, successful and profitable flock. The common native—which is a run-down, close-bred, Spanish sheep, originally of Merino blood mixed with some modern Merino—is hardy, cheap, and to the manner (and the manner) born. It can be purchased for \$1.50 to \$2.50 a head. When crossed with pure Merino, the second cross produces a grade of wool that often sells for more than that of the pure-bred. It herds well, is content with poor fare upon which a big sheep would starve; its fleece is a coat of mail, water-proof and almost air-proof, with its close, well-oiled and yolked surface; and it may be enlarged in size, weight and length of fleece, by selection of rams of the best kinds. Profit is what we work for. Beauty of form and size are nothing as compared with the market value of the produce. And I will venture to say that 99% of the money made in the West is made from sheep of Merino blood, and 99% of the losses is made from flocks of the pure-bred, long-wool breeds.

A NOVEL HORSESHOE.—A manufacturer in Berlin, Germany, is turning out a novel horseshoe made of malleable iron. It is not made solid, but has a deep and wide groove, into which tarred hemp rope is so firmly wedged that it cannot be withdrawn. It is so thick that it protrudes considerably beyond the rim of the malleable shoe. It is stated that the lightness of this horseshoe has gained for it considerable favor in Berlin.

PATRONS OF HUSBANDRY.

Are We Not All Brothers?

The battle has opened, the armies have been recruited. As in the feudal days of old the clans are gathering, retainers and yeomanry are pouring forth, rallying to the signal sounds of the culverin from the tower and the beacon fires on the hill tops. Each favorite knight leads on his followers to tender his fealty to his lordly baron; banners are waving; shouts from thousands of partisans fill the air, and the opposing forces dash into the fray. Fierce and bitter will be the conflict; into neighborhoods, into families, into church and into friendship will the strife be carried; friends will be parted who never before were parted. The prayers of business, temperance, religion, improvement, humanity, all must cease for a time or move with hindered pace because of the political battle. What are the duties of the hour for Patrons? What the teachings of our Order to be heeded at this time? When controversy grows bitter, when intolerance prevails—remember our Order teaches that "Difference of opinion is no crime, and we hold that progress toward truth is made by difference of opinion, while the fault lies in bitterness of controversy." When extreme partisans would kindle the fires of sectional strife in a land that God has decreed must be united, "and peace is here, and hope and love are round as a mantle thrown," let us heed the precepts of our Order—"we cherish the belief that sectionalism is, and of right should be dead and buried with the past. Our work is for the present and future. In an agricultural brotherhood and its purposes, we shall recognize no North, no South, no East, no West."—One of the proudest boasts of our Order is its Nationality, and the grand work it has wrought, to which cheerful and willing witnesses by thousands can testify, has been uniting all sections of our common country, wiping out the memories of discord and promoting "peace on earth, good will towards men." Would that every Patron, aye, every citizen of our country could look in upon the peaceful deliberations of our annual meeting of the National Grange,

"A holy gathering—peaceful all;
No threat of war; no savage call
For vengeance on an erring brother,
But in their stead the God-like plan
To teach the brotherhood of man."

The inspiration of peace, of charity and brotherly love, thus fostered and cherished, has been carried to all portions of our land and has been as oil upon the troubled waters.

The great duty of every Patron who loves our Order, who loves his country and all that is good and true, is to practice and teach the precepts of the Grange in all its lessons of charity and brotherly love. In neighborhood and county gatherings, when fierce and angry partisans would influence brother against brother, ask yourselves: "Are we sowing seeds of kindness?"

"We can never be too careful
What the seed our hands shall sow;
Hate from hate is sure to ripen,
Love from love is sure to grow."

It is not necessary to be bitter because we like one side better than another. The greatness of our country does not depend upon the success of one party or another, but upon the intelligence, the good will, and high and noble purposes of our people. Our Order we know has done much in its peaceful mission. It can do a good work now, teaching us

"To love and remember another
As sharers of a common blood—
The children of a common God."

Thus will we not only receive the approval of our own consciences, of our neighbors and all good people, but merit the greatest of all praise: "Blessed are the peacemakers, for they shall be called the children of God."

As a token that these sentiments are echoing all up and down the land where Patrons dwell, we close with a few words from a Grange paper published in the Sunny South.

"Tis sweet to think that after all,
We now have peace for war's dread pall;
Tis grand to see the Blue and Gray
Commingle with no thought of fray."

"Tis well to watch the arts of peace
Year after year grow and increase.
Well may we feel a conscious pride
In our great nation's giant stride."

"Tis well that charity's bright abode
Is where the War God lately stode,
Continuing thus, we all shall be,
From Eastland to the Pacific sea,
From Lawrence to the Rio Grande,
Brothers in heart as well as hand."

Continuing thus will blessings gain,
All shall be joy where all was pain.
Like incense shall our prayers arise
To Him Who rules the earth and skies."

—Grange Bulletin.

A WEEKLY TREAT.—The PRESS is a weekly treat to us. For several years a dozen copies or so have been taken on the ranch, but not having been directly engaged in agriculture until this year, we have missed the pleasure of reading the PRESS heretofore. I cannot begin to tell you the pleasure we take in its perusal now. Long life and abundant success to the RURAL PRESS.—MRS. E. W. STEELE, San Luis Obispo.

AGRICULTURAL NOTES.

CALIFORNIA.

CALAVERAS.

SHEEP SMOTHERED.—*Citizen*: Recently a band of sheep, belonging to Mr. Wheeler, living in San Joaquin, was corralled near Vallecito for the night, being on their way to the valley. The sheep were placed in two corrals with a gateway between, and during the night became scared at something and all rushed into one corral, which was only large enough for half of them, and the consequence was that 96 fine sheep were smothered to death.

FRESNO.

SORGHUM AS A FORAGE PLANT.—*Republican*: From recent experiments, it has been demonstrated that sorghum is one of the best, if not the very best forage plant for cultivation in this vicinity. In this climate and locality the canes are exceedingly rich in sugar, and are greedily eaten by horses, cattle or hogs. For growing pigs or milch cows it is far superior to alfalfa. The yield per acre is enormous, much greater than alfalfa. If our colonists would try the experiment of putting in a small lot, we are confident in our opinion that they would get far better results than from any other forage plant grown.

LASSEN.

EDITORS PRESS:—Heading is nearly over with the farmers here. About one more week will finish along the shore of Honey lake. The first threshing of the season will be done to-day by Bond & Glasscock's machine. We have had four or five days of very cold and windy weather. I hear that gardens have been damaged by frosts in some parts of the county, but yesterday and to-day are quite pleasant again. There are a good many farmers complaining of light crops of grain, but hay is good. Old barley sells very readily for two and a half cents per pound, for feed. There will be a large crop of apples and other fruit in the county this year; and apples raised up here in the mountains can't be beaten for size and flavor, but the frost does a great deal of damage some seasons. Last year apples were a total failure on that account. Summer and fall apples are selling at two and two and a half cents per pound, and blackberries 50 cents per gallon.—G. R. WALES, Janesville.

LOS ANGELES.

THE GRAPE CROP.—*Express*: Mr. J. F. Crank, who has been investigating the subject pretty thoroughly, says that the Mission grapes in the vicinity of this city are suffering severely from mildew, as the result of the cool weather and foggy nights which have prevailed this summer. The Muscats are blasting on the vines and Mr. Crank thinks that but a very small quantity of this variety will be raised. In the drier and warmer localities farther interior the blight and mildew are not so manifest.

BLAUE ELBAN.—*Commercial*: Mons. A. de Lacroette, from France, has been making a critical examination of the wines of California. As a result of his examination he pronounces the "Blaué Elban" wines of L. J. Rose, excellent, and the finest he has met in the State. There are many varieties of the Elban grape, but the kind known as Blaué Elban appears to be superior as a wine producer. Heretofore it has been customary to call this grape Blaué Elba, but Mr. Rose has become satisfied that this grape, among the many kinds grown along the Elba, is to be known as the Blaué Elban grape. His wine from this favorite grape will hereafter be known as Blaué Elban.

IRRIGATION SURVEYS.—*Herald*: From Mr. Schuyler, who projected and has charge of the work on irrigation surveys in southern California, and who came in from the field yesterday, we have obtained some facts relative to the character and extent of the operations to be carried on this year. Up to this time Mr. Schuyler has equipped and sent out three full parties. Party No. 1 is engaged in surveying reservoir sites on the headwaters of the Kern, Kaweah, Kings and San Joaquin rivers. Party No. 2, under H. J. Stevenson, is now working on the San Gabriel river. Lines for canals are being run from the mouth of the San Gabriel canyon on both sides, skirting the mountains encircling the valley, and terminating in a series of reservoirs in the coast range of hills. It is believed that in ordinary seasons the San Gabriel river flows a sufficient volume from November to April to irrigate all the unwatered lands of the upper valley in excess of the quantity now diverted, besides filling a number of storage reservoirs for the irrigation of the territory between the coast range and the sea. When the work on the San Gabriel is completed, the Los Angeles and Santa Ana valleys will be similarly examined. It is expected, too, that a few borings will be made at points where submerged dams may be advantageously located. Party No. 3, in charge of F. T. Perris, is operating in San Bernardino county, starting first on a general gauging of all the streams and ditches of the valley, and afterwards making selection and survey of the reservoir sites. In addition to these full parties, there are, in this county, three engineers making special examinations, collecting statistics, etc.; while in San Bernardino, Kern, Tulare and Fresno there are several others employed on the same class of work. Mr. Schuyler, with a guide alone to accompany him, has been making quite an extensive examination of the Sierra Madre mountains, with a view of ascertaining what may be

done in the way of storage of water. He reports having had a rough and rugged trip. He found the mountains exceedingly precipitous, and the opportunities for storage of water at reasonable cost, few and far between.

MENDOCINO.

GRAIN.—*Ukiah Press*, Sept. 4: Grain is turning out well to the stack, but not as heavy for the acreage as some seasons. In Potter valley most farmers are exceeding their expectations.

MONTEREY.

MUSTARD THRESHING.—*Castroville Argus*, Sept. 4: For years past, in fact ever since the growing of mustard for market was commenced by the farmers of this valley, John Chinaman has enjoyed a monopoly of threshing that commodity. And he has made money out of it, too, as he does from every employment he enters. But his occupation as a mustard-thresher appears now to be seriously threatened, as we gather from W. A. Evans, a Cooper ranch farmer, who proposes to supplant Chinese labor in the mustard harvest by the use of horses. Mr. Evans is, we believe, the pioneer of the new plan in this section, and furnishes the following as the *modus operandi*: On a thick layer of straw he rests a large sheet of canvas, say 60 ft. square (the larger the better), and here the cut mustard is dumped and spread out, after which a double team is repeatedly driven over it, tramping out the seeds, but, owing to the springy layer of straw beneath the canvas and the intervention of the stalks, not breaking them. The removal of the stalks and the transfer of what then remains on the canvas are next in order, the operation being thus repeated and the use of the fanning mill finishing the job previous to sacking for market. This method, Mr. Evans tells us, is considerably cheaper than the employment of Chinese to do the work and is likely to be adopted on a large scale until steam power shall be utilized for the threshing of mustard as generally as for the threshing of wheat and barley.

NAPA.

HOWELL MOUNTAIN.—*St. Helena Star*, Sept. 2: W. C. Watson, Esq., of the Bank of Napa, and Mr. McFarling, were up last evening on their way to Howell mountain. Mr. Watson, by the way, is doing much to develop this valuable section of the country and his efforts promise to make it one of the most productive in the county. The soil is fertile, the climate salubrious, water pure and abundant. Already two of our prominent vinticulturists, Charles Krug and John Thomann, have bought tracts of land and are laying off vineyards of 100 acres each, thus starting it in a career of vinegrowing—one for which it is well adapted and will undoubtedly become prominent. Their work is probably but the prelude to many others, and many years will not elapse before Howell mountain will rival Napa valley as a great vinegrowing section.

HOP PICKING.—R. F. Montgomery has finished hop picking, and had a very good yield. James Dowdle commenced Monday and is still at it. His crop is good—better than expected. A. Clock, Chas. Storey and Ed. Simpson commenced to-day. This work will be all done this month, and the crop, as far as we hear, is good.

FRUIT.—*Register*, Sept. 4: The fruit crop, excepting grapes, is very small this year. Curled leaf almost totally destroyed the peaches, and frost injured some of the other varieties. Cherry trees yielded well in favored localities. Pears and plums are in moderate supply, and apples are not as plentiful as in average years and bring a better price. The number of bearing orange trees is yearly increasing, and more attention is annually paid to the cultivation of almonds, chestnuts, and black and English walnuts, all of which yield well in localities free from frost.

GRAPES of all varieties will be abundant. Not for many years, if indeed ever before, vines yielded so well, and although grape harvest has not commenced yet the fruit is rapidly approaching maturity. A larger crop will be harvested in this county than during any year of its history, and the demand far exceeds the supply. The annual increase of vineyards for three or four years past has been about 300 acres. Probably five or six times that number were planted this year. The yield of wine this season bids fair to exceed two and one-half million gallons. Altogether the present is one of the most propitious seasons this county has ever known.

SAN BERNARDINO.

ANTS IN RIVERSIDE ORCHARDS.—*Press*: One of the worst pests at present to be found in the Riverside orchard is the white ant, and it operates almost exclusively on new soil—land that was plowed up last winter for the first time. G. W. G. Ferris and D. W. McLeod, at the head of Magnolia avenue, are having a serious time with these ants. They first establish themselves in the root of the tree two or three inches below the surface of the ground; they then work up the tree, covering the body with a coat of mud. This coating is very thin and is raised from the surface of the bark sufficiently to allow the ants to work on the tree under the mud covering unobserved. Sometimes in a single night a strong colony of ants will erect their mud-house around a tree, completely covering the trunk for a distance of a foot above the ground. In a few days' time the bark of the tree under this mud covering has been badly eaten off, the wood has been punctured thousands of times, the sap has been poisoned, or its

flow interfered with in such a manner that gum begins to ooze out, and in a few days more the tree is on the sick list and is liable to die. It is necessary to wage a constant warfare against these ants. The gentlemen above named wash the trees with strong soap-suds mixed with concentrated lye. Mr. Ferris has also added cayenne pepper to this solution with good effect. One application routs the enemy most effectually, but it appears again in another place. So far as we are able to learn, old trees are not troubled with this pest. We would be glad to hear from any one who has been successful in fighting the white ant.

SANTA CRUZ.

EDITORS PRESS:—Santa Cruz county is all right. Only think of it! Wheat is turning out 35, 45, 50, and even 60 bushels to the acre all over the county, and a good crop of cherries, prunes, plums and berries, a fair crop of apples and some pears and peaches, and lots of grapes. Then there are about 14 saw mills, employing from 25 to 50 hands to the mill, and selling lumber at fair prices and paying their hands from \$35 to \$55 per month and board. There will be a thousand cords of tan bark go into market at about \$12 per cord, and many thousand cords of wood go out on the S. P. C. R. R. to market. There will be many thousand barrels of lime, and powder enough to "blow the world" up will go to market, besides many other products of lesser value. When we get the money for all these things, won't we have "lots" of it? And besides all this, there has been more than 20,000 "visitors" here, who left a good deal of money, went away satisfied, and said they would come again. Do you ask: Is this an accidental streak of good luck? No, sir; it would happen every year if we were an energetic, enterprising people, because we have the soil, climate, timber, and other natural conditions, to make this county one of the most desirable places for a home in the wide world. But you see the farmers came here to live on climate and grass, the lumbermen intended to get rich in two years at the most, and speculators, money lenders and whisky vendors intended to get all the money left by the visitors, and all that the mill men earned. But the farmers found the grass gone and the climate too thin to live on any longer, and the result is a crop of wheat. I did not say anything about our dairymen, because they are so quiet about their business, that we don't know much about them unless we go out among them. But we know they had a good crop of grass, and have made many thousand pounds of nice butter, and must be doing well, for they pay their hills promptly and have lots of fat cows. The weather is cool and pleasant, as it always is here. The people are healthy and happy, and the probability is that we will have money enough to do us until the visitors come again, and then we will get another supply, for the attractions are such here that they are sure to come, and their numbers increase every year at a good ratio.—M. P. OWEN, Soquel.

PAJARO YIELD.—*Pajaronian*, Sept. 2: Talk about a big yield of grain! The Pajaro valley is now reaching for gold medals, silver tea sets, decorations of honor and all the rest of it. Manuel Silva, a few days ago, threshed a field of wheat that yielded 108 bushels to the acre—the heaviest crop yet reported.

NEW WAREHOUSE.—*Watsonville Transcript*: D. M. Clough commences to-day the construction of a grain warehouse at Vega station. It is to be 40x100 ft. and if that is not sufficient for the storage of the grain there he will make it longer. It will be ready to receive grain by Monday next. J. C. Aston has the contract to build it.

SAN MATEO.

HARVEST.—*Times and Gazette*: The wheat crop that has been harvested and threshed has turned out far ahead of the greatest expectations. On the William Johnson ranch, Manuel Vierra, from 20 acres received an average of 3,400 lbs. to the acre, and Tommy Johnson, from 14 acres, received an average of 3,100 lbs. Geo. W. Lovie with his thresher has just put into sacks during the past three weeks, 10,000 sacks of grain.

SONOMA.

THE CODDLING MOTH.—*Santa Rosa Republican*, Aug. 28: We regret to state the coddling moths are at work here. Rev. Mr. Dimmick of this city showed some pears last week bored with worms. They are the first of this pest we ever saw in this valley, and the advance guard of an invasion that comes to stay. The fruit crop of California is doomed, we fear; though diligent precautions will, in some measure, avert its destruction. But how many will trouble themselves to expend time and money and labor?

GRAIN.—*Democrat*, Sept. 4: From all sections we receive reports that the grain is much better than was anticipated. Some farmers say that the increase averages from 5 to 15 bushels per acre. What the exact yield is, they will not be able to tell until after considerable more threshing is done. All the grain we have seen is plump and in excellent condition. If there is any shriveled or shrunken grain, we have not seen or heard anything about it. John Peterson threshed the grain raised in a field belonging to James M. Smith, just west of here, and informed one of our merchants that it averaged 55 bushels to the acre. Henry Weatherington informs us that old residents say that grain has not yielded as well during the past 12 years. The yield in Rincon valley, generally, is double what was anticipated. Fifty bushels to the acre is no unusual yield in many parts of the county.

THE VINTAGE.—I. DeTurk informs us that

the vines in this vicinity will yield a full average crop, but they are unusually late this year. The vintage will not commence at all before Oct. 1st, and then will be light for a while.

VINE LEAF HOPPER.—*Flag*: At the head of the Cloverdale valley is charmingly situated the fruit farm of C. Haehl, a painstaking farmer. We were treated to a drive to this lovely spot, and among other things found, much to Mr. Haehl's astonishment, genuine vine hoppers in frolicsome humor and great abundance, having already removed the entire crop from several otherwise healthy vines. Mr. Haehl immediately went to work to eradicate the pest, smoking with tobacco under a tent, and asks the co-operation of all local vine growers while the enemy is in his infancy.

HOP PICKING.—On Saturday evening there were 220 Indians, both sexes, camping among the willows in the river bottom opposite Alderson's, 120 for Alderson and 100 for the Grant yards. Sunday evening 300 were reported present, and Indian games and fandangoes progressing. Emissaries from Ukiah, Hopland and Oat Valley are scouring the country for Indian pickers, the heavy yield demanding more than usual.

TEHAMA.

EDITORS PRESS:—Wheat is now so low that our farmers are partially discouraged. I have met a great many of our hard-fisted sons of the soil, the last two days, and was sorry to find them so low-spirited from the depressed state of the wheat market. H. A. Rawson has sold his fine crop, somewhere in the neighborhood of 18,000 sacks, to F. J. Mayhew, of the Red Bluff flouring mill, for something like \$1.20 per cental, which some of his neighbors think too low. A great many of our farmers have made up their minds to store their grain until spring. Sheep are commencing to arrive from their summer ranges in the mountains. H. Halley brought down his flock early last week. Wool is arriving from the mountain shearing camps. J. Clayman, a sturdy farmer from Antelope, came in with several bales of wool from the shearing camp of Alex. and Galen McCoy, who have their sheep in the Sierra Nevada mountains. From him we learn that Leo McCoy is driving his band to the valley to shear. The Wool Growers' Association of Tehama county met at the store of Cone & Kimball—two large sheep-owners—on Saturday last. The meeting was called by the President, H. W. Brown, to discuss the action of the State Board of Equalization, who have decreed that 50 cents per sheep be added to the assessment of the flocks of Tehama county. G. G. Kimball was appointed Secretary, and the following business was transacted: A resolution was passed appointing N. P. Chipman and H. W. Brown as a committee to confer with the State Board of Equalization for the purpose of opposing any increase in the assessment on sheep in Tehama county. Also, ordered that an assessment of \$5 per thousand head on all sheep in the county be levied, payable to G. G. Kimball, Treasurer of this Association, for the scalp fund. The Treasurer was instructed to pay from this date only \$3 a scalp for coyotes and \$1 for cats, instead of \$5 for coyotes, as formerly. Hogs are moving, several herds being driven from the foothill country down on the plains, to glean among the stubble. The holders of hogs are in good spirits, the porkers being worth 4 cents per lb. David Oaks, who farms over 500 acres near Paskenta, drove in some 60-odd fine pigs, which Bradburry, the hog-buyer of this county, purchased to drive to Weaverville. Beef is looking up good. Bees are quoted at 5 cents per lb. It is a fortunate thing for our farmers who are lucky enough to have a few head of good steers to sell now, as it will help them out this dull time. Dave Oaks has a fine crop this year; he will have over 1,000 sacks to sell. He stores his wheat in Tehama, making three trips a week, which is slow, arduous and tiresome work. He has 300 acres summer-fallowed for fall, which he will commence on as soon as the grain is hauled. J. B. Sanford, from Round Mountain district, was in on Saturday. He reported the crops averaging very satisfactorily in his district. Wheat is piled up on the river bank, on the railroad and in corns, warehouses and every place, almost, between this point and Marysville, waiting shipment. Cone & Kimball purchased the crop of J. S. Cone, on the Antelope ranch, consisting of 30,000 sacks, and sold it again this morning. The firm did not have possession of the grain over a half hour; price, private. Senter & Cox are hauling in their wheat, and look for their sheep to be down from the Coast Range on the 15th inst. M. Bohn, of the firm of Lewis & Bohn, sold his share of the celebrated "Snowflake" to C. B. Ashurst for a cent and a half per lb., delivered on the ranch of the purchaser. Mr. Ashurst is pleased with the fine quality of the grain, and will give it a thorough test the coming year.—FELIX, Red Bluff.

TULARE.

VISALIA FRUITS.—*Delta*, Sept. 2: Tempted by the offering of some luscious peaches and Symrna figs, we took a ride to the place where they were grown, that of E. M. Dewey, in the "Aughinbaugh addition." There we found not only a great variety of fruit, but a well cultivated garden of showy flowers, such as we seldom see in this locality. We noticed among the fruit trees growing there those of peach, pear, plum, apricot, apple, almond, orange and lemon; all of them in a healthy condition, and many of them loaded with fruit. Few places in our county, of equal size, have been made to produce so much, or so great a variety, and we

commend Mr. Dewey's spirit of improvement to all property holders in Visalia who desire to make their homes attractive and valuable.

MUSSEL SLOUGH GRAIN.—That our readers may form an idea of the amount of grain raised in the Mussel Slough country this season, we have interviewed the warehouse men at Hanford in reference to their shipments so far, with the following result: Oppenheimer & Co. give the number of cars shipped by them at 371; Biddle Bros., 125 cars; Heinlen Bros., 90 cars; Manasse & Schoenfeld, 100 cars. The warehouses at Hanford will hold about 10,000 tons, and they are stored to the roof for the season. Not more than one-half of the grain has been threshed, and many are worried as to what to do with their wheat.

TUOLUMNE.

EDITORS PRESS:—The riches of the field are enriching the farmer; husy is he in finding a market. Prices may not be so high as anticipated, but the quantity exceeds expectations. Seven teams loaded with grain were in my yard last night. It has been many years since the same amount of grain was brought into the county, the home supply being considerable. The harvesting of grain lessens the hay supply. Consequently it is \$20 per ton in Sonora, and is expected soon to reach \$25. Wheat remains about \$1.75; millers refusing to engage in advance, as their demands are nearly supplied. Bodie is still a market for flour; Smith & Co., of Sonora, have a train of teams running regularly. Their flour is very superior. This county is well supplied with flour mills, all producing first-class flour. W. Bell is the oldest in the business, and always commands the highest figure, and he scarcely ever produces a bad sack of flour. Messrs. Divoll & Co. are new to the business, but if capital and enterprise insure success, they will be sure to find it. Messrs. Smith & Co., of Sonora City Mills, have all the elements of success but capital, a lack which farmers supply with a little leniency, owing to the good reputation of the proprietors. I have mentioned our millers as worthy of special notice. Next to the producer, the consumers are dependent on the miller's good management for good bread, and good bread means good health—the real wealth of life. Mills and millers have been the theme of story and song since civilization raised man above the stone mortar. The weather has been moderately cool for a few weeks, ranging about 88°. To-day it has advanced to 96° in the shade. The fruit crop is certainly a failure in this county. Even the grapes refuse to ripen. Apples are falling so that few remain to fall. The codling moth is victor so far. Pears and plums are more or less affected by the scourge. I see by the last *RURAL* that excuses followed one after another in the case of James Goodwin; but it has only made matters worse, showing neglect by not entering exhibitors in their books, so as to give them some show. Mr. Goodwin must have given some notice of his presence and entered his fruit with some one and in some book. The explanation does not mend matters much. It is to be hoped such indifference to exhibitors from a distance will be remedied.—JOHN TAYLOR, Mt. Pleasant, Sept. 3, 1880.

VENTURA.

EDITORS PRESS:—The farmers of Ventura are just too full of business and prosperity to even think of anything, except how to market their abundant, overflowing grain crop, and how to invest their money. Our warehouses are rapidly filling up with wheat, while four and six-horse teams are constantly leaving their loads at the wharf for the steamers. In those districts where the threshers have finished their work, it is truly wonderful to behold the vast number of long ricks of grain in sacks, which they leave in place of the stacks of unthreshed grain. The Odessa and White Russia wheats have both been grown within two miles of the ocean beach this season, and both varieties gave a good yield of bright plump grain; however, the White Russian seems to be the favorite on account of its color, and as far as it has been tested in this county, it has successfully resisted rust. But this season our prosperity does not end with a good grain crop, corn, beans and potatoes, apples and grapes are all more than an average yield. The yield of honey this season was not so large as in 1878; but the lack in quantity in 1880, has been made up by the better price which was realized for honey. Altogether the bee men of Ventura have done fairly well this season, and those who have received returns from their shipments of honey are jingling money and look happy. In fact, the farmers of Ventura are having a good share of good luck about now; and the most chronic fault finder has hard work to manufacture material for a graceful growl at good dame Fortune of 1880. To be sure there is a lot of whimsical whiners in Ventura, who go stomach-aching around, the same as there are in every other prosperous community, they grumble just as much when they raise 60 bushels to the acre as they did the dry year of 1877, when they did not raise anything. That class of men seem to find a morbid comfort in doling out doleful prophecies of dire disaster, which is soon to overtake themselves and the balance of the community. It is impossible for them to appreciate prosperity, so we will give them their growl, and leave them out of the count. And that our prosperity may be permanent, is the wish of—ROBERT LYON, Cliff Glen, Sept 4th.

YOLO.

DANISH WHEAT.—*Democrat*, Sept. 2: Last winter, C. F. Reed, of Knights Landing, procured 16 sacks of wheat which is known as

Danish wheat, cleaned it carefully and sowed it upon well-prepared ground. Recently he threshed this grain and realized 1,000 sacks of splendid, well-filled wheat which averaged 145 lbs. to the sack. This information we got from Sheriff Rahm, who showed us some of the wheat, and vouched for the above statement as coming from Mr. Reed.

POISONED HORSES.—A very singular misfortune in the loss of two or three farm horses befell Jno. E. Taylor, a farmer who resides on the east road leading to Cacheville from this place. Mr. Taylor being much annoyed from inroads made by squirrels on his place, put out quite a large quantity of prepared wheat poison in the wood lot near the house. Soon after he turned his work horses out for a run in the lot, and it was but a short time till some of them had come across the wheat, it is supposed with the above disastrous result.

EARLY CUT WHEAT.—John W. Freeman tried the experiment this year of cutting a quantity of wheat shortly after the grain had fully formed and while the straw was yet green. He allowed the grain to remain in the stacks until it had gone through the "sweat," and the other day threshed it out with very favorable results. The straw came from the machine in almost a rotten condition, resembling barn-yard manure in color and consistence, and the wheat poured out of the spout of the separator clean, bright and very plump. Mr. Freeman congratulates himself upon the success of his experiment, and next year will follow it up on a larger scale.

YUBA.

LOST SHEEP.—*Appeal*, Sept. 4: About two weeks since a flock of 18 fine fat sheep—pets, all of them—left the yard of John Brady, their owner, who resides a few miles this side of Smartsville. It was supposed that they were on the range. They did not return, and on Sunday the owner went in search of the animals. They were at last found dead in a cabin. They had sought refuge therein through the half-opened door to avoid the heat of the sun, but in some way managed to push the door to, and were thus trapped in the close little room in which they suffocated.

NEVADA.

GRASSHOPPER SCOURGE.—*Reno Journal*, Sept. 4: Investigation shows that our valley is even more thickly "planted" with eggs than at first supposed. Mayberry's ranch, at the west end of the valley, escaped the grasshoppers almost entirely this year, but the high land just back of it is now thickly laid with eggs, which looks discouraging for next year. All along down, every spot examined on either side of the river showed that eggs had been profusely laid. Nor are they confined to high and dry spots, as generally thought; for they are just as thick in the meadows and plowed land as in the dry, sandy spots. The held of land below the Arlington nurseries seems to have more in than any other section of the valley; and as these hatch first, the prospects are anything but pleasant for Jameson, McFarlin, Nay, Lake, Smith, Martin and the other ranchers out that way. Around Glendale, Auburn Mill, and down at Clark's, the same gloomy outlook is reported—nothing but eggs, eggs at every hand. Many of the farmers are feeling blue, and a few will not attempt to raise any crops next year, hoping to starve the pests out. If the hoppers stay here three or four years the loss will be incalculable, and not a few farmers become bankrupt.

THE HEIGHT OF THE ATMOSPHERE.—Hert Ritter has published recent calculations on the height of the atmosphere, approaching the subject in a manner different from that of earlier investigators. His principle is this: The quantity of heat which must be communicated to a mass of air cooled to absolute zero to bring it, under constant pressure equal to the atmospheric, to the state of the lowest layer of the atmosphere, is the caloric equivalent of the mechanical work which would have to be expended to lift this same mass of air from the earth's surface to the limits of the atmosphere. Supposing, first, our atmosphere to consist of a gas which would retain the properties of a perfect gas to absolute zero, he gets the height 15.53 miles. Then, making the same calculation for an atmosphere of pure water vapor, he gets 217.48 miles. Considering, lastly, that while it is not possible to make an exact calculation for real gases, which certainly condense and solidify like water vapor before reaching absolute zero, one must obtain a result a little different from that found in the case of such vapor, he concludes that the height of our atmosphere must differ a little from 217.5 miles—a number which agrees well with that deduced by Schiaparelli from the observation of falling stars.

SCISSORS, the parts of which are still made in Sheffield, Eng., by a tedious hand process, are made at one stroke of a die in Connecticut. Hence, Sheffield sends to Connecticut for large quantities of steel blanks, which are forwarded in that form to Sheffield to be finished, and then returned to supply American customers, who will not be satisfied with anything but English-made scissors.

AN iron church was sent from London for the Esquimaux in 1877, and after being two years on the way was erected last October. Eight Esquimaux have recently been baptized in it.

News in Brief.

A NEW and fatal cattle disease has broken out in Kentucky.

THIS year the American cotton crop is the largest ever raised.

THE port of Fusan, in the Corea, has been opened to Italian commerce.

PETER CAMPBELL, of Bridgeport, challenges the world to a whistling match.

ATTEMPTS are making to circulate \$50 forged American bank notes in London.

THE bones of a mastodon were recently exhumed in Washington county, Or.

O. F. DAVIS, a telegraph operator, was killed on the railroad near Pantana, Arizona.

DR. HAYES, the Arctic explorer, expresses his belief in the safety of the *Jeannette*.

THE volume of Kern river is three times greater than at the same time last year.

JOSEPH HANCOCK was suffocated by foul gas in the New Almaden mine on the 31st of August.

WILLIAM H. GREENWOOD, an American railroad engineer, was murdered in Mexico on Aug. 29th.

THE young man of the period allows his mind to run on monkey jackets and polka dotted socks.

NINETY-SEVEN lives were lost by the giving away of the pontoon bridge over the river Ehro, Spain.

A FARMER states that a corn-cob is better than any brush for cleaning woolen clothes from mud and stains.

LONDON placards announce that Spurgeon's figure has been added to Madame Tussaud's wax-works.

MANUEL SILVA, of Pajaro, has threshed a field of wheat which is said to have yielded 108 bushels to the acre.

THE "Queen's Printer" in England has a monopoly of the business of printing and publishing the Bible.

SPUZZUM is a noted Indian village on the Fraser river. It is the home of a thrifty and christianized tribe.

GEORGE TUCKER, an inmate of Auburn prison, has just inherited \$12,000. His sentence will expire in 1885.

JOSEPH COLE, of Central Point, Merced, has lost inside of three weeks over 300 chickens by the sneaking coyote.

CONSIDERABLE attention is being paid to raising silkworms in Amador county, and they are said to thrive well there.

MISS JOSEPHINE TAYLOR, daughter of the head of the Mormon church, has fled from her home to escape polygamy.

ENGLISH Sunday schools have no picnics or festivals, and the children are less regular in attendance than in America.

IT is proposed to raise \$25,000 in Petaluma and build a new and fast steamer for use on the creek route to San Francisco.

THEY say at the London jockey club that Mr. Lorillard's two-years' career on the English turf has cost him nearly \$200,000.

BISHOP ELDER of Cincinnati has declared that no banged or frizzed hair will be allowed among the women of his congregation.

RESIDENTS of Livermore valley tendered a reception and picnic to the Tulare settlers, who reached that place the other day.

A PARTY of picnickers were poisoned, Sept. 21st, at Geneva lake, Wis., by eating pressed beef. Eight persons are dangerously ill.

NEGOTIATIONS are proceeding with French capitalists to raise funds in Paris for the construction of the St Lawrence tunnel.

CASTROVILLE farmers use horses to trample out their mustard seed. This does away with the employment of Chinese with flails.

SOME pretty fans are to be seen at the watering places, this year, but the loveliest is declared to be of white lace applied on a background.

THE steamer *San Salvador*, plying between New York and Truxillo, Honduras, and engaged in the cattle business, is reported to be lost.

THE Bodie stage was robbed on Sunday, Sept. 5th, and one robber was killed, a messenger was wounded, and the treasure box was taken.

IT is reported that Prof. Henry L. Kendrick, of the chair of Chemistry at West Point, is about to be retired by the President under the longevity law.

MISS ALICE HARLOW, of Augusta, a recent Vassar graduate, accepts the professorship of Latin and Greek at Monticello seminary, Godfrey, Ill.

THE American humane association has deposited \$5,000 with Kidder, Peabody & Co., at Boston, to be awarded the inventor of an improved cattle car.

CUSTOMERS on a milk route in New Haven, Conn., are supplied by a woman who in all sorts of weather drives her rounds with unfailing regularity.

GEORGE MEEK, of Windsor, Sonoma Co., who was bitten by a fox, has, after much suffering died from hydrophobia, caused from the animal's saliva.

THE Illinois Central has paid more than \$36,000,000 in dividends in the last 20 years, besides reducing its funded debt to \$10,300,000 on 848 miles of track.

AN English member of Parliament thinks that the next session promises to be fraught with very important events in connection with the woman's suffrage movement.

THE house still stands in Salem, built about 1632 by Roger Williams, in which is a low room, with solid oak beams and timbers, where the witch's trials were held, and whence many victims were led out to die.



The Queen and the Waif.

Silk and diamonds and trailing lace,
Haughty carriage and fair proud face;
Out from the palace towering high,
Grand and gay 'neath the bending sky;
O'er the lawn with its carpet green,
Lightly stepping came Austria's Queen,
Flashing gems in the summer sun.

Jewels gleam on her royal hands,
Clasp her arms with their shining bands,
Sparkle and grow where the sunbeams fall;
But the most precious of them all
The nurse is biding with tender care—
The royal baby rosy and fair;
Pressing fond kisses on cheek and brow,
The Queen is only a mother now.

Down the lawn in its shadow deep,
A beggar woman lies asleep.
Hunger, poverty, pain and care
Darken the face once young and fair;
There by the wayside seeking rest,
Clasping a babe upon her breast,
Its hungry wail a cross the green,
Stirs the heart of the mother Queen.

Down on the green grass, kneeling low,
Baring her bosom white as snow,
Laying a child without a name
Where only royal babies have lain,
Feeding it from her own proud breast,
Hungry, starving—ah, there's the test.
Mother love spans the chasm wide;
Queen and station must stand aside.

Shall We "Walk in Silk Attire?"

[Written for the RURAL PRESS by JEANNE C. CARR.]

On arriving in California, near the close of the year 1868, one of our first visits was to Louis Prevost, at San Jose, with whom we had been in correspondence with regard to silk culture, and who was one of its earliest and most enthusiastic promoters. We also visited the Newmans, who were then reeling California cocoons; indeed, on the day of our visit, one of the brothers was weaving upon a web of black dress silk, as soft and lustrous as any lady need wish to wear, fully equal to the best specimens of Cheney Bros' manufacture. I said to Mr. Newman, "I will never buy a black silk gown until I can afford an American silk" (Newman's was \$5 per yard), a promise religiously kept even to this day.

A few months later, we were in Los Angeles county, where we found Mr. Garey raising a large stock of *Morus multicaulis* for the prospective demand; here we were joined by Mr. Prevost, who was negotiating for the purchase of a tract of irrigable land at Cocomunga for a colony of silk culturists. Two very enterprising young Americans, who had been in China studying up the silk business, had bought land at San Gabriel and were planting extensively, with the expectation of employing Chinese labor in silk production. We returned to San Francisco assured that the culture of silk was one of the opening industries of this State; and from that day to this have not ceased to regret the death of Prevost and other untoward circumstances which nipped it in the bud. The San Gabriel enterprise was broken up by the utter destruction of the trees for two successive seasons by grasshoppers. The cocoons raised there were very fine, and the sale of eggs, or "grain," profitable until the market was over supplied.

So great is our faith in silk as one of the domestic cultures to which our southern climate is well adapted, that we have here quite a nursery of different varieties of the mulberry, and we even raised a few silk worms in Oakland, in order to teach our children objectively the simple and beautiful processes of its natural production.

In my sixteenth year a great surprise and delight came to me, which kindled my enthusiasm for this industry. My father had been smitten with the *Morus multicaulis* fever, which appeared as an epidemic in New England and died out as the yellow fever does with the first heavy frosts. I had fed about 600 worms the previous summer with leaves of the white mulberry (*Morus alba*), and reeling the same on my grandmother's ancient reel, twisting also on the spinning wheel which is to-day one of the penates in the old homestead, I produced some very creditable sewing silk, which, exhibited at the State fair, brought a handsome premium. "If the common white mulberry would make such silk, what could we not do with the imported simon pure leaves?" So father reasoned, and he said: "If you will take all the care of the worms, and take the two State premiums, i. e., for the best reeled silk, and the best bushel of cocoons, you shall have a new eight-octave piano, and the best one I can find."

Imagine such an incentive to a girl loving music well, but condemned to grind it out of an old-fashioned, five-octave, spindle-legged piano. I well remember when the sheets of silkworm eggs arrived in the mail, hermetically sealed in their tin boxes, and how we buried them in the cellar lest an untimely hatching should anticipate the tender foliage; and how the "corn

house" was turned into a cocoonery, with tiers of frames covered with "millinet," for this was before the days of wire gauze and netting. A Vermont summer admitted strictly of only one crop of cocoons, and during that two months I worked indefatigably. My young brothers gathered the leaves, and we together reared over 100,000 silk worms. Just as they were ready to spin, a violent thunderstorm occurred, succeeded by a cold night, and the shelves were strewn with corpses when I went to them in the morning. But the loss was not great enough to endanger my final triumph. I got the premiums and the piano, and the Legislature having offered a bounty on raw and reeled silk, I received quite a handsome sum in addition.

In those days there were only two places in New England where silk goods were manufactured, and there really was no market for our cocoons. We used ours, first for sewing and embroidery silk, which we manufactured at home; and then the raw silk, obtained from the envelope of the cocoons, with wastage, was carded by hand, spun and knit into very beautiful and serviceable stockings. Having worked out this problem from egg and mulberry leaf, to the stockings, not given up until they had been healed, toed, footed, in the good old way of household economics, we feel justified in encouraging the Social Science sisters to take hold of the silkworm interest with a will.

There was an American "Goddess of silkworms," Eliza Lucas Pinckney by name, when the old 13 States were young, she wrought for the future of South Carolina. She was a gentlewoman of the most illustrious family, fitter than almost any other to have presided over the republican court, or to have been the Ceres of a national grange, so profoundly interested was she in the development of the State. She introduced the culture of rice and indigo into Carolina. She made silk culture the fashion, and carried to England sufficient spun silk, grown and manufactured by herself, to make three dresses, "remarkable for beauty, fineness and strength." One of these gowns was presented to the Princess Dowager, another to Lord Chesterfield, and the third was handed down in the Pinckney family for many generations.

There was a very interesting exhibit at the Centennial of silk made from cocoons of the "mirror-bearers butterflies," a gorgeous member of the Bombyx section of Lepidoptera, found in nearly all parts of the Brazilian empire. The butterflies, worms in all stages, preserved in alcohol, cocoons, thread, ribbons and other manufactured articles were shown. The insect is not the same found elsewhere feeding upon the Ricemiss, though its favorite food is the leaf of this plant. The Brazilian species is *Saturnia aurora*; each butterfly produces an average of 240 spinners; each cocoon averages 2½ drams in weight, and contains 30 grains of good silk. A "shred" or single fiber 1 ft. in length, will support a weight of 4 drams, and a weight of three-fourths of a pound was held by a twist of 24 shreds; the elasticity of the single or combined shreds being apparently greater than of ordinary silk. Reeling is done without destroying the chrysalis. I also saw coarser silk from India, made from cocoons of *Saturnia cyathia*, or *Saturnia mylitta*.

In the Russian school exhibit was a papier mache model of the silk worm, which when opened, showed the anatomy of the spinning apparatus and silk bags beautifully. It was an endless source of delight to my children to hang up a long, curly shavings in our window cocoonery, and to watch the worms as they spun their webs in the clean coils. Occasionally catching a thread from the mouth of the worm, they would draw off yards of silk, sometimes winding it off from these live bobbins, by turning over and over a card held in the hands. Hannah F. Gould's charming poem was made familiar to them when the silkworm eays:

"I leave behind as a farewell boon
To the proud young princess my whole cocoon;
And little she thinks that she walks in pride,
In the winding sheet where the silkworm died."

If we were willing to dispense with silk gowns there would still be reason enough for cultivating this most beautiful product for knitted underwear; the safest, pleasantest, most durable, and to many constitutions healthful kind of clothing. Real silk is seldom found in these days of shoddy, but there would be honest satisfaction in having one dress for state occasions, home-grown and home-made, which like our great grandmothers, would stand alone and travel down to our posterity.

Pasadena, August 30th.

"THINK A MINUTE FIRST."—Apropos of the saying of the little ones I am reminded of an incident which touched me very much at the time and may find a responsive chord in the hearts of many who are parents. I was sitting on my porch on a pleasant summer morning, when up runs my little five-year-old Belle, intent on a visit to a playmate across the way. "Papa," she asks, "may I go over and play with Carrie awhile?" and then she seemed to discern a dissent in my face, she put her little rosebud lips to mine, and quickly added: "Please don't say no—think a minute first." Was there ever a more charming protest against a hasty and inconsiderate answer? Of course the little girl had her wish. We are, perhaps, all too ready, thoughtlessly, to deny many of the requests of the little ones—things that seem trifling to us, but are everything to them. And when their little appeals come, before letting the "no" rise too quickly to our lips, let us think a minute.—*Harper's Magazine.*

Tender Memories.

The following lines will touch a sympathetic chord in many hearts: "I saw my wife pull out the bottom drawer of the old bureau this evening, and I went softly out and wandered up and down until I knew she had shut it and gone to her sewing. We have some things laid away in that drawer which the gold of kings could not buy, and yet they are relics which grieve us until both our hearts are sore. I haven't dared to look at them for a year; but I remember each article. There are two worn shoes, a little clip hat with part of the brim gone, some stockings, pants, a coat, two or three spools, bits of broken crockery, a whip and several toys. Wife, poor thing, goes to that drawer every day of her life, and prays over it, and lets her tears fall upon the precious articles, but I dare not go. Sometimes we speak of little Jack, but not often. It has been a long time, but somehow we can't get over grieving. Sometimes, when we sit alone on an evening, I writing and she sewing, a child in the street will call out as our boy used to, and we will both start up, with beating hearts and a wild hope, only to find the darkness more of a burden than ever. It is still and quiet now. I look up to the window where his blue eyes used to sparkle at my coming, but he is not there. I listen for his pattering feet, his merry shout, and his ringing laugh, but there is no sound. There is no one to search my pockets and tease me for presents, and I never find the chairs turned over, the broom down, or ropes tied to the door-knobs. I want some one to tease me for my knife, to ride on my shoulder; to lose my axe; to follow me to the gate when I go, and be there to meet me when I come; to call "good night" from the little bed now empty. And wife she misses him still more. Here are no little feet to wash, no prayers to say, no voice teasing for lumps of sugar, or sobbing with the pain of a hurt toe, and she would give her own life, almost, to awake at midnight and look across to the crib and see our boy there as he used to be. So we preserve our relics, and when we are dead we hope that strangers will handle them tenderly, even if they shed no tears over them.—*Rochester Union and Advertiser.*

HINTS ON TRUNK PACKING.—A writer for the *American Cultivator* says: In packing a lady's trunk never forget to place the heavy articles of underwear, neatly folded and compactly crowded together, at the bottom. If a bonnet is to be included, pack it in a paper box that is as small as possible. Arrange the white garments about it, so that when they are all disposed of they will present as level a surface as possible. Stockings neatly turned into each other and merino or silk undervests, etc., tidily rolled up, are excellent articles to crowd into the vacancies about the bonnet box, and also into spaces caused by garments with gathered tops. Starched skirts should be folded into as broad pieces as the trunk will admit, and their tops folded under or over to suit convenience. Above them place the dress skirts, also folded as broadly as possible, carefully preserving the smoothness of their lower parts, and over these lay the neatly-folded waists. Now place a towel over them and tuck it neatly down about the dresses to further secure them from dust. If the tray sinks down too easily, on account of the trunk not having enough in it, add a shawl, newspaper, or any convenient articles that will prevent the packed garments from becoming disarranged. In the tray, collars, laces, ribbons, gloves and all the etceteras of a lady's toilet should be neatly arranged either in or out of paper boxes. Fans and parasols should be wrapped in towels or soft paper. Shoes should be placed in linen pockets prepared for their reception. After everything is in the trunk, cover the topmost articles with a towel, and be sure to fill in with something if there is any space still left. This style of packing will carry the finest of dresses and skirts a great distance without injury.

AGRICULTURAL EDUCATION.—S. H. Carpenter, LL. D., of the University of Wisconsin, furnishes the following answer to the question, "What brain culture will best fit a farmer for his calling?"

1. Every farmer is a man, and needs to know:
 - a. What man is. Mental Philosophy.
 - b. What men have done. History.
 - c. What men are doing. Language and Literature.
- II. Every farmer is a citizen, and needs to know:
 - a. The duties of citizens: Moral Philosophy.
 - (a) Toward each other. Constitution, etc.
 - (b) Toward government. Rhetoric.
3. How to express his views. Logic.
- III. The business of a farmer is to develop to maturity two classes of germs.
 - a. Vegetable. Botany.
 - b. Animal. Zoology.
- His means are:
 - a. Soil. Chemistry and Geology.
 - b. Atmosphere and chemical force. Physics and Astronomy.
3. Vital forces.
 - (a) Vegetable. Botany.
 - (b) Animal. Zoology.

AT SEVEN o'clock in the morning two duellists, who are to fight to death at a place in the suburbs, meet at the ticket office of a railroad station. "Gimme a return ticket as usual," says the first duelist to the clerk, in a terrible tone and with a ferocious twist of his moustache. "I—I say, do you always buy return tickets?" stammers his opponent. "Always."

"Then I apologize."

RED used on a railway signifies danger, and says "stop!" It is the same thing displayed on a man's nose.

California Mornings.

[Written for RURAL PRESS by MRS. W. D. ASHLEY.]

Who does not feel paid for early rising by the beauty of our mornings during eight months of the year? Mornings laden with no malarial poison, but freshened by the moist, westerly wind and bracing sea breeze. Then the skies soft with rose and amber as the sun uncloses his quiver over the mountains veiled in hazy gray, and over the valleys, lighting up the tree-tops, buildings and fields, deepen into the brilliance of an Italian sunrise. Cheery cooings and crows arouse labor, and filled with new vigor and new hopes, he goes forth. Soon through his thousand avenues is heard the hum of mighty Force.

What strength of limb, what energy of soul, what peace of heart springs from these early mornings, musical with the warblings of the dawn! Pat's salutation, "The top of the morning to ye'es," conveys a world of health-giving, soul-reviving freshness. Newer strength we gather as going through our morning tasks, our eyes rest upon earth and sky.

"The sunrise shewn, the essence of a holy psalm; Embodied peace and pictured calm."

Greater faith and trust in Him "Who maketh the out-goings of the morning to rejoice," inspires us as strengthened and purified we take up the labors of the day.

Stockton, Cal.

Wife and Home.

Servians are not remarkably patriotic; they are too faithful as husbands, lovers and fathers to become good soldiers. A man was once brought before Tchernayeff, the Russian general, charged with having cut off two of his own fingers in order to render himself unfit for service. The soldier denied that he had himself performed the act of self-mutilation, but subsequently admitted that a comrade had served him only too faithfully in the matter.

"And were you not ashamed," asked the general, "to abandon the field when the Turks are on the soil of our fatherland?"

"Excellency," replied the soldier, "I am quite willing to fight the Turks, but I wanted to see my home again."

"Indeed," replied the commander-in-chief. "Well, you shall have a long leave of absence. Say your prayers. You will be shot this moment."

The platoon was drawn out and the man, who was really no coward, and would have died willingly in defence of his home, made the sign of the cross, and was stepping in front of his executioners without a word, when he suddenly stopped, as if he had forgotten something, then walked up to the general, and placing in his hands a few pieces of money, said:

"To be given to my wife after—"

"Go and take them to her yourself," blurted out Tchernayeff, whose eyes are said to have filled with tears. The man was of course pardoned. He seems to have been a veritable type of his countrymen, who cannot understand why so many men should sacrifice all that earth holds dear simply that another man may play at royalty.—*London Miscellany.*

TEA AND MODERN SOCIETY.—Our ancestors drank spirits, our grandmothers drank beer, we drink tea. It is probable that our nature is largely modified by the articles of our daily diet; and the extensive fashion of tea drinking cannot but leave traces on the history of morals. We are now becoming more sensitive, more highly strung, more nervous—tea is exciting; our appetites as a rule are more jaded, more capricious—tea is a stimulant; our refined natures turn from gross and heavy feeding—tea is a delicate drink, can be served in pretty china, and among luxurious and artistic surroundings; we are intellectually inclined—tea is a solace to the brain; our poetry is full of the weak complaining passion, the outspringing yearning, the purely feminine constitution of the mind—tea is essentially a woman's drink. Thus, to the class who eschew realism and the plain practical bareness of ordinary life; who desire to be intense; who look upon a sickly, sentimental, cloying kind of art as the sole aim and object of existence; who sob and bemoan and quiver; and, though pale and haggard in appearance, yet contrive to enjoy a very fair amount of pleasure and good health—to this large and ever growing class, tea, with its concomitants of idleness, talk and beauty, necessarily appeal very strongly.—*London World.*

WOMEN AS ARCHITECTS.—Miss Margaret Hicks, a recent graduate in architecture from Cornell university, is, we believe, the first woman in this country to undertake a profession in which there is no reason whatever why a woman should not succeed as well as men; perhaps, in all accuracy, one should say as badly. The *American Architect* has published portions of Miss Hicks' graduating thesis on "Tenement Houses," and, while the essay is naturally stronger in its summary of past attempts at improving tenement-houses than in suggesting a new one, there are after all few graduating theses which are worth publishing at all. There are certainly great things in the way of closets to be hoped for if women architects come to be frequent.

A MAN who "won't go home till morning," is apt, after a while, to have no home to go to.

Chaff.

GREENLAND has no cats. Imagine cats in a country where the nights are six months.

He said her hair was dyed, and when she indignantly exclaimed, "Tis false!" he said he presumed so.

THE base drum player makes more noise than anybody else, but he doesn't lead the band. There is a moral to this.

A MAN that marries a widow is bound to give up smoking. If she gives up the weeds for him he should give up the weed for her.

"How does painting agree with my daughter?" asked an anxious parent. "It makes her too red in the face," replied the teacher.

DEFINITION OF A POLITE MAN.—One who listens with interest to things he knows all about when they are told by a person who knows nothing about them.

He was inclined to be facetious. "What quantities of dried grasses you keep here, Miss Stebbins! Nice room for a donkey to get in!" "Make yourself at home," she responded, with sweet gravity.

THE clergyman in a certain town, as the custom is, having published the bans of matrimony between two persons, was followed by the clerk reading the hymn, beginning with these words: "Deluded souls, that dream of heaven!" Owing to the Spartan severity of the seats at the Concord school of philosophy, the ladies who attend there complain that they are so constantly reminded of their back bones, that they cannot properly concentrate their thoughts on causation, fundamental concepts, the philosophy of the infinite, and all that sort of thing.

HURPER'S BAZAR tries to help shallow purses on which a demand is made for wedding presents. It suggests grape scissors, asparagus tongs, gravy-spoon warmers, oyster forks, lobster pickers, tiny sugar tongs for five o'clock tea sets, a cream and sugar cruet for tarts and the like, all of which can be had in either plated or silver.

SCENE at a wedding breakfast.—Company all seated about the table. A pause in the general conversation. Happy husband to his wife's little sister at the other end of the room: "Well, Julie, you have a new brother now." Julie: "Yes, but mamma said to papa the other day that she was afraid that you would never amount to much, but it seemed Sarah's last chance."

THE WONDERFUL ADAPTABILITY OF PAPER.—The adaptability of paper to numerous important and widely varied uses is wonderful. What other substance can be satisfactorily substituted for wood, iron, and such common materials, to the extent that paper can be? It is impossible to find anything else which, like paper, may be so differently and dexterously prepared, as regards flexibility, thinness, strength, durability, imperviousness to fire and water, etc., that it can be readily made into pails, washbowls, dishes, bricks, napkins, blaukets, barrels, houses, stoves, wearing-apparel, curtains, bonnets, newspaper and writing sheets, wrappers, carpets, coating for iron ships, flower-pots, boxes, parchment slates, coverings for the leads of pencils, jewelry, lanterns, car-wheels, dies for stamping uppers of shoes, roofing, and many other things. It is this tendency on the part of paper to take the place of everything else, to become a universal substitute, so to speak, which leads to the conclusion that the future has a grand development in store for it, and that in years to come its manufacture will hold a magnificent position among the great industrial interests of the world.—*Chicago Journal of Commerce.*

HOW TO LAUGH.—As to laughing, how seldom, except on the stage, do we hear a really musical laugh! Some girls make dreadful grimaces when they laugh. A little education in the art would not make it artificial, and they would surely enjoy it all the more if they could realize that they might indulge in mirth without making themselves look so very ugly, as is occasionally the case. It runs in families sometimes to distort the countenance in laughter. I know a family who laugh a great deal. Their eyes always shut up when they do so, and it is the funniest thing when one dines with them and something amusing is said, to look round the table and see exactly the same distortion on every face. There is not an eye left in the family. Three sisters whom I know show quite half an inch of pale pink gum when they laugh. In their presence, like Wendell Holmes, one "never dares to be as funny as one can," for fear of seeing this appalling triple vision of gums. A little training in childhood would make their laughter a pleasant thing to look at, for they have all pretty little square teeth, very white and even. Henry Ward Beecher says: "A good laugh is worth a hundred groans in any market," and I am sure a pretty one is worth a thousand.—*London Truth.*

CORRECT SPEECH.—Correct speech is such an indisputable mark of a lady or gentleman that it cannot be too often repeated—that the true standard of pronunciation is one in which all the marks of a particular place of birth and residence are lost, and in which nothing appears to indicate any habits of intercourse other than with the well bred and well informed wherever they may be found. In the matter of accent, the aim ought to be to avoid all that is local, affected or vulgar. Let no transgressors imagine they can escape with impunity. Their speech will betray them, and even well-educated children will be merry and satirical over them behind their backs.

YOUNG FOLKS' COLUMN.

A Story for the Tiny Ones.

Dolly had such a nice cat! She was very arge and strong, and her coat of fur was very glossy and black, all but one little white spot over each eye. Dolly named her herself, and said her name was "Black Sarah." Papa and mamma laughed and said it was a funny name for a cat, but Dolly said it was nice, and so Miss Kitty kept her name.

Dolly thought Black Sarah was lovely, and spent many happy hours of a long, happy summer playing with her, in the sunny open doorway of the large barn, or in the cool, vine-shaded porch of the farmhouse which was her home.

One morning Black Sarah did not appear when breakfast was ready, as she generally did, though Dolly called her, and put her saucer of fresh milk out on the back doorstep, so after she had eaten her own breakfast of bread and milk and porridge, she tied on her pretty little shade hat and went out to find puss.

"Black Sarah, Black Sa-rah," she called, "Kitty, Kitty, Pussy, Pussy," but still no Black Sarah came running to meet her.

After she had looked under the porch, and down into the dark cellar, and peered into the woodshed, and called at the foot of the stairs which led into the hay-loft, poor Dolly was just going to give up the hunt when a low mew arrested her attention, and lo! there was Black Sarah rubbing against her. Dolly hugged her and kissed her, and told her she was just going to cry real loud 'cause she was 'fraid she'd got lost, and Puss listened attentively, and licked the soft little hand with her rough tongue, and purred and seemed very happy. But all of a sudden she jumped out of Dolly's arms and ran across the barn floor to a large barrel and jumped into it. Dolly followed, and, by standing on tiptoe, she managed to look down into the barrel, and there she saw Black Sarah curled up with something dark beside her.

Dolly thought it was a rat's nest, so she ran into the kitchen, and told her mamma that Black Sarah would get eaten up by the rats, and begged her to come out and do something for her. So mamma left her work and went out to the barn with Dolly and looked into the barrel. "Why, Dolly," she said, "they are not rats—they are nice little kittens that Black Sarah is taking care of!"

When the kittens were four or five weeks old Dolly's mamma taught her a new song—perhaps you all know it—"Three Little Kittens, they lost their Mittens," etc. Dolly was greatly pleased with it, and thinking it was just the thing for her kittens, sang it to them over and over again each day in her sweet little voice. At last, one day, when Dolly's mamma was sitting with her sewing under the big, old apple tree in the orchard, she noticed that Black Sarah seemed to be acting queerly; she would come up to her and jumping into her lap, would give a plaintive mew and then jump down again and run off, looking back to see if mamma was coming. After she had done this several times, Dolly's mamma began to feel anxious lest something had happened to her little girl, so she put down her work and followed the cat, who led the way quickly to the barn.

Here she found Dolly, sobbing and crying as if her heart would break, and on the floor the three little kittens, all so still and quiet, while Black Sarah sniffed around them, and touched them with her paws, and called them, but they did not move, for they could not hear her.

"Why, Dolly," said her mamma, "what has happened to the poor little kittens? I am afraid they are all dead."

Poor Dolly cried still harder upon hearing her mamma say this, and Black Sarah jumped into her lap, and put her paws round her neck, and rubbed affectionately against the poor little tear-stained cheek, while Dolly's mamma did all she could to soothe and comfort her, and at last Dolly told her, with a fresh burst of tears, how it all came about.

It seems that she was playing with the kittens, and singing their favorite song to them, when all at once it occurred to her busy little brain that they had no mittens on, and so, as she wanted them to be just like the kittens in the song, she went into the house and brought out her papa's fur mittens and one of her mamma's kid ones; they didn't fit the kittens' paws, of course, so she put a kitten inside of each mitten, and placing them gently in their bed, tucked the straw warmly about them and sang them to sleep, as she had often done before. Then Ann came out to look for eggs, and as that was always great fun, she and Black Sarah went with her. When they came back Dolly called the kittens, and Black Sarah mewed for them to wake up, but they didn't stir; so Dolly lifted them all out of the box and took off the mittens, thinking they were still soundly asleep, but they didn't open their eyes nor move, but were so still that they frightened her, so she sat down beside them and cried till Black Sarah brought her mamma to her.

Poor little kittens! Dolly cried and sorrowed for many days over their untimely fate, but mamma told her that they just went to sleep, and that they were still three happy little kittens. Black Sarah missed them for a day or two, but she was so much occupied in trying to comfort poor little Dolly that I guess she forgot her own troubles. Dolly says she shall never sing "Three Little Kittens" again.—*N. Y. Tribune.*

GOOD HEALTH.

Effect of Starvation on the Blood.

During the last hour of Dr. Tanner's 40 days' fast, some of his blood was withdrawn from the hand and subjected to a careful microscopic examination by Dr. P. H. Vander Weyde. It was found to be entirely different from healthy blood. The corpuscles, which are otherwise smooth and round flat disks, with a depression in the center, and of an average diameter of 1-3600th part of an inch, were found to be ragged, irregular and shrunk to the average of about 1-5000th part of an inch in diameter.

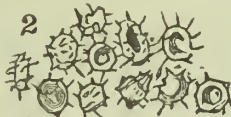
When blood is given time to dry on the microscope slide, the corpuscles may lose their smooth appearance and become smaller by shrinkage, but in this case there was no chance to be misled into error by such a cause, as the blood was examined while perfectly fresh and the corpuscles still moving freely in the plasma. This ragged appearance was so common in all of them that there was scarcely a smooth corpuscle among them, except the white ones, which had very nearly the normal size and were smooth. Their number, which ordinarily bears to the red corpuscles the proportion of 1 in 400, was apparently increased. Occasionally the white corpuscles were seen clotted together in a way never observed in normal blood.

A further study of these abnormal red corpuscles showed that their rough appearance was generally caused by points projecting from their surface, and looking like a fungoid growth which covered them, while in many this growth appeared to be taking place at the expense of the corpuscle itself and living on its substance, as the corpuscles most densely covered were the smallest and the most irregular in shape; in fact some of them appeared disintegrating and breaking up.

We represent here some of the corpuscles as they appeared in the blood of Dr. Tanner, as seen and drawn by Dr. Vander Weyde, and at the side of the healthy blood the contrast is striking:



1. Appearance of the Corpuscles of Normal Human Blood.



2. Appearance of the Corpuscles of Dr. Tanner's Blood after 40 Days of Starvation.

It is a common law observed in organic substances that when a breaking up of the structure is impending, foreign living organisms spring up, and are sustained at the expense of the decaying organic body. Mold, and all kinds of fungoid growth, originate according to this law, while in infusorial life it reaches its highest development. In the latter case it appears intended to economize the organic materials of the structure, and in place of allowing them to decompose into their primary elements, and to be built up again by the slow and laborious process of vegetation under the influence of light, these organic materials are directly transformed into food for the larger inhabitants of water, and finally for fishes.

If the formation of fungoid spores, which is of a vegetable nature, also serves a useful purpose (which is probable), is as yet a question to be determined by further investigation; but certain it is that such a growth is not confined to large masses, but even found on the surface of such small objects as the corpuscles of the blood; this in fact has been recently investigated by microscopists, especially Korel, and such growth was found upon the blood corpuscles of patients when seriously suffering from various malarious diseases, such as typhus fever, etc., also in the last stages of consumption.

The appearance of Dr. Tanner's blood verifies this opinion. Very few, if any, corpuscles were free from the fungus, and all appeared to have suffered and shrunk in size, while many of them had become irregular in shape, and evidently were breaking up. As it appears to be the function of the liver to secrete the effete blood corpuscles, the liver of Dr. Tanner must have been taxed greatly, and this would explain his biliousness during the latter stages of the fast, when he often vomited bile with the mucus of his stomach.

In regard to the latter its digestive powers are phenomenal. Immediately after breaking the fast at the exact hour that the 40 days were ended, by eating a peach, he drank successively two large glasses of milk, ate half a watermelon, two beefsteaks, five apples, drank Hungarian wine, and had a good time generally, and was the next day already in good condition, gaining at the rate of five pounds weight every 24 hours.

The effect on the blood was very perceptible only 24 hours after breaking the fast. The fungoid spores had disappeared from a great many of the blood corpuscles, or, rather, perhaps, fresh ones had been evolved in the system, which is the most probable, as they looked as smooth and fresh as if they were entirely new. At the second day about half of the blood had become normal, while on the third day most all the corpuscles were restored; however, there were here and there still some imperfect ones, irregular in shape, as if they were remnants, and even some of these were not yet entirely free from the fungoid growth.—*Scientific American.*

DOMESTIC ECONOMY.

A CHEAP REFRIGERATOR.—A hole is dug on the north side of the house to the depth of 18 inches, and 3 ft. long by 2 ft. wide, or more. The bottom is leveled off, and into this hole is placed a bottomless box, measuring 30 by 24 inches, and 16 inches deep, provided with a tightly-fitting cover. As there will be some 3 inches space all round between the outside of the box and the earth walls of the pit, a second box is made, of a size to just fill up this space, leaving an air chamber of 2 inches between the two boxes, and to reach to the surface of the ground. The space is filled with sawdust or shavings; a rough cover is fitted to the outer box, and the affair is complete. Gravel or sand bottom is best, and such a box will keep butter hard in hot summer weather without trouble and without ice.—*Cor. N. Y. Tribune.* [We give this description in case it may meet some one's needs. For our own part, however, we should expect to go for our butter some morning and discover our "bottomless box" plugged full of earth by a gopher. Until this occurred, we would find the receptacle an abode for California mole-crickets and corpulent beetles.—*Eds. Press.*]

FRUIT CAKE.—One and one-fourth lbs. of flour (brown), 1 lb. of sugar, 14 ounces of butter, 10 eggs, 1 wineglass of sweet milk and 2 of currant wine. One teaspoonful of soda, 3 lbs. of raisins, 3 of currants, 1 of citron. One tablespoonful of molasses, 1 of cloves, 2 of cinnamon, 1 nutmeg. Dissolve the soda in the milk then add the wine. Rub the fruit well with flour before mixing with the dough. Half of the above recipe will make a nice cake in a pan 8 inches wide by 10 long, and it will keep for a year, if you can let it alone that long. Fruit cake is expensive at the time of making, but it is very economical when you consider how long it will keep; and then it is a great consolation to know that you have something ready for company and good enough for any one.

MISS CORSON'S TEACHINGS.—Potatoes, any time of the year, can be made mealy if boiled in salt and water and drained and then covered with a thick towel and left in back of the range five minutes. To retain the color of any vegetable plunge it into cold water after boiling. Cooks make the mistake of boiling things too much. After reaching the boiling point meats should simmer. The toughest meats can be made tender by so doing. It is always best to under-season rather than to over-season food. When anything is accidentally made too salt, it can be counteracted by adding a tablespoonful of vinegar and a tablespoonful of sugar. Meats of any kind should not be washed, but wiped with a towel to preserve their juices and quality.

CUCUMBER CATSUP.—The following recipe for cucumber catsup I make myself, and all my friends who have eaten it pronounce it good: Three dozen full-grown cucumbers, eight white onions, peel both and cut as fine as possible, on this sprinkle three-fourths of a pint of fine salt, then put the whole in a sieve and drain for eight hours; then take a teaspoonful of mustard seed, half cup of ground black pepper, mix them well with the cucumber and onion; then put the whole in a stone jar and cover with strong vinegar, closing it tightly. It is fit for use in three days, and will keep a long time. When cucumbers were scarce I have taken half green tomatoes and half cucumbers, and it made an excellent catsup.—*Cor. Germantown Telegraph.*

YEAST FROM GRAPE LEAVES.—Grape leaves make a yeast in some respects superior to hops, as the bread rises sooner, and has not the peculiar taste which many object to in that made from hops. Use 8 or 10 leaves for a quart of yeast; boil them for about 10 minutes, and then pour the hot liquor on the flour, the quantity of the latter being determined by whether the yeast is wanted thick or thin. Use hop yeast to raise it to begin with, and afterward that made of grape leaves. Dried leaves will be as good as fresh. If a dark film appears upon the surface when rising, a little stirring will obviate it.

DISH OF TOMATOES AND MEAT.—Take any cold meat you may have, and mince it with an onion, some finely-chopped herbs and bread-crumbs, a little lemon peel and nutmeg; mix with two well-beaten eggs; form into egg-shaped balls. Butter a pie-dish, sprinkle in bread-crumbs thickly, put on the bread-crumbs half a tomato, and one of the meat balls alternately; then a layer of bread-crumbs and some pieces of butter, another layer of meat and tomatoes, then more bread-crumbs and pieces of butter; bake half an hour.

YEAST FROM PEAS.—To one large teacupful of split bruised peas put one pint of boiling water; cover it closely so as wholly to exclude the air, and set it in a cool oven or by the side of the fire for 24 hours, when it should have a fine froth on the top; a tablespoonful of the water is the proportion (in a warm climate) to one lb. of flour. Yeast thus prepared is very generally used in Persia, and the writer has employed it in India for three years with perfect success.

ENGLISH TEA CAKE.—Take a light bread dough, enough for a small loaf, mix with it one tablespoonful of lard, one of sugar, one large spoonful of currants; let it rise again until very light, then bake. Cut into round slices and toast them; butter while hot.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine. St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES.	1 week.	1 month.	3 mos.	12 mos.
Per line.....	.25	.80	\$2.00	\$5.00
Half inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	40.00

Our latest forms go to press on Wednesday evening

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, September 11, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Silkworm Cocoon and Moth; What They Think of Us, 161. The Week; Experience with Cheap Labor, 168. The Horticultural Society's Exhibit; St. Bernard Dogs, 169. Notices of Recent Patents, 172.

ILLUSTRATIONS.—Silkworm Cocoon and Moth of Different Varieties, 161. St. Bernard Dog "Don," of the Cranmoor Kennel, New Jersey, 169. Walter A. Wood's Twine-Binding Harvester, 172.

QUERIES AND REPLIES.—A Widespread Vine Disease; A Prescription for Bots; The Apple Worm; Budding Roses; Answers Wanted; Opium Growers; Horned Toads, 168.

CORRESPONDENCE.—A Glimpse of Monterey, 162.

HORTICULTURE.—An Over-Fragrant Fungus; A New Fruit Picker; A New Guava; Still an Earlier Peach, 162.

THE DAIRY.—Points on Cow Feeding, 162.

THE FIELD.—Growing Potatoes with Irrigation in Chile, 163.

POULTRY YARD.—Money in Chickens; Moulting; Tobacco for Hen Lice; Turkey Growing in Nevada, 163.

SHEEP AND WOOL.—The Best Breed of Sheep for the West, 163.

PATRONS OF HUSBANDRY.—Are We Not All Brothers? 164.

AGRICULTURAL NOTES from the various counties of California and Nevada, 164-65.

NEWS IN BRIEF, on page 165 and other pages.

HOME CIRCLE.—The Queen and the Waif (poetry); Shall We "Walk in Silk Attire?" Tender Memories; Hints on Trunk Packing; Agricultural Education; California Mornings; Wife and Home; Tea and Modern Society; Chaff; The Wonderful Adaptability of Paper; How to Laugh, 166.

YOUNG FOLKS' COLUMN.—A Story for the Tiny One, 167.

GOOD HEALTH.—Effect of Starvation on the Blood; 167.

DOMESTIC ECONOMY.—A Cheap Refrigerator; Fruit Cake; Miss Corson's Teachings; Cucumber Catsup; Yeast from Grape Leaves; Dish of Tomatoes and Meat; Yeast from Peas; English Tea Cake, 167.

MISCELLANEOUS.—Women as Insane Asylum Physicians; Is South America Rising or Sinking? "Neptune," the New Cloth Preservative; Spread of Disease by Earthworms; A Remarkable Case of Somnambulism, 170-171.

Business Announcements.

Firearms, Etc.—C. D. Ladd, S. F.
A Good Home For Sale—C. H. Hall, Soquel, Cal.
Agents Wanted—Tombly Knitting Machine Co., Boston.
Lakeside Stock Farm—Smiths & Powell, Syracuse, N. Y.
Fruits, Etc.—Ellwanger & Barry, Rochester, N. Y.
Commission Merchants—L. G. Sresovich & Co., S. F.

The Week.

There seems to be a massing of affairs this week. To-day (Wednesday) San Francisco is having a little election all to herself, concerning the adoption of a new charter, which seems to be intensely exciting the local solons. Tomorrow the President will arrive in Oakland to participate in the celebration of Admission Day, and it remains to be seen whether San Francisco will succeed in capturing the guest in time for an afternoon parade. The feeling on this subject seems to be running quite high, and if the President has to summon the United States troops as a sort of a *habeas corpus* to rescue himself from the grasp of the two cities, it will lend new sensations to the event. Governor Perkins has issued a proclamation, naming tomorrow (Thursday) a legal holiday, so far as the institutions of the State are concerned, and calling upon all to refrain from ordinary duties and spend the day in rational enjoyment in commemoration of Admission Day and the visit of the President. It seems to us it would have been just as well not to have ordered this legal holiday. It will doubtless be enjoyed by the cities and towns around the bay, but in the interior, where there will be no visible occasion for greetings and no formal observance of Admission Day, the ordering of a *dies non* will interfere with the progress of a busy season and break a week, while there are not many to spare before the rains will close the season.

This week the district fair at Petaluma is in progress, and the telegraph announces it well attended. This begins the circle of fairs, which will occupy the next two months nearly. On Saturday the Mechanics' Institute will close a very satisfactory exhibition, and perhaps in our next issue we shall be able to announce the premiums in the departments in which our readers are most interested.

Experience with Cheap Labor.

There is abundance of produce in the hands of most farmers this year, and were it not that grain prices are so depressed and growers unwilling to sacrifice their property, there would be a grand aggregate of coin in farmers' pockets. Notwithstanding this unfortunate dullness in the grain trade, there is now more money at the command of producers than at any time for the last few years. We trust this money will not be squandered, as it has many times before, in various delusive ventures which are loudly proclaimed, or in ambitious reaching after more land by those who have already as much as they can farm well. Rather would it be wiser to devote what money is not needed to supply immediate wants or to gain deferred comforts, in improvement of farms and in rendering productive spaces which are now waste but capable of returning well if they be brought into proper shape.

There are many improvements in the mind of almost every farmer, many things which he would like to do if he could see how to gain improvement at a cost which would make the investment profitable. It is evident that improvements can seldom be made profitable if the farmer is compelled to pay for labor anything like the price required when men are hired to put in or gather crops. That is a plain proposition; and the consequence is that many who have land to clear either refrain from doing it, or else contract with Chinamen to do the work at a living rate. There is some reason to think that a better arrangement than this can be made if a better effort be put forth. Let us cite the experience of one of our readers who is making extensive improvements upon his property.

The proprietor of Jersey farm, in San Mateo county, spends each year considerable money in reclaiming his hillsides from a growth of shrubbery, and each time we have been on the place, we have noticed the area of pasture land encroaching upon the waste spots of brush. He also is building extensive reservoirs in the hills to store water for irrigating meadows and for use in his dairy barns. Such improvements would be wholly impracticable with high-priced hands, and the proprietor finds that he can get all the laborers he can employ at a surprisingly low rate. He pays 50 cents per day and board, and has all the men he can use at that rate. He has a cabin of redwood boards, rough but quite comfortable, and fitted with bunks and a long table and benches. The cabin is also furnished with kitchen arrangements and a cook who can be trusted to make good use of the materials supplied to him. This boarding and lodging-house is built near the seat of the grubbing or reservoir building, and the men work well and are contented. Of more than 50 employed last year, some hardly spent anything, but staid for months and let their earnings accumulate.

This sort of work generally begins on Jersey farm just after the greater part of the harvesting is done and laborers are generally out of employment. This year there were many applications for work at 50 cents per day before harvest was over, and now there is quite a gang employed. This is rather a new idea in California, but it seems that there are quite a number of men who prefer to have a comfortable bunk, hearty meals and 50 cents per day than to go tramping around the country after having squandered their harvest earnings. Such men should certainly be encouraged. If they will work at a price which the farmer can afford to pay for improvements which do not return immediate profits, they should certainly be employed, for it will result in the end in making our farms more productive and in developing many fields which are now waste and useless.

If there be found men with a disposition to work at a low price with an apparent understanding of the fact that the farmer cannot pay high for "dead work," it devolves upon the farmers to give them all the opportunity they can. It does not cost much to rig up a camp for their accommodation, and with a good foreman to keep them at work a good deal can be accomplished with a moderate expenditure of money. This would seem to be a way to get a good job of ditching or grubbing, or pond building or preparation of land for irrigation, or a host of other jobs which do not require skill except in the person who directs the work. There will be a couple of months probably before the work for another crop will generally begin, and the lands are now dry for work in low places, etc. It would be well if the time could be employed in getting things into shape for the rains.

We cannot tell whether men could be had in other parts of the State as they can in San Mateo county. It is near the city and the unemployed naturally congregate here. The fame of the Jersey farm 50 cent arrangement seems, however, to go abroad on the highway, and there are many continually applying for the work. It seems probable that if those farmers who have the ready money for improvements would lay out certain works which could be profitably done at a low rate and offer such employment to the bands of strollers who will soon be abundant on country roads, there might be many men reclaimed from the abominations of tramp life and the neighborhoods relieved of their support and depredations. We give the experience on Jersey farm and these deductions from it, thinking that it may be suggestive and perhaps worth action in locations where the opportunity and the materials are at hand.

QUERIES AND REPLIES.

A Widespread Vine Disease.

EDITORS PRESS:—I have received specimens of a vine disease which seems to be widespread this year, as indications of it have come from Sonoma, Napa and San Joaquin counties as well as Santa Clara. From the New Almaden vineyard in the last county I have received the following communication:

Accompanying this letter I send a box of samples, of disease in the vines, that has been existing in my vineyard for the last 15 years, and for which I have tried all remedies, none of which seem to have any result as to curing the disease, or of doing the least of good. I tried charcoal, sulphur, lime, manures of all kinds, plaster of Paris, etc., and the vines are just as bad as ever, only this year it commenced in August instead of in June or July. When once it is in a vine the leaves turn yellow (spotted) and roll up, the fruit dries up, its effects are very rapid, and, as so far no remedy is known, it renders the disease alarming. You heard of this disease in 1877 through Mr. I. C. Wood (deceased), of the Mission of San Jose. I first saw it in his vineyard where I showed it to him; it was soon afterwards mentioned in the *Alta California*, but since then no notice seems to have been taken of it. If you think it is important enough, I, together with my neighbors similarly affected, would like to hear a solution of the matter from you.—CH. LEFRANC, New Almaden Vineyard, San Jose.

The following reply was transmitted to Mr. LeFranc: Your samples of diseased grapevines were duly received, and almost at the same time others, exhibiting the same disorder, have been sent me. There seems to be a great deal of it this year all over the State.

In the first place, what you send as "*Oidium Tuckeri*" is not that parasite, but another entirely different appearance—much less delicate in its substance, being thick and gristle-like, and hence much less likely to be controlled by sulphuring than the genuine fungus. It forms excrescences, resembling gnarled pine trees, on the surface of the berries.

In the case of the other I find protruding from the surface of the berries what appears to be the same fungus in a younger stage. The yellow leaves do not exhibit any striking characters, except that in some there is an appearance of "black mildew" in spots. Not being a specialist in the matter of microscopic fungi, and my eyes forbidding that kind of work, I am unable to carry the investigation further personally. I have sent your samples, together with some others, to Mr. Justin P. Moore, of the Microscopical Society, with the request that, if feasible, he would study them and report thereon at his convenience; but it is evident to me that the microscopic study is but a portion of the work to be done. The yellowing of the leaves in the absence of any apparent local injury points to a more general cause of the trouble than the attack of a fungus. The most needful thing would be a thorough examination of the vine in all its parts, and comparison of the diseased ones with those that remain healthy, right in the vineyard. Even though the fungus may be in the berries, it does not follow that it is the first cause. Until we find the latter, we grope in the dark as to possible remedies.

The paramount importance, at this time, of a full examination of the phylloxera plague will hardly permit our attacking other problems this season, except in so far as we want to gather all possible information regarding what needs to be done for the protection and promotion of viticulture in the State. I should be glad to hear the result of any examinations of the vines, as suggested above, that you may make.—EUG. W. HILGARD, University of California, Berkeley.

A Prescription for Bots.

EDITORS PRESS:—I noticed in your last paper a few lines from Mr. Darby, of Antioch, asking if there was any cure for bots in horses. You knew of a number of remedies, but considered them all worthless. There is one cure for bots (it is simple but sure), and that is: Take a quart bottle and fill it two-thirds full of common syrup and the rest with water, and then take enough hair from the horse's tail and cut it in very fine to fill half a tea cup; then put it in the syrup and water and mix it well and give it to the horse, and he will be relieved of the bots in a very short time. The relief is secured by the hair sticking the bots and killing them. It is a sure cure. The hair should be cut into pieces varying from one-eighth to one-fourth of an inch in length.—WM. A. JORDAN, New Hope, San Joaquin county.

The Apple Worm.

EDITORS PRESS:—Has it not been thoroughly ascertained that the great pest to our apple and pear orchards is the genuine codling worm? An Eastern nursery tree "drummer" has tried to convince our fruit growers that the egg is deposited by the sting of a beetle, but we couldn't see it. Is there any difference in this State as to what the pest is?—FRUITER, Granite Hill.

The worm which eats into the core of the fruit is the larva of the codling moth, and is identical with the Eastern apple worm. The grub which bores into the tree is the larva of a beetle.

Budding Roses.

EDITORS PRESS:—What is the reason for using waxed cloth in budding, and what kind of stock is used in budding the rose?—V. R., St. Helena.

The Manetti stock does well around the bay, but in the warmer parts in the interior the Castilian gives best results, as it stands hot weather better. There is no need of using waxed cloth in budding, a simple soft cotton twine or candle wicking is easiest obtained and satisfactory. The object is to draw the parts together and

exclude the air. Waxed cloth is of use in grafting.

Answers Wanted.

Any readers who can give satisfactory answers to the following are invited to do so:

At what degree of heat should the hot bath be kept in which the cans of peas and corn are put after they are filled and soldered, and how long be kept in it?

How to can sweet corn so that it will keep?

How to cure a cow of sucking herself?

What do they do with the thousands of gallons of wine arriving daily in San Francisco; is a corner anticipated?

Opium Growers.

EDITORS PRESS:—I wish to try the experiment of growing opium in this State, and I write to inquire if you can cite me to any persons engaged in its culture from whom I could obtain some information as to seed, yield per acre, per cent. of morphia, prices, market, etc.—THOMAS C. BAKER, Stockton, Cal.

Many people have tried opium production in this State, and any who have gained the information desired are invited to divide their knowledge with our correspondent.

Horned Toads.

EDITORS PRESS:—Can you tell me what food to give to horned toads, as I am trying to keep some?—H. H. H., 53 Montgomery Block, S. F.

If some reader who has had experience in feeding this style of live stock will answer the above, we shall be pleased. Meantime, our correspondent had better let his toad stump along on a diet of flies.

Old Games in New Places.

It seems that the old games played upon credulous farmers at the East are now being introduced in this State. The *Santa Rosa Republican* gives an item of the operations of these swindlers, as follows: "A couple of nicely dressed, gentlemanly appearing young fellows drive up to a farmer's house with a fine turnout and engage all his butter for the season at a big price. The farmer signs a contract to let the merchants have all his butter for a year, and in due time the 'contract' comes back in the shape of a note held by a third party, which the farmer has to pay."

Eastern farmers have been warned for years by their newspapers against signing their names to any agreement whatever with a stranger. Signatures obtained upon the most plausible pretexts have soon been found under notes which the farmer never dreamed of. The best way is not to sign anything unless you know very well who you are signing for.

CHOKED STREAMS IN ENGLAND.—It seems that the English are now contemplating relief from ruinous overflows occasioned by the filling in and shoaling of their rivers. Their trouble is, however, in much milder form than our debris difficulty. We read in *Iron* that at least two palliatives suggest themselves. The lower course of the rivers which flow eastward ought to be kept open by dredging. The Ouse, for example, is stated to be getting gradually choked with silt and weeds, so that, unless vigorous steps are taken to clear it out and keep it clear, the whole fertile valley will by and by be subject to the passage of flood waters without control. Another obvious step is the formation of reservoirs. The mean rainfall is perhaps not much in excess of the requirements of the crops, and in many parts of the country—for example, in the valley of the Thames—such a provision, in a season or two of drouth, and these come in sets, would repay much of the cost of the works; for it is estimated that last summer, in the valley of the Ouse alone, the occupiers of the land suffered a loss from floods of at least \$500,000, and it is believed that the losses sustained in the other valleys of the country were not, in proportion to their area, at all smaller.

THE EFFECT OF THE SWEAT ON WHEAT.—Many California farmers are this year learning the advantage of cutting grain early and allowing it to go through the "sweat" before threshing. Concerning the effect of the sweat upon grain for flour and for seed, the London *Farmer* remarks: The slight heating of the grain is not hurtful to it for flouring purposes; but it does impair its germinating qualities. More care should be taken to save seed wheat, drying it thoroughly and without heating. A large proportion of every grain seedling fails to germinate. One bushel of wheat per acre is more than enough to make a good stand. We sow more because much never grows, and what does send up a thin, spindling stem. We occasionally hear of farmers who select heads of wheat and plant them by hand with great success in getting a strong, vigorous stand, though using little seed.

HONEY AND BEES.—Our contributor on bee topics, J. D. Enas, of Napa, has a fine exhibit of his bottled honey at the Mechanics' fair, and many a mouth is made to water at the sight of so much crystal nectar. Mr. E. has also an observation hive, with a busy colony of Italians in it, which adds much to the popular interest in his exhibit.

A LONDON dispatch, of Sept. 2d, says the steamer *Hardwick* from Odessa for Bristol with barley, shifted her cargo and foundered. All on board were lost, except one fireman.

The Horticultural Society's Exhibit.

The State Horticultural Society, aside from its splendid exhibit of plants and flowers in the garden, has, on the main floor of the pavilion, filled a space fully 50 by 60 ft. square with a show of orchard, garden and field products. The material is chiefly fruit, but there are other quite interesting and valuable growths included. The location is prominent, and the neatly valenced tables with their weight of choice fruit attract all eyes. The exhibit is well lighted in the day time by the large windows on the west, and at night the gleam of the artificial light discloses its beauties well. As this display is one of the leading features of the fair, we propose to note its leading characteristics, and name the exhibitors who have contributed to its success.

A fine background to the show upon the tables is the University exhibit of cereals, in the straw and threshed, which is arranged with much taste upon the west wall. Each sample is plainly labeled with name, place whence the seed was brought, and the chief uses to which the grain is adapted. There are about 150 different varieties of grain, the seed having come from nearly all parts of the world. This display is supplemented with a fine lot of threshed grain from the collection of the San Francisco Produce Exchange, all of which is neatly arranged and labeled. This forms the largest exhibit of varieties of cereals ever made at one time in this State, and flanked as it is with a small host of growing plants of economic value from the University propagating houses and experimental grounds, it affords opportunity for interesting study to those engaged in extending or diversifying our agricultural products.

Near at hand, and resting upon the west wall, is a magnificent hop plant in full bloom, from the yards of W. E. Whipple. The hops have the characteristic California size, and are fairly massed upon the bine. There are also three vigorous cotton plants and bundles of thrifty sugar cane, grown by members of the Kern County Industrial Aid Association, and forwarded by the Secretary, W. H. J. Brooks, of Bakersfield. Another interesting wall exhibit, because of the place of its growth, consists of branches of an olive tree growing upon the eastern slope of Russian hill in this city. This tree has borne fruit for 15 years, and its trunk is 14 inches in diameter just below the branches. It is in a stiff clay soil. Near the San Francisco olive is a fruit stalk from a Los Angeles banana plant, grown by J. W. Wolfskill.

Passing from this point on the wall to the nearest table, the visitor comes on a cranberry plant in full fruit, from the Bouldin island berry-grower, H. Nyland. It is of the cherry variety; and as Mr. Nyland's experiment bids fair to be successful, this plant may be the promise of markets supplied with California-grown cranberries, in place of the importations from Eastern lowlands. A sample-bottle of Elwood Cooper's Santa Barbara olive oil, beautifully clear and with the true yellow tinged with green, also contains the germ of another promise for our State—that of forcing European adulterations from the markets of the U. S., and the enshrinement of pure California olive oil in its place. It is a consummation sincerely to be hoped for, and apparently near realization. The remainder of this table and the next is occupied with specimens of California-grown nuts, necessarily small and in some cases green, because it is too early for ripe nuts of this year's growth. There are Italian chestnuts, Languedoc almonds and English walnuts from J. W. Wolfskill, of Los Angeles; Italian chestnuts, from an eight-year-old tree, and black walnuts from J. Shinn, of Niles; California black walnuts from D. A. Learned, of Stockton; almonds grown in S. F. from F. A. Miller, of the Exotic Gardens; a large show of seedling almonds from A. T. Hatch, of Cordelia; very large almonds and Italian chestnuts from L. P. Rixford, of Sonoma.

Another table holds a collection of canned fruit from the new cannery of Sheffield & Dimmick, of Santa Barbara. The sample-can of their apricots, sent to a recent meeting of the society, showed plainly that Santa Barbara growers had choice fruit and the canners had mastered the art of preserving it. The product of the new establishment, and the noticeable taste and style in which it is presented, will command a sure market. The remainder of this table is occupied by a collection of 16 varieties of apples, two of plums and three of pears, from L. P. Rixford, of Sonoma, some of the samples being very finely grown. Upon the pillars, near at hand, hang clusters of pears grown within two blocks of the pavilion by E. N. Torrey. Some limbs a yard long hold from 50 to 85 pears—the interesting point about the display being their growth in the heart of a great city built upon a waste of sand and rock.

The next table holds the exhibits of citrus fruits. The collections were at first very fresh and beautiful, but a month's exposure in a dry, dusty and close atmosphere has impaired their beauty considerably. The main exhibits are by G. C. Swan, of San Diego, and J. W. Wolfskill, of Los Angeles. Mr. Swan shows 12 varieties of oranges and 13 of lemons. Mr. Wolfskill has 19 of oranges and 12 of lemons. J. C. Frisbie, of San Diego, exhibited a seedling lemon, and Capt. C. T. Park, of Los Angeles, a plate of lemons plucked in February and kept until now by a new process of preservation. The fruit holds its color and texture finely.

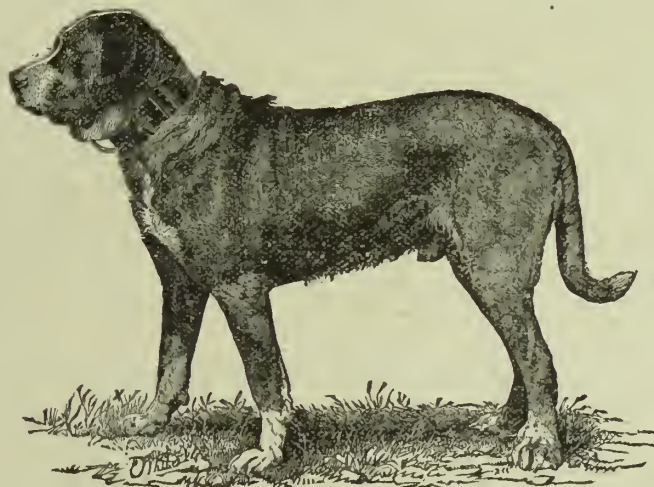
Another table shows, first, some large plums

grown by Dr. J. R. Crandall, of Placer county, and marked seedling. The Doctor has also a plate of plums grown on high, dry soil, without irrigation, and seem well nourished. Mrs. W. W. Wright, of Tulare county, has a sample of beautiful cling peaches, 10 of which weigh 7 lbs. C. T. Hall, of Tulare, has Siberian crab-apples very finely grown. The remainder of the table is filled by A. T. Hatch, of Cordelia, with 12 varieties of plums and prunes, eight of apples and three of pears. The fruit is very handsome for a bad year.

The next table is filled with an exhibit of grapes and raisins from R. B. Blowers, of Woodland. In addition to rich clusters of table and wine grapes there are the Seedless Sultana and the Muscatel Gordo Blanco, of special interest because they are at the foundation of Mr. Blowers' raisin enterprise. The Seedless Sultana is seen to be a grape of most prolific habit, the clusters being large masses of small seedless berries. The raisin exhibit consists of splendid boxes, some of the small packages having selected berries so large that certain near-sighted individuals have mistaken them for prunes. Mr. Blowers has boxes of the crop of 1878 and 1879; those two years old being in fine condition and perfect color, thus demonstrating that California raisins well cured will keep.

Adjacent is a long table wholly occupied by M. Gilliam, of Sebastopol, Sonoma county, with the fullest exhibit of apples made at the fair. He has 70 plates of apples, some specimens being noticeably fine. He has also massive orange quinces and good pears and plums.

Dr. J. Strentzel, proprietor of the well-known Alhambra orchard and vineyard near Martinez, has the most complete pomological display in the exhibit. Dr. Strentzel is one of the directors of the society and has taken great interest in the success of its first effort at a fair. His table contains about 25 varieties of apples, 24 varieties of pears, 15 of plums and prunes, 10 of grapes, 4 of nuts, 3 of quinces and a host of



ST. BERNARD DOG "DON," OF THE CRANMOOR KENNEL, NEW JERSEY.

interesting pomological graces in the shape of pomegranates, olives, etc.

Franklin Rhoda, of Fruit Vale, Alameda, makes a very creditable display of plums and prunes, including about 18 varieties of good fruit. He has also a few varieties of pears and apples. Wm. Boots, of San Jose, comes next with 22 varieties of plums and prunes and a plate of handsome crab apples. Mr. Boots' plums show the adaptations of the San Jose region to this fruit clearly.

An interesting display of fruit, because of the place of its growth, is made by F. A. Miller, of Mission street, S. F. On his place is a comparatively old orchard in the midst of urban surroundings. From it he plucked for the fair about 18 varieties of pears and 10 of apples.

W. H. Jessup, of Haywards, has a table to himself and fills it well, with 21 varieties of apples, 21 of plums and prunes and 9 of pears. He has eloquent samples of plums from well pruned trees in contrast with fruit from similar trees not pruned. The fruit from the pruned trees is quite twice as large as the other. Mr. Jessup has also 6 varieties of dried pitted plums neatly boxed and very handsome.

A splendid display of peaches is made by W. W. Smith, of Vacaville. He has 32 varieties; some old favorites and some seedlings. The quality of many of the samples is highly creditable and the coloring of some of his peaches, entered as canning fruit, is superb. Mr. Smith also shows eight varieties of plums.

J. R. Thurber, of Vacaville, showed a few varieties of peaches which were greatly admired, also some choice figs.

W. W. Cantelow, of Vacaville, has in some respects the finest exhibit of grapes, showing 17 varieties well grown and ripened. His table contained black and white grapes growing peacefully from the same cane which excited much curiosity.

J. Shinn shows a large collection of 34 varieties of apples and 15 of pears from his fine place near Niles, Alameda county. Mr. Shinn has also contributed no little ornamental material which has graced the society's exhibit.

In addition to the foregoing which are still on the tables, there has been a succession of good things which have yielded to the inevitable decay and been swept away. The hardship of a fair a month long must be felt to be appreciated. A record of all material exhibited has been kept by the society, but it is too long to reproduce at this time. We would, however, cast a ray of

memory upon the collection of Santa Barbara fruit from several growers brought by Mr. and Mrs. Winton at the opening of the fair; also the specimens sent by Mr. Owen and Mr. L. M. Corum of Santa Cruz; the fine mountain peaches from G. W. Hinckley of Solano county, the apples and peaches of W. W. Brier of Centerville; the superb Don Pedro and other new figs by W. B. West of Stockton. These and a host of other individual contributions have all borne their share in the success of the exhibit and have done their growers credit. In due time a full list of contributors will be presented for the thanks of the society.

St. Bernard Dogs.

We have retained from childhood deep impressions of admiration for the dogs of St. Bernard, because of the thrilling tales of their noble deeds which we heard and read. We have often thought that if we kept a dog, except it be for some special service, such as herding sheep or hunting, we should choose a St. Bernard. These famous animals have been introduced into this country, and bred with as much care as other thoroughbred stock, and with such success that their values are not unlike those of thoroughbred cattle. We lately heard of the dogs of Cranmoor kennel, the property of John P. Haines, at Toms River, N. J., and their prize-taking quality led us to write for pictures of the dogs and facts regarding them. Mr. Charles G. Sherman, superintendent of Cranmoor farm, has kindly furnished us with the materials requested, and a portrait and description of the dog "Don," who stands at the head of the kennel, will doubtless interest our readers.

Col. M. C. Weld, of New York, one of the leading writers on live stock at the East, lately

foundland, and this has given a tendency to rough coats, frequently observable. The rough-haired dogs do not answer for use at the Hospice, because the snow fills and loads their coats, and so are sold or given away by the monks. Thus "genuine St. Bernards," known to have come from the Hospice, being rough-haired, the impression is current that all are so; hence the surprise of those visiting the place to find the dogs all short-coated, or rather having hair of intermediate length—not shaggy at all, but yet not quite smooth and close like a pointer's.

Large feet are useful in the soft footing; hence dew-claws upon the hind feet are valued—in fact, deemed an essential point; and double dew-claws often occur. The monks value also certain markings upon the head, neck and breast, which they fancy are like their own ecclesiastical habit. The marks fancied are a black or dark head, called the monk's head, a white muzzle and line running up upon the poll, a white breast and collar, white feet or stockings, and a white-tipped tail. Solid colored dogs are not unusual, and these markings are justly held as subordinate to excellence in other respects.

The dog Don, shown in the engraving, is a fine specimen of a noble race. He is four years old. He possesses the characteristic white marking of the breed, well defined—the white muzzle and poll streak, the cowl or monk's hood, the neck-band, white breast-piece, with white feet and tip of tail. He has also double dew-claws, and weighs 165 lbs. or over when in good flesh. He won the first prize of the Westminster Kennel Club, at New York, in 1879; the special at Philadelphia, and first and special at Boston, the same year.

The Cranmoor kennel, according to the catalogue before us, has another dog, "Harold," hardly less famous than Don. He was imported direct from Switzerland by Mr. Haines and has already sired several lots of pups, most of which have already been sold at not less than \$100 each. Mr. Sherman writes us that he has now six fine dog pups whelped in May last. The demand for the animals in this country is increasing, as it is abroad, and we do not wonder at it, for if one is prone to indulge in a dog, how much more sensible to have a noble one which costs no more to keep than one of the pack of worthless curs which infest all neighborhoods. Cranmoor farm is also the abode of a choice herd of registered Jersey cattle, and the catalogue of Cranmoor stock, which can be had by addressing Chas. G. Sherman at Toms River, New Jersey, is a very interesting pamphlet.

A RICH CONTRIBUTION TO OUR GARDEN.—John Rock, of San Jose, the well-known nurseryman, has given new zeal to our gardening enjoyment by the shipment of a choice collection of hardy palms, araucarias, flowering vines and shrubs and herbaceous plants, for installment in our Berkeley "plantation." We now have palms enough to make a first-class oasis, and better grown little gems we have never seen. If one has a passion for this class of plants, or desires to catch it, he needs but look at Mr. Rock's collection, and the *araucaria excelsa*, stately and graceful as a ship at sea, and her sisters of most wonderful structure, and the host of other beautiful plants, not forgetting the new "Snow Wreath" heliotrope, warranted to "stay white" out of doors. Mr. Rock's new establishment, two miles north of his old nursery, is being developed very rapidly, and if his natural generosity does not beguile him into giving all his fine things away to admiring editors, he will soon have an establishment so complete and well stocked that he will have to build a hotel to accommodate his guests and customers.

RED OAK AS AN ORNAMENTAL WOOD.—Red oak is found in abundance in almost all parts of the country, and from its plentifulness and its unsuitableness for a large majority of the commercial uses to which white oak is utilized, has been looked upon with a contempt, but little deserved when its adaptability to the manufacture of furniture is taken into consideration. It is more brittle than white oak and more porous, and this has probably been the cause of its neglect for shipbuilding purposes, combined with the fact that it is more susceptible to the attacks of the insect world which abound in salt water. It is not a wood which will stand the variations of wet and dry; and while white oak was to be had in abundance, the red oak was thought fit only to be made into flour barrels. When sawed bastard, so as to fully develop the grain, there is no question of its beauty being equal to black walnut, in the eyes of those who are not prejudiced in favor of the rich dark color of the latter.

CALIFORNIA FRUIT AT ST. LOUIS.—As we go to press on Wednesday, there comes a dispatch from the Mississippi Valley Horticultural fair at St. Louis to the effect that the exhibition has opened well, and that "Louisiana and California make a fine display." We shall know ere long what enterprising fruit growers have gained this credit for our State.

THE Sacramento Bee states that the terrible disease known as glanders has again made its appearance among horses in that vicinity, and as yet no effort has been made to prevent its spread.

Women as Insane Asylum Physicians.

Hitherto we have assigned to women certain positions in society, and have questioned the wisdom of any change. If they failed to fill their places creditably, there has been no hesitation to tax them sharply for their incompetence. It was conceded that everything was possible for man; but woman's capacity was apparently gauged at the beginning, and metes and bounds were fixed as the limits of her progress. This assumption of inferiority has grown out of the belief that her intellect is less profound than man's, and that she is more uniformly ruled by feeling, and is more impulsive and less reflective. Grant that this assumption is true: yet this very difference in mental and physical qualities, this apparent weakness, constitutes at once woman's grace and strength. Her tenderness, her devotion, her patience, her large sympathies, and her instinctive love of good—which is usually her equivalent for right—spring from these minor differences of sex. Fortunately there is a tendency to give to woman an opportunity to change and enlarge her scope of usefulness. If her sentiments respond to some necessity of her condition, its dictates ought to be respected. By all means give woman a chance to broaden her sphere of active and useful duty. At the best she is heavily weighted in the race of life. It ought to be the duty of man to see "that not another grain is piled upon that load beyond what nature imposes; to take care that injustice is not added to inequality."

We make this plea in behalf of the employment of women, who have been trained as physicians, in asylums for the insane of their sex. The number of women who have had a special training in some approved system of medication, is growing constantly; and their practice, we may remark, fully establishes their fitness for the general business of the physician. The care of insane women in hospitals and asylums, which has long been left to women attendants under the supervision of men, is coming to be under the supervision of women also. Only a short time ago a paper in Chicago published a list of six hospitals, most of them large establishments, where one of the assistant physicians is a woman; and in one of them, the new Eastern Pennsylvania hospital, Dr. Alice Bennett is to have the entire medical direction of the women who are patients. Another woman, Dr. Mary A. Cleaves, of Davenport, Iowa, has lately been appointed to take charge of the woman's half of the old State asylum at Harrisburg, in Pennsylvania. It is said that the masculine superintendents shake their heads at these radical innovations, and hint that they may be compelled to leave; but, as the Springfield Republican remarks, the common-place wisdom of the old judge who decided that "a man should not blow out his candle till he got his hand on his night-cap," is still in force among men in office. Of the entire fitness of Dr. Cleaves for the appointment there is ample testimony. A correspondent of the Chicago Tribune says of the lady: "Dr. Mary A. Cleaves for three years was assistant physician in the hospital at Mount Pleasant, Iowa, and since has been an efficient member of the board of trustees for the same institution. Last year she read a paper before the conference of charities in Chicago, which was commended for originality of thought and practical ideas." And the Davenport Gazette, the chief journal of the city where Miss Cleaves has been in general practice, and where her hospital record is well known, bears this testimony to her qualifications.

"Little if anything can be added to the wisdom of the choice thus made. Hero in Davenport Miss Cleaves has the confidence of every one, and the profound respect of her associate physicians. Her ability is recognized, and her work in the practice of her profession has been followed with pronounced success. In the wider field to which she has been called, opportunity will be given for the full range of her talent, which amounts to genius."

There are, of course, great difficulties in the positions in which these women have been placed, and too much must not be expected from them at once. It has been confessed that the most experienced physicians know little enough about "miserable to a mind diseased," little enough about insanity on its most important side, that of cause and recovery. Time and experience, and study will complete the fitness of women for the delicate and responsible duty. In the meantime, there can be no reasonable objection it seems to us, to the employment of women in asylums and hospitals devoted to their sex. The presence of a woman would help greatly to engage the confidence of her stricken sisters, and her womanly intuitions would more readily perceive the cause of the malady, and suggest the proper treatment towards a cure. Cases may be imagined where such a result would be impossible in the hands of the most accomplished physician of the other sex. The subject of employing women in the care and treatment of the insane of their own sex is worthy of serious consideration; and we hope it will receive such humane and intelligent thought here in California as elsewhere.

THE Portneuf Falls, southern Idaho, are described as grand in the extreme. For several miles there is a succession of cascades, falls and deep pools full of trout.

Is South America Rising or Sinking?

The question whether the South American continent is sinking or not is one on which considerable difference of opinion still exists. Prof. Orton several years ago expressed the belief that the barometric observations of the heights of the principal mountains, which have been continued through more than a hundred years, afforded evidence of a gradual sinking, and this opinion has prevailed extensively. Prof. Agassiz believed that the eastern coast was sinking while the western coast was rising, and Darwin infers, from the discovery of the remains of an ancient civilization on lands that are now too high for the development of human life, that the land is rising. Dr. W. Weiss read a paper before the Berlin Geographical Society at a recent meeting, in which he advanced the theory, founded on a comparison of observations which had been made at the mouths of rivers, that the continent is rising. The Isthmus of Panama seems to be rising, and signs of elevation are apparent on the north coast of the continent. The delta of the Magdalena river has suffered notable changes within recent times. The tertiary highland of Turbaco, which extends from Carthagena to Sabanilla, was once an island in front of the stream, as indicated by the forking of the river. One arm of the river empties toward the west near Carthagena, the other arm forms the present mouth with its branches in the lagoon of Santa Marta; ships formerly sailed into the western arm, which is not now navigable. The closing of this branch is generally ascribed to the luxuriant vegetation, but it is more than probable that other causes were combined with it. A small elevation would be enough to stop the flow of water, and the fact that such an elevation has taken place is shown by the discovery of recent shell-beds in a part of the lagoon. The bay of Santa Marta, with its monotonous sand flats between steep, bald cliffs and island-like uprisings, produces the impression of a recently dried sea-bottom. Similar appearances are presented farther east, to such an extent that it was believed in the sixteenth century that the sea had retreated. The region of the lagoon of Maracaybo, and indeed the whole coast of Venezuela, appears to have taken part in a movement of rising. The existence of the delta of the Orinoco favors the theory of elevation, for, though it can not be held that deltas are not formed except where the ground is rising, it is nevertheless true that elevation is most favorable to their formation. The observations along the coast of British, French and Dutch possessions are contradictory; but as a whole they seem to indicate that the land is gaining on the sea. The character of the changes that are taking place at the mouth of the Amazon is generally supposed to indicate a sinking of the land, but there are circumstances that favor the opposite view. The signs that the upper part of the bed of the river is rising are numerous, and all the phenomena of washing away at the mouth which are generally considered evidences of a depression, can be accounted for by supposing that the interior is rising faster than the coast. Indications of a recent elevation may be seen all along the coast from Cape St. Roque to the La Plata, in the hardened shore ridges of Rio Grande do Norte, Parahyba and Pernambuco, the elevated shore-lines of Rio Vermiglio, Bahia and Rio Jequitinhonha, the coral reefs of the Abrolhos, the holes of the sea urchin found above the level of the sea near Cape Frio, the new formations near Rio de Janeiro, the deterioration of the harbors of Santa Catarina, Porto Alegre and other places. Darwin proved by the discovery of recent shell-deposits that the region of the La Plata was rising; since then some facts have been adduced pointing to a sinking, but the La Plata affords relations similar to those which have been referred to in the case of the Amazon. A lake in the Straits of Magellan containing marine animals, but situated at a higher level than that of the sea, is cited by Agassiz in proof that a rise of the land has taken place there. On the west coast signs of a sinking appear in the Chonos Archipelago, but they give way to trustworthy evidences of elevation in southern Chile. These continue to Callao and Lima, where a sinking is suddenly indicated. The land at Callao consists of gravel-beds, which may be considered as river and shore formations. Washings away from beneath, assisted by earthquakes, might readily have caused slight local falls, without making it necessary to invoke a sinking of the land. Not enough is known of the coast north of Callao to justify a definite expression of opinion.—*Popular Science Monthly for September.*

A FRIEND of mine held a wad of something in one hand, and it was not so large but that she could close her fingers over it. I asked her what it was. "A new pair of stockings," she said. "Stockings!" I echoed, incredulously. She showed them, and stockings they surely were, but of such a gossamer texture that they were of next to no bulk or weight at all. They were rather bright scarlet in color—too bright, I remarked. "Oh, they look so now," the young lady said, "but they won't be when they are on. See that," and she stretched one over her plump, white arm. "The skin fairly shows through, and makes the stocking a very light pink." "So the color, when worn, depends considerably on whether the wearer is a blonde or a brunette." "That's a fact—sure enough. On a negro woman I guess they would be a reddish brown."—*Letter to Cincinnati Enquirer.*

"Neptunite," the New Cloth Preservative.

The invention—already noticed in these columns—of a new compound to be applied to clothing, feathers, silks, etc., to render them capable of defying any injurious action from water, ink, lemon juice, coffee, etc., seems to be creating quite a stir in New York. It is claimed that the inventor's assertions as to its remarkable qualities were fully carried out by experiments recently made, and at which Mr. Thurlow Weed and a number of press representatives were present. The solution is said to be very rich in solids. By heating this solution until it changed into a gas and then placing in it the goods to be operated upon, every fiber of the material became saturated and coated with an elastic layer of the solution, which is wholly impermeable to water. This coating is light, impervious and elastic, and strongly resists all the elements which tend to destroy fabrics. It gives a superior body and elasticity to the goods, and prevents all absorption of water. Yet the goods are not vulcanized, for they may be boiled without affecting the coating upon the fibers. The goods are rendered neither air-tight nor water-tight, but simply water repellent. Fabrics treated with this solution are unaffected by any stains, and even resist the action of acids.

During the experiments above alluded to a stream of water was directed first upon a carpet and then upon a piece of brocade dress goods without "wetting" it. A gentleman's silk hat was dipped into the water, and cups of water were afterward poured upon it, but the silk was not disturbed. The experiment was greeted with great applause. It was followed, however, by one which quite overshadowed it. Two ladies' hats, so beautifully and delicately constructed, were subjected, flowers, lace and all, to the same ducking that had been bestowed upon the gentleman's hat, and yet no difference in their appearance could be detected. Ostrich feathers were dipped into the tank without even changing the curl in the feathers. Kid gloves and finally a number of ribbons were all successfully tested. Having finished with the water, lemon juice, coffee, claret and finally ordinary writing ink were poured upon the fabrics, without affecting them in the slightest degree. The ink rolled around upon a piece of pink silk like little black beads. The different liquids broke into little globules and rolled about upon the goods like mercury on a piece of glass. The inventor said that every effort had been made to do away with the coating after it had been formed, and that such efforts had proved unavailing. It made goods wear longer, and prevented silks from wearing "shiny."

Spread of Disease by Earthworms.

Recent researches by M. Pasteur appear to throw considerable light on the origin of anthrax, or splenic fever, and allied diseases, which attack cattle, sheep, etc. (If animals, why also may not man be seriously affected by the same mode of spreading other disease germs?) When an animal dies of anthrax it is not uncommonly buried on the spot. The conditions of putrefaction prove fatal to the small parasitic organisms, or *bacteridium*, which is abundant in the blood at death. The gas given off causes it to break up into dead and harmless granulations. But before this can occur not a little of the blood and humors of the body have escaped into the ground about the carcass, and here the parasite is in an aerated medium favorable to the formation of germs. These corpuscular germs M. Pasteur has found in the soil, in a state of latent life, months and years after the carcass was buried, and by inoculation of guinea pigs with them, has produced anthrax and death. Now it is specially notable that such germs have been met with in the earth at the surface above the place of burial, as well as near the body.

The question arises: How came they there? And it would appear that earthworms are the agents of conveyance. In the small earth cylinders, of fine particles, which these creatures bring to the surface and deposit after the dews of morning or after rain, one finds, besides a host of other germs, the germs of anthrax. (The same process was proved also by direct experiment; worms kept in ground with which *bacteridium* spores had been mixed were killed after a few days, and many of the spores were found in the earth cylinders in their intestines.) The dust of this earth, after the cylinders have been disintegrated by rain, gets blown about on the neighboring plants, and the animals eating these thus receive the germs into their system. It is suggested that possibly other disease germs, not less harmless to worms, but ready to cause disease in the proper animals, may be in like manner conveyed to the surface in cemeteries. The *Scientific American* suggests that this should also furnish a fresh argument for cremation. The practical inference as to anthrax is, that animals which have died of this should not be buried in fields devoted to crops or pasturage, but (wherever possible) in sandy, calcareous ground, poor and dry—unsuitable, in a word, for worms.

NEW PHOTOGRAPHS OF THE MOON.—Mr. George Berwick, it is stated, has taken a series of photographs of the moon on very sensitive plate—the bromo-gelatin. One of the plates shows three well-defined rings around the moon. Whether the rings are due to cosmical, atmospheric, chemical or optical causes is not known.

A Remarkable Case of Somnambulism.

Prof. Fischer describes a remarkable case observed by himself and others, when a boy at school. A young man, apparently of a halo constitution, and far from exhibiting any symptoms of a nervous temperament, was habitually subject to somnambulism. His fits came on regularly about 10 o'clock at night. The scene was a large apartment, containing 60 beds in four rows. He ran about violently, romped, wrestled and boxed with his companions, who enjoyed the sport at his expense. "I think," says the Professor, "I can perfectly well remember that, while running, he always held his hands before him, with his fingers stretched out. He was remarkable agile, and would leap over the beds, and his companions could scarcely ever catch him. When he escaped through the door, he flew through a long gallery to his own apartment. There he rested, frequently taking up a book and reading softly, or with a loud voice conducting—if my recollection serves me accurately—his outstretched fingers over the lines. His eyes were alternately open and closed; but even when open they were incapable of vision, being convulsively drawn upward, showing only the white. The general belief that somnambulists see by means of the points of their fingers, as well as the observation that while running our somnambulist always carried his hands and outstretched fingers before him, as if these were his organs of sight, as also his reading (as it appeared to us) by means of the points of his fingers, led us to the idea of tying gloves upon his hands and stockings upon his legs. Besides, we had been informed that during his nightly wanderings he had been known to play at skittles—a game he was very fond of when awake—and that he had always accurately counted the number of pins knocked down by stretching out his fingers in a direction toward them, so correctly, indeed, that it was impossible to deceive or impose upon him. In short, we seized the opportunity of his most profound sleep and insensibility to tie on the gloves and stockings. At the usual time he rose up and sprang out of bed; but although we began to tease and provoke him, he did not move from the spot, but appeared puzzled and perplexed, and groped and tumbled about like a blind or drunken man. At length he perceived the cause of his distress, and tore off the gloves with great violence. Scarcely were his hands uncovered when he started up in a lively manner, and threw the gloves with ironical indignation upon the ground, making a ludicrous observation upon the means taken to blind him; and then he began to run through the apartment as formerly." *N. Y. Mail.*

THE SOUTHERN PACIFIC IN ARIZONA.—The Southern Pacific railroad is fast pushing its work through Arizona. On the 23d of August they had successfully surmounted all the obstacles met in the Dragon range of mountains, and the builders immediately began to push forward at the liveliest rate for El Paso, over 200 miles distant from the end of the track. It is their intention to accomplish this distance in 100 working days. The expedition of the builders, considering the climate of the country they are working in, is simply wonderful. For example: on the 24th ult., they laid 12,200 ft. of steel rails, on the 25th, 11,600, on the 26th, 12,800, and on the 27th, 12,000. This is extraordinary work. At this rate the company will carry the road to El Paso by Christmas certainly. The road is now completed and in running order 112 mile from Tucson, and is only 25 miles from the boundary line of New Mexico, which will be reached in about 12 days. Since the close of January of this year the company has built and put in perfect order 176 miles of steel-laid road.

LARGE HORSES.—A consignment of horses, says the New York Tribune, has just been received in Boston from Normandy. The lot comprised 20 stallions and 6 or 8 mare colts, and is to be sent to Bloomington, Ill. Three of the horses weighed 2,010 lbs. each when shipped, and the rest averaged about 1,900. They are magnificent-looking animals, standing about 16 hands high, very stontly limbed, and with heavy manes and tails. Three of them are valued at \$3,000 each, and the others at \$2,500 each for stock purposes. They are brooded with common Western stock, and the cross is an animal weighing from 1,200 to 1,400 lbs., and worth in the West from \$175 to \$200. They are used principally for draft horses, but are also easy drivers. They are noted for their docility and intelligence.

LARGE FOREST FIRES.—According to the Shasta Courier, the great fire which has been raging between here and Clear creek for several weeks past, still continues its ravages, filling the atmosphere with a dense smoke. Parties who are cutting wood this side of Clear creek state that the fire is set out and kept going by parties whom they cannot get sight of. While these wood-cutters were at dinner last Saturday a fresh fire was started by some unseen person near their wood, and they had hard work to keep their camp and outfit from being consumed. A close watch and bullets from a rifle may reveal who it is that spreads the fire.

The Gatling Gun.

This deadly and most useful weapon in certain circumstances of modern warfare has of late undergone several modifications in detail at the hands of the inventor, Dr. Gatling, who has recently had it on view at the offices of Sir William Armstrong & Co., in Great George street, Westminster. In the old-pattern gun, the cartridges were supplied from a large drum which was placed end upwards over the gun, the cartridges being delivered somewhat to the side of the weapon, and, therefore, out of line with its axis. The firing-handle was placed at the other side, and the barrels and working parts were more or less exposed. All this has now been altered, and the modified gun presents several new features. In the ten-barreled weapon, which we recently had the opportunity of examining, the barrels and the working parts are enclosed in a gun-metal casing 27 inches in length and 6½ inches mean outside diameter. Each barrel is 18 inches in length, the outside appearance of the gun being that of a howitzer. The crank-handle is now placed at the rear, instead of at the side, and by a re-arrangement of the firing mechanism the speed of the revolution of the gun and the rapidity of its fire has been greatly increased, so that it is claimed for it that it fires 1,000 rounds per minute, the ordinary rate of rapid firing being 750 rounds per minute. That it is well able to fire the larger number appears probable from the rapidity with which it was manipulated with dummy cartridges on the occasion of our inspection. The feeding is now effected from magazines or long cases, each capable of containing 40 cartridges. The case is placed vertically over the center of the lock-chamber of the gun, and the cartridges fall directly into the receivers. As soon as one case is emptied another takes its place, there being two attendants required, one for this work and the other to turn the handle. The barrels and locks revolve together, but in addition to this action the locks have a forward and backward motion. This is effected by means of a cam-path, up which each lock travels and pushes the cartridge home. It then fires it, and returns down this path, ejecting the cartridge-case from the side of the gun as it returns. The gun can be fired only when the barrels are in motion from left to right; and so long as the crank-handle is revolved and the gun fed with cartridges the several operations of loading, firing and extracting are carried on automatically, uniformly and continuously. Should the crank-handle be turned in a reverse direction no harm results to the gun, as the interior form of the receivers admits of reversing the motion without danger of jamming the cases. The traversing arrangement has also been simplified, and lateral play can be given to the storm of bullets that can be delivered uniformly with the firing of the piece. It will thus be seen that the gun has been greatly modified and improved, and reports from America show it to be capable of some very remarkable performances, both as regards rapidity and accuracy of fire. Dr. Gatling has made one of these guns for our own government, which will fire the Boxer cartridge, although he prefers the more solidly-made cartridges of the American pattern.—*Hardware.*

COLLAPSE OF THE WHEAT CORNER.—The recent collapse of the wheat "syndicate" has moved the Springfield *Republican* to characterize it as an "abominable conspiracy to control the price of the first necessary of life." Thanks to the generous earth, for two months cheap bread has been one of the certainties of the future. That paper says: With an American crop of from 450 to 500 million bushels, one-third at least available for export, a speculator on a basis of 16 million bushels is dealing in small potatoes. Mr. Keene must be reminded of an eloquent question in his favorite work: "Canst thou draw out leviathan with an hook?"

A RAILROAD CONDUCTOR KILLED.—A Tucson dispatch of 1st Sept. says that William Reed, recently promoted to a conductorship on the Southern Pacific Railroad, who was on his first trip last night, fell between two cars while in motion, between Pantano and Mescal. The cars passed over one of his legs and the foot of the other, crushing them in a terrible manner. He was brought to the hospital at this place today, where both limbs were amputated. It is thought that he cannot possibly live.

DEFECTIVE PATENT LAWS.—The British patent laws certainly demand both revision and amendment when so cautious a man as Mr. Crooks, who has made not only notable advances in science and the arts himself, but has been the ready and honest exponent of what has been accomplished in both by others, is compelled thus to express himself: "We know of a certainty that there are men in England who refuse to tell their ideas to the public, because they will obtain nothing in return, except some reply such as that they are not the true inventors, and proof is expensive."

NEW CANAL IN CHILE.—The *Chilean Times* announces the completion of the Canal de la Merced. The canal is 75 miles long, and has been 25 years in construction. It is considered one of the most important works executed in Chile. It has cost about \$400,000.

Two or three short railroads run out of the city of Mexico for a few miles, and the trains are usually accompanied by a rear guard of soldiers for protection against the brigands.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

SHEEP AND GOATS.

J. B. HOYT, P. O. Address, Birds Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams, \$30 and \$40 each. Ewes, \$10 per head. Also cross-bred Rams from Choice Merino Dam and Shropshire Sire; price, \$20 and \$25 each. Also ½ Shropshire and ½ Merino Rams for sale.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine. Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

GRANCERS' BANK
Of California,
SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.
Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTEPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERVFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
T. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
O. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES OF DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States sought and sold.

ALBERT MONTEPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS
BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 YEARS. Prices, \$51, \$57, \$66, \$84, \$108, to \$500 and upward. Also for easy payments, \$5 a month or \$6.38 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

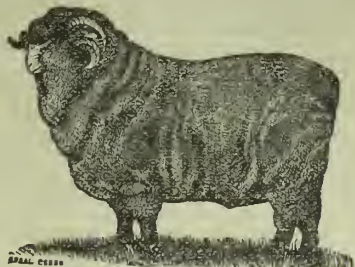
Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHBRED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY

CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped.....\$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



Sheep

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

300 Choice Rams

FOR SALE.

THOROUGHBREDS and GRADES.

Apply to L. U. SHIPPEE,

Stockton, Cal.



SEND FOR THE

\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue, Address

BOERICKE & TAFEL,

Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the O. F. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiaary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Lands for Sale and to Let.

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1½ hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

FINE ORANGE ORCHARD
FOR SALE.



Three Miles South of Los Angeles.

174 56-100 ACRES,

Comprising 68 acres of ten-year old trees, 5,800 in number, now just beginning to bear. Irrigated from surplus city water at a cost of \$60 per annum. The remainder of the land, 106 56-100 acres is of the finest quality of

DEEP, SANDY LOAM,

The very best of land for Orange, Grape, Olive or General Cultivation. The tract is surrounded by streets, and lies favorably for subdivision. The orchard can be cultivated at a total cost of \$1,500 per annum, and within two years will pay a handsome interest on the investment, which with good management will soon afterwards reach 20%, 30% and 50% per annum on the sum for which it now can be bought.

For Sale at Foreclosure Prices.

A rare opportunity for a Fortune.

C. T. HOPKINS,

No. 318 California St., S. F.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N. R. 4 W. M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 26th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

PATREY'S

Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIOAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. EMMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAHNS.

DUNNIOAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS.

DUNNIOAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING AUGUST 24th, 1880.

231,551.—HSEI SHANK AND COUNTER SUPPORTER—Henry Flindt, Albany, O.
231,430.—WINDMILL—Henry P. Johnson, S. F.
231,443.—BOILER—Joseph R. Mitchell, S. F.
231,623.—RUDDER—N. B. Scott, Portland, Ogn.
231,502.—DOOR-KNOB ALARM—John Simon, Oakland, Cal.
231,505.—STEEKING APPARATUS—A. J. Stevens, Sacramento, Cal.
231,638.—SUGAR MACHINERY—W. H. Wiester, S. F.
231,617.—GATE—Wm. Robinson, Bodega, Cal.

FOR THE WEEK ENDING AUGUST 31st, 1880.

231,776.—HOISTING MACHINE BRAKE—W. E. Eckart and H. C. Behr, S. F.
231,806.—THERMINE MACHINE—C. A. Jenkins, Sacramento, Cal.
231,550.—SCRAPER—A. Rcwrick and J. D. Gilmour, S. F.
231,849.—KEY-BOARD—C. C. Reynolds, Kelseyville, Cal.
231,687.—WATER-CLOSET TANK—W. Smith, S. F.
231,693.—CONVERTING SCRAP INTO BAR STEEL—S. Wren, Sacramento, Cal.
231,874.—BOILER—J. B. Ward, S. F.
9,369.—(reissue) WHEELBARROW—W. McKibbin, S. F.

NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

CLAMP FOR ROCK DRILLS.—H. Richmann, San Francisco. Patented August 17th, 1880. No. 231,238. This invention relates to certain improvements in that class of devices which are used to support the cylinders of direct-acting engines intended to actuate, by air or steam, a drill or tool for boring rock; and it consists in a novel method of connecting the case or carriage carrying the cylinder to the column, and in an improved clamp for holding it in position on said column.

CHAIR BRACE.—S. P. Sorenson and J. C. Stanton, Rio Vista, Solano county, Cal. Patented August 17, 1880. No. 231,245. The construction of this improved chair brace consists in a peculiar combination of an adjustable side or arm-brace with the leg braces or rods, said arm-brace being provided with a turn-buckle, so that the regulation of the arm-brace also regulates the leg braces, and the parts of the chair are bound more firmly to each other.

POPULAR SCIENCE MONTHLY.—More than any other American magazine, it seems to us, the *Popular Science Monthly* maintains the quality of attractiveness in its well-filled and valuable pages, and we give it cordial welcome to our table. The contents of the September number embrace no less than 13 articles on various subjects of interest, besides editorials, miscellany, notes, etc., all relating to the higher applications of science. The opening article on "Comparative Jurisprudence," by William M. Ivins, will prove both interesting and instructive to the lawyer of critical taste. The Hon. Auberon Herbert's article on "State Education: a Help or Hinderance?" seems to prefer the voluntary system of education, and treats the subject after the manner of Herbert Spencer. The latter does not agree with those writers who, like Macaulay, held "that whoever has the right to hang has the right to educate." A brilliant article on celestial dynamics is Dr. C. B. Waring's, "The Solar System and its Neighbors." The "Legal Prosecution of Animals" is a very curious article, the reading of which will clearly show the degrading stupidities from which science has relieved society. Prof. Preyer's "Psychogenesis in the Human Infant" is an able and interesting essay on mental development in infants, and commends itself especially to intelligent mothers. There is an interesting paper, well illustrated, on "Climbing Plants," by Francis Darwin; and a very delightful one by Prof. Grant Allen on the "Æsthetic Feeling in Birds." "The English Precursors of Newton" is the first installment of a most remarkable chapter in scientific history. The biographical sketch, accompanied with a portrait of the distinguished naturalist, Dr. Joseph Leidy, is pleasant reading. And, finally, there is a rasping article by the editor on "Sewage in College Education." Not the least valuable feature of the *Monthly* is its copious miscellany. It is published by D. Appleton & Co., N. Y., at \$5 a year or 50 cents a single copy.

HOW FLOWERS ARE RENDERED LUMINOUS.—We have already called attention to the preparation of luminous flowers which glow in the dark, and which are the latest elegant novelty offered for sale on the Paris boulevards. They are reported to have been rendered phosphorescent by coating first with a transparent size, and then dusting them with the phosphorescent salts of calcium or barium.

USEFUL HINTS.—"Co-operative Butter Making in the last RURAL is full of useful hints to us butter makers."—READER.

Frank Brothers' Exhibit of Agricultural Implements.

Frank Brothers, the well-known dealers in agricultural implements, have an exhibit at the Mechanics' fair which does them much credit and contributes much to the interest of those who enjoy the industrial features of the fair. The display is also not without elements of art, for the implements and machines are marked by the perfection of mechanical work and true taste in finish and decoration. The firm occupies much more floor space than last year, and their exhibit is proportionately replete with valuable material.

The leading implement on exhibition is the Walter A. Wood's new string-binding harvester, of which an engraving is given on this page. It is one of the newest triumphs of invention in the ingathering of crops. It cuts, gathers and binds the grain, leaving it in bundles ready to be stacked or taken to the threshers. The material used is twine instead of wire, which was first used and found objectionable to threshers and millers. This machine is shown at the fair with the binding appliance in operation, and visitors stand long to see the mechanism gather the grain and tie its own knot. It works like a charm, and many of our readers will doubtless enjoy a brief description of its methods.

The operation of the binder is entirely automatic, and may be described as follows: As the grain enters the receptacle it is acted upon by a packer and held by a compressed lever until sufficient has been accumulated to form a bundle of required size; the compressing lever then recedes, throwing the packer out of gear and the binding mechanism into gear; the binding arm then passes the band around the bundle, the knot is tied and the twine cut—one

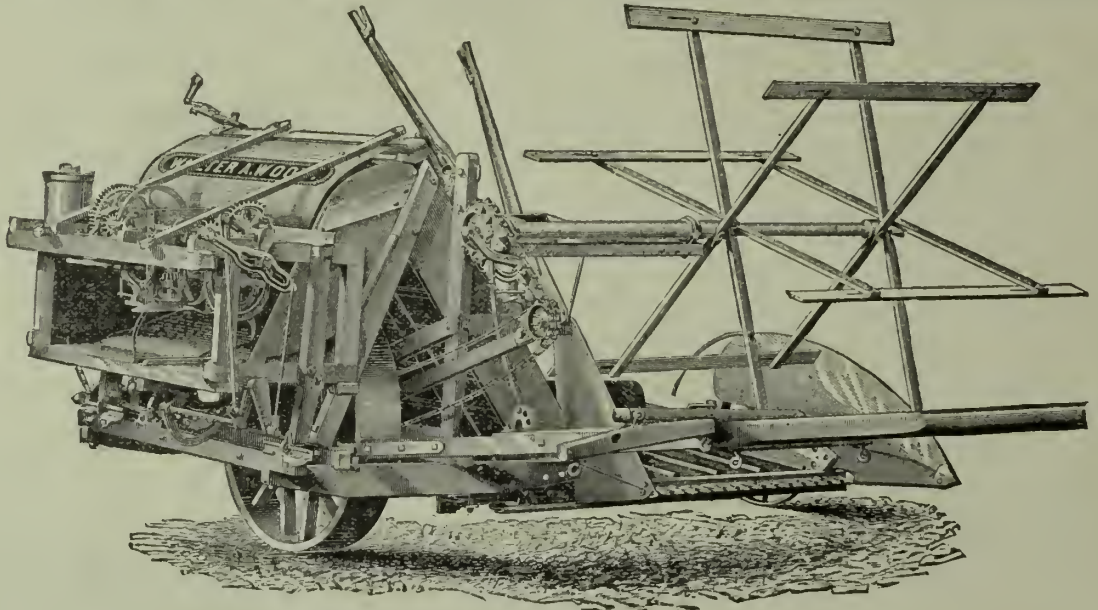
Belle wagons, made especially for California use, with California rack beds, roller brake, side boards and spring seat—a most complete teaming vehicle.

Mr. F. A. Frank, senior member of the firm of Frank Brothers, is one of the managers of the Mechanics' Institute, and his exhibit shows that he practices what he preaches about making the fair entertaining and instructive. The firm, which has a flourishing branch at Portland, has achieved a most honorable position in the implement trade by its manifestation of true enterprise and upright dealings. They are also preparing a full exhibit of their machines for the coming State fair at Sacramento.

Of Interest to Subscribers to the "Rural Press."

The publishers of the PACIFIC RURAL PRESS are desirous that all subscribers should avail themselves of our reduced rates for cash-in-advance subscriptions. We therefore urge all who have not paid in advance to settle up arrears to date at the old rates, and then subscribe for 12, or as many months as practicable, in advance at the rate of \$3 per year. We cannot afford to issue a journal, which costs us so much outlay and effort, at \$3 per year, on trust. We presume all can see the reasons why we prefer a payment in advance, although, under existing circumstances, it does not seem for the best of all concerned that we should be arbitrary in the matter.

We aim to make the RURAL PRESS of a great deal higher value to our readers than the amount of money it costs them. The investment of \$3 from each subscriber very little more than covers the actual expense of maintaining his share of the co-operative enterprise into which we enter with our subscribers. Beyond this there is a value returned to each reader, and to the community at large, in the shape of salutary food for mind and heart. We hold it to be much more important to the general good that the reader should secure, for himself and his family,



WALTER A. WOOD'S TWINE-BINDING HARVESTER.

end being securely retained, the binding arm then recedes, and a discharging arm gently but effectually delivers the bound bundle clear of the machine.

The twine-binding harvester has been widely introduced into California grain fields during the present harvest, and it has given most general satisfaction. It is regarded by many farmers as a solution of many vexed questions in grain gathering, and it bids fair to supersede the header, which is a useful machine. Farmers can commence cutting grain with the harvester quite three weeks before the header knife can touch it. Secondly, the large saving of grain; everywhere it being well known by every farmer using a header that at times the waste is enormous. Thirdly, that the crop when cut by the harvester, bound, stacked and allowed to ripen and dry, every grain can be got out by the threshers, and this is not the case when it is cut by the header, and at times allowed to heat in the stack.

Frank Brothers' exhibit also contains other famous machines of Walter A. Wood's manufacture, which are also in motion, and their mechanism thus perfectly shown. One is Wood's new sweeping-rake reaper, with five rakes controlled by automatic gears. Notable among the features peculiar to this machine are the controllability of the rakes, quality of work, ease of management, and adaptation to all kinds and conditions of grain. Another standard machine is the Walter A. Wood's enclosed gear mower, which has been used three seasons, and has become very popular. It combines the best qualities of the "celebrated Walter A. Wood iron-frame mower," with many new and advantageous features entirely peculiar to itself. Its superior cutting qualities, adaptation to all conditions of grass and surface, lightness of draft and stillness of operation have been fully demonstrated.

In addition to the harvesting machinery, Frank Brothers have a full line of plows of most beautiful construction and finish, including the sulky gang and single plows made by B. D. Buford & Co., of Rock Island, Ill. They have also riding and walking cultivators, harrows and road scrapers. Noticeable also, is the La

reading matter charged with incentives toward purity of thought and life than he should get the greatest amount of reading for the least money, without regard to the influences which such literature exerts. Our readers can judge how well we succeed in furnishing them a journal of pure tone, devoid of evil and struggling for the right. We trust our readers will perceive this disposition on our part and not place us upon the same plane with publishers who do not hesitate to send forward that class of matter which pays best, because it caters to evil propensities and satisfies longings which should be repressed. We feel that we have a duty to discharge in the interest of the better progress of our readers and of the community at large. Hence we place our standard high and refuse to participate in the rewards of those who serve lower aims and purposes.

We may repeat plainly, that there may be no misunderstanding, that every subscriber in arrears is invited to pay up to date at our old price of \$4 per year, and from date forward at the rate of \$3 per year. We may remark also, that we have never advertised the paper at reduced rates, in clubs or otherwise, except it be paid cash in advance.

Various Causes—

Advancing years, care, sickness, disappointment, and hereditary predisposition—all operate to turn the hair gray, and either of them inclines it to shed prematurely. AYER'S HAIR VIGOR will restore faded or gray, light or red hair to a rich brown or deep black, as may be desired. It softens and cleanses the scalp, giving it a healthy action. It removes and cures dandruff and humors. By its use falling hair is checked, and a new growth will be produced in all cases where the follicles are not destroyed or the glands decayed. Its effects are beautifully shown on bristly, weak, or sickly hair, on which a few applications will produce the gloss and freshness of youth. Harmless and sure in its operation, it is incomparable as a dressing, and is especially valued for the soft luster and richness of tone it imparts. It contains neither oil nor dye, and will not soil or color white cambric; yet it lasts long on the hair, and keeps it fresh and vigorous.

FOR SALE BY ALL DEALERS.

EXTRA COPIES can usually be had of each issue of the paper, if ordered early. Price, 10 cents, postpaid.

THE YOSAMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVEN, Prop.

The Prescott House,

Corner of Kearney St. and Montgomery Avenue, is certainly one of the best for the price in S. F. A good table is set, and the accommodations for lodgers are comfortable and commendable. The waiters are attentive, and their courtesy is exceeded only by that of the hospitable proprietor, Mr. Becker, who is obliging and attentive to all his patrons. The hotel is well situated, both for the convenience of business men in the city and visitors from the country. The latter will find it especially so, as the hotel is situated near the business center of the city, but yet in rather a quiet locality. Horse cars pass by the door every few minutes, which transfer to all parts of the city. A free coach to the Hotel. Give the house a call, and without doubt you will get your money's worth and continue your patronage.

Seaside Property for Sale.

EDITORS PRESS:—I am acquainted with C. H. Hall's premises which he advertises for sale to-day, and would recommend the "home" as a desirable one, for a person wanting a residence by the seaside—and the "shop" has a good business. M. P. OWEN, Soquel, Cal.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

BOUND VOLUMES OF THE PRESS.—We have a few sets of the back files of the PACIFIC RURAL PRESS, which we will sell for \$3 per (half-yearly) volume. In cloth and leather binding, \$5. These volumes, complete, are scarce, and valuable for future reference and library use.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is

constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

J. G. COLMERNIL is requested to report to this office from Humboldt Co.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

THE PACIFIC RURAL PRESS for ten months and our best newspaper file binder, sent postpaid for \$5.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Sept. 8, 1880.

Whatever life there might be in this week's trade will be knocked out of it by the City Charter election to-day, and the State holiday and reception to President Hayes to-morrow. So far, however, as the Produce trade in this city is concerned, it matters but little, for there is but little shape to it yet. The feeling in Wheat is rather weaker than last week, and the immense quantities now being shipped from New York would weaken any demand for the time being. Meantime, most of the California crop will be held until the market recovers and will pay a fair price.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice Cal. Wheat		
Thursday.....	9s	4d@9s	9d
Friday.....	9s	4d@9s	9d
Saturday.....	9s	4d@9s	9d
Monday.....	9s	4d@9s	9d
Tuesday.....	9s	3d@9s	8d
Wednesday.....	9s	3d@9s	8d

The Foreign Review.

LONDON, Sept. 6.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: The harvest in the southern and eastern counties is mostly completed, and Grain is stacked in very excellent condition. The general testimony so far concurs that the results of threshing are disappointing. It has been for some time accepted as a matter of course that the abnormal season and general prevalence of mildew must materially reduce the yield of marketable Wheat, and this is now found to be the case. The Barley crop is much heavier than at one time could reasonably have been expected, but nearly all the best Barley was so much laid by the storms that reports of discolored and imperfectly ripened samples are only what were to have been expected. The Oat crop is better than it promised to be a month ago. The root crops are fast maturing, and another fortnight of fine weather will make a heavy crop a certainty. The Hop crop is very variable; a rapid loss of color is noticeable in the gardens of West Kent in consequence of dense night fogs. Deliveries of new English Wheat have been steadily increasing in the provincial market, but at Mark Lane the supply has been small. Sales have been slow, at a decline of 1s in London, and from 1s to 2s in many of the leading country markets. In foreign, the trade presents no new feature of interest. The temporary steadiness, in consequence of the falling off of American shipments, gave place to a feeling of listlessness and depression last Monday, which clung to trade the remainder of the week. New Winter American was freely offered at 44s without finding buyers. Sales of English Wheat last week were 16,633 quarters, at 43s 3d, against 16,570 quarters, at 43s 2d, the corresponding period last year. The imports into the Kingdom, for the week ending Aug. 28th, were: Wheat, 1,071,533 cwt; Flour, 176,201 cwt; American Maize closed easier, at 23s 9d. The dullness of the Wheat trade checked the improvement in Flour, but holders are firm at previous rates.

Eastern Grain and Provision Markets.

NEW YORK, Sept. 4.—The business situation is in the main satisfactory, trade being larger than it was at this time last year, while at the same time there is an absence of speculation. Breadstuffs show no new features. The market is dull without any signs of improvement. Provisions are in light demand, at steady prices.

NEW YORK, Sept. 4.—Thirteen million three hundred thousand bushels of Grain were shipped hence to Europe during the last month in 146 steamers, 14 ships, 144 barques and 11 brigs. The present indications of the Grain trade for the ensuing month point to an immense business. Every vessel in port that can carry Grain has been chartered, and space for parts of cargoes of Grain has been secured a month ahead. The large elevators are busy night and day loading vessels, and the demand for more vessels is increasing. It is confidently expected that 15,000,000 bushels will be shipped this month.

CHICAGO, Sept. 4.—The Grain markets have not been particularly interesting during the past week, and prices have shown no very marked tendency either way. Wheat leaves off about where it began the week, although it has ruled firm. Corn is about 1c better, with a weakened feeling at the close. Oats stiffened very decidedly, but are only a little higher. Provisions, following in the wake of Pork and Hogs, have advanced smartly, and the corner is as happy as need be. Sales for the week were as follows: Of the October option—Wheat, 38@89½c; Corn, 39½@41½c; Oats, 26½@29½c; Pork, \$16.60@17.15; Lard, \$7.75@8.07½. Closing October prices were: Wheat, 88c; Corn, 39½c; Oats, 28c; Pork, \$17.50; Lard, \$7.90.

NEW YORK, Sept. 7.—The activity which prevails in the Grain market here may be accepted as evidence that the prediction that we were to be unable to find a market for all the Grain we raise will prove unfounded. The demand never was so great as now, and the supply never so abundant. The result of the season's work will be to add an unparalleled sum to the wealth of the West. The enormous amount of 13,300,000 bushels of Grain was shipped from this port during last month. Shipments of the present month will, it is thought, amount to 15,000,000 bushels.

Eastern Wool Markets.

NEW YORK, Sept. 4.—Wool is dull and the tone of the market is weak. Sales include 10,000 lbs Fall and 30,000 lbs Spring California, private.

Boston, Sept. 4.—The Wool market is dull, and sales to any extent can only be made at lower prices, notwithstanding that sales of the past week have reached nearly 150,000 lbs. The demand has not been general. One firm sold about one-third of the entire amount, while with others business was comparatively light. Michigan and Ohio fleeces declined fully 1c per lb, and on California and other Wools concessions have also been made. Dealers generally, however, are indifferent about selling. Combing and delaine Wools remain unchanged, but sales are quite small, the stock being light. Pulled Wools continue very quiet. In foreign Wool there was no movement of consequence. Sales include Ohio fleeces No. 1, XX and XXX at 45½@48c; Michigan X and No. 1, 38½@45c; New York X and No. 2 fleeces, 35@38c; combed and delaine, 42@57c; Kentucky and Indiana combed, 37; unwashed combed, 66-1-16; Eastern Oregon, 32@30; Territory, 14@33; Georgia, 36; unwashed and unmerchantable, 26@34; Spring California, 26@37; Fall do, 16@21; super and X pulled, 35@52c; scoured, 40@80c; Mestisa pulled, 68c; English matching, 50c; English Wool, 40c. The total sales for the week were 1,474,650 lbs, of which 1,269,650 lbs were domestic.

New York Dried Fruit Markets.

NEW YORK, Sept. 4.—Foreign Fruit is quiet. Raisins are slow and weak. About 1,000 boxes of the new crop of Malagas are due in a few weeks, but as yet no prices have been fixed of the new crop of Valencias. Sales have been made to arrive at 8½. Prunes are unsettled and weak. Sales of 1880 crop, to arrive, at 5c. Currants are quiet. New are offered at 5 to arrive. Dried Apples are slow of sale, and the tone of the market uncertain.

BAGS—The Bag market has fallen to pieces, and Bags are dull even at 9@10c, which are the prices now quoted. BARLEY—Barley has shaded off about 2½c cti all around. Chevalier is dropped to \$1.42½ for the best, full weight. We note sales: 200 cts off-grade Chevalier, 85c; 500 sks fair Brewing, 82½c; 700 and 600 sks Coast Feed, 77½c; and 400 cts do, 75c.

BEANS—The depression in Beans has accomplished a farther reduction of about 5c cti on Bayos, Pinks and Reds, and 10c on Butter Beans.

CORN—Corn is about a point or two lower. Sales include 230 sks Large White, \$1.05; 100 sks Small Round Yellow, \$1.02½; 200 sks Large do, \$1; and 300 sks do, 97½c cti.

DAIRY PRODUCE—The best lots have lost 1c during the week, and 30c is now quoted as the top price. Fine Butter is, however, rather scarce. Cheese is unchanged.

EGGS—Choice fresh California Eggs are also very scarce, and 30c is the best price to-day. Pickled Eggs and imported Eggs are quite plenty, and are now supplying the bulk of the trade.

FEED—There is no change, except a reduction of 50c cti on the best Wheat Hay.

FRUIT—Prices still hold up well, and but little change has occurred during the week.

HOPS—Picking is still progressing, but this week will finish the greater part of it. Arrivals are few, and prices not well established; 25c is the highest yet reported.

OATS—There has been a sale of 1,000 sks Bay Feed reported at \$1.27½ per cti. Prices generally are unchanged.

ONIONS—There is no change.

POTATOES—Quiet and unchanged, but there is a good

trade in progress, considerable amounts being shipped to Mexico.

PROVISIONS—There is a fair trade at former rates.

POULTRY—The trade is dull and prices about as last week.

VEGETABLES—There is a glut in Canteloupes, and crates have sold as low as 40c each. The best to-day bring but 75c. Choice Sweet Corn is now in and brings better rates. Other material is unchanged.

WHEAT—The market is quiet with a slight reduction in quotations. We note sales: 84 tone fair Milling, \$1.35; 500 and 400 cts No. 2, \$1.32½; 200 cts superfine, \$1.22½, and 200 cts do, \$1.20 cti. A sale of 23,000 sks is reported but no price stated.

WOOL—Prices are still nominal and nothing important is being done.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Sept. 8, 1880.

FIBERS. 17 @ 18

ONIONS. 60 @ 65

Silver Skin. 67½ @ 1.00

POTATOES.

Petaluma, cti. 1 @ 1

Tomatoes. 1 @ 1

Humboldt. 1 @ 1

Kidney. 1 @ 1

Peachblow. 1 @ 1

Cuffey Cove. 1 @ 1

Early Rose, new. 1 @ 1

Half M'n Bay, new. 1 @ 1

Alvarado, red. 1 @ 1

Sweet. 1 @ 1

POULTRY & GAME.

Hens, doz. 5 50 @ 7 00

Roosters. 5 50 @ 7 00

Broilers. 3 50 @ 4 50

Ducks, tame, doz. 4 00 @ 5 00

Mallard. 1 @ 1

Spring. 1 @ 1

Widgeon. 1 @ 1

Geese, pair. 1 50 @ 1 75

Wild Gray, doz. 1 @ 1

White do. 1 @ 1

Turkeys. 17 @ 20

do, Dressed. 1 @ 1

Sulph. Eng. 1 @ 1

do, Common. 1 @ 1

Quail, doz. 1 @ 1

Rabbits. 1 00 @ 1 25

Hares. 1 75 @ 2 00

Venison. 9 @ 12

PROVISIONS.

Cal. Bacon, extra. 11 @ 11½

Medium. 11½ @ 12

Light. 12 @ 12½

Lard. 10½ @ 11½

Cal. Smoked Beef. 11½ @ 12

Shoulders. 8 @ 8½

Hams, Cal. 12 @ 12½

Duke's. 15 @ 15½

Reliable. 15½ @ 16

Whitaker. 15½ @ 16

Royal. 15½ @ 16

Magnolia. 16 @ 16½

SEEDS.

Alfalfa. 10 @ 12

do, Chile. 4 @ 6

Canary. 5 @ 6

Clover, Red. 14 @ 15

Cotton. 50 @ 55

Flaxseed. 24 @ 30

Hemp. 1 @ 10

Italian Rye Grass. 30 @ 1

Perennial. 30 @ 1

Millet, German. 10 @ 12

do, Common. 7 @ 10

Mustard, White. 3 @ 5

Brown. 1½ @ 2

Rape. 3 @ 8

Ky Blue Grass. 20 @ 25

2d quality. 16 @ 18

Sweet V Grass. 7 @ 7½

Orchard. 20 @ 25

Red Top. 14 @ 15

Hungarian. 8 @ 10

Munich. 30 @ 50

Mesquit. 10 @ 12

Timothy. 1 @ 10

TALLOW.

Crude, lb. 5½ @ 5½

Refined. 7½ @ 7½

W. SPRING.

Southern and San Joaquin. 20 @ 22½

Long, free. 18 @ 20

Short, free. 17 @ 18

Seedy. 17 @ 18

Slightly hurry. 18 @ 20

Buttery. 17 @ 19

Choice, free. 28 @ 30

Buttery. 24 @ 25

Oregon, Eastern. 23 @ 25

do fine heavy. 18 @ 21

do Valley. 28 @ 30

FALL—Lamb's Wool.

do, Chile. 13 @ 15

Southern, hurry. 15 @ 16

do, free. 18 @ 21

Fall, ordin'y, south-

ern. 12 @ 14

FRUITS AND VEGETABLES.

[WHOLESALE.]

WEDNESDAY M., Sept. 8, 1880.

FRUIT MARKET.

Apples, basket. 40 @ 75

do, box. 37½ @ 1 20

Apricots, bx. 1 @ 1 00

Bananas, bunch. 2 50 @ 4 00

Blackberry, chst. 2 50 @ 3 00

Cherry Plums, bx. 30 @ 40

Citrons, Cal. 100 @ 100

Cocoanuts, 100. 7 00 @ 8 00

Crab Apples, bx. 50 @ 60

Figs, black, bx. 45 @ 75

Grapes. 50 @ 75

Sweetwater. 45 @ 75

Muscat. 75 @ 1 00

Rose Peru, bx. 60 @ 75

Blk Hamburg. 50 @ 65

Tokay. 1 00 @ 1 25

Limes, Mex. 10 @ 12

do, Cal. box. 1 75 @ 2 25

do, large, box. 5 00 @ 7 00

Lemons, Cal. bx. 3 00 @ 3 50

Sicily, box. 8 00 @ 9 00

Australian. 4 50 @ 5 00

Nectarines, box. 1 00 @ 1 50

Oranges, Cal. bx. 3 75 @ 7 50

do, Tahiti. 30 @ 35

do, Mexican. 1 00 @ 1 25

Peaches, bx & bsk 1 00 @ 1 25

Pears, basket. 40 @ 60

do, Bartlett. 50 @ 75

Pineapples, doz. 6 00 @ 7 50

Plums, bx. 50 @ 1 00

Prunes, German. 75 @ 1 25

Quinces. 1 00 @ 1 25

Raspberries, ch't. 10 @ 10 00

Strawberry, ch't. 9 00 @ 10 00

Sugar Cane, bble. 2 50 @ 2 50

DRIED FRUIT.

Apples, sliced, lb. 7 @ 8

do, quartered. 7 @ 8

Apricots. 17 @ 20

Blackberries. 23 @ 24

Citron. 23 @ 24

Dates. 9 @ 10

Figs, pressed. 7 @ 8

do, loose. 4 @ 6

Peaches. 10 @ 10

BAGS AND BAGGING.

[JOBBER PRICES.]

Eng Standard Wheat, 9 @ 10	45 inch. 24 @ 9½
California Manufacture.	40 inch. 24 @ 8½
Hand Sewed, 22x36. 9 @ 10	Wool Sacks.
22x40. 12 @ 12½	Hand Sewed, 3½ lb. 47 @ 47
24x40. 13 @ 13½	Machine Sewed. 52½ @ 55
Machine Sewed, 22x36. 9 @ 10	Standard Gunnies. 62 @ 64
Flour Sacks, halves. 8½ @ 10	Bean Bags. 62 @ 7½
Quarters. 5½ @ 6	Twine, Detrick's A. 35 @ 35
Eighths. 3½ @ 4	" A A. 37 @ 37
Hessian, 60 inch. 14 @ 14	" Lonesdale, Ex. 40 @ 40
	Stand. 36 @ 36

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

Commission Merchants.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

JAMES B. SHEAT,

(Member of the S. F. Produce Exchange.)

Commission Merchant and General

Purchasing Agent.

416 & 418 Davis Street, S. F.

Consignments of Grain, Wool and all Country Produce solicited. Also orders for purchasing Merchandise, Sacks, Implements, etc., promptly attended to. References—Wm. T. Coleman & Co., The Grangers' Bank, J. W. Grace & Co., Lynde & Hough.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

— AND —

DEALERS IN HAY, GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

505 & 507 Sansome St. (Niantic Building), S. F.

Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.

Branch House in Honolulu, H. I.

Liberal advances on consignments. Wool Sacks, Twine, Shaws, and Ranch Supplies furnished



ELLWANGER & BARRY

ROCHESTER, N. Y.

Offer the largest and most complete Stock of Fruit and Ornament Trees in the U. S. Priced Catalogue sent as follows: No. 1, Fruits with plate 15 cts; plain, 10 cts. No. 2, Orn

NEW MUSIC BOOKS!

The Anthem Harp. (\$1.25) By Dr. W. O. PERKINS. (Just out.)

A new book intended as a successor for "Perkins' Anthem Book," published some years since, and which was a decided success. The new book contains music perfectly within the reach of common choirs, and is destined to have a great sale.

DITSON & CO also call attention to their three books for SINGING CLASSES; recently published; already very popular, and worthy of universal adoption.

The Temple. (\$1.00.) By Dr. W. O. PERKINS.

The Voice of Worship. (\$1.00.) By L. O. EMERSON.

Johnson's Method for Singing Classes. (60 cents.) By A. N. JOHNSON.

The TEMPLE contains an excellent Singing School Course, and a large number of Glee, Songs, Sacred Tunes and Anthems for practice, and for use in classes. L. O. Emerson's VOICE OF WORSHIP has exactly the same end in view as the other, but has a different method, and entirely different music. JOHNSON'S METHOD is for those who wish a low-priced book; is admirably simple and clear, has plenty of music, and has a thorough course in Note Reading.

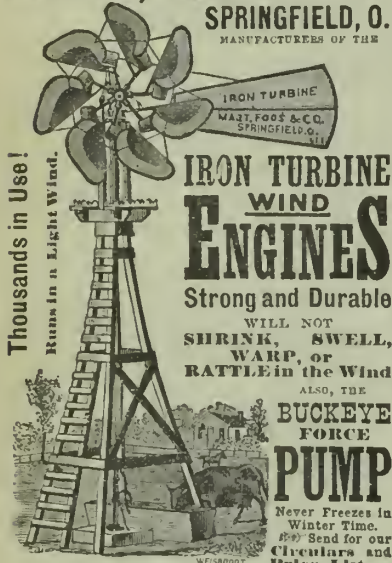
Any book mailed for retail price.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.



IRON TURBINE WIND ENGINES
Strong and Durable
WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

BUCKEYE FORCE PUMP
Never Freezes in Winter Time.
Send for our Circulars and Price List.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED

FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-will of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,

General Agents for Pacific Coast,

Nos. 323 and 325 Market St., San Francisco, Cal.

LOCAL AGENTS WANTED.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

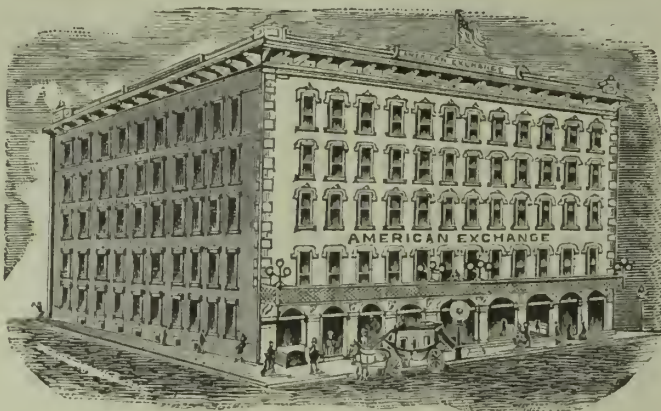
GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

RECORD OF SUPERIORITY.

1878-AWARDED	1879-AWARDED
J. H. STROBRIDGE, First Premiums:	J. H. STROBRIDGE, First Premiums:
Pen 5—Breeding Ewes.....\$22.50	Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes.....22.50	Pen 5—Yearling Ewes.....22.50
Pen 5—Ewe Lambs.....22.50	Pen 5—Ewe Lambs.....22.50
Pen 3—Ram Lambs.....22.50	Two-year-old Ram.....22.50
Yearling Ram (1st and 2d).....22.50	Yearling Ram.....22.50
Two-year-old Ram.....22.50	Ram and five Lambs.....30.00
Ram and five of his Lambs.....30.00	Pen of 3 Ram Lambs.....22.50
Sweepstakes:	Sweepstakes:
For best Ram of any age or breed, and five of his Lambs.....75.00	For best Ram and five of his Lambs of any age or breed.....75.00



THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Order by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Hayward, Alameda, Co., Cal. E. W. PEET, Agent.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouse, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOK & GREGORY

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag's. Samples 10c. Conn. Card Co. Northford, Ct.

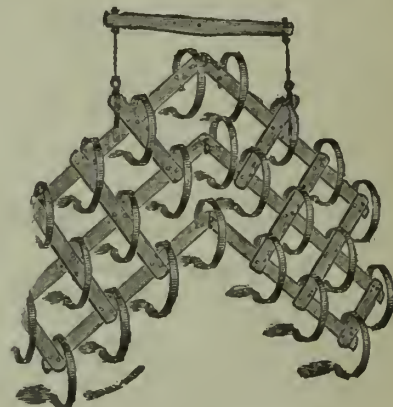
Mining & Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice, free. Address,

DEWEY & CO.,

202 Sansome St., N. E. Cor. Pine, San Francisco.

VICTORY



THE CALIFORNIA Spring Tooth Harrow AND CULTIVATOR

Receives the HIGHEST AWARD at the Oregon State Fair. Over \$12,000 worth of these implements sold in California since January 1st, and every one WORKING TO PERFECTION. Farmers cannot MAKE MONEY as fast in any other way as by using them. Send for descriptive circulars.

BATCHELOR, VAN GELDER & CO., 900 & 902 K St., Sacramento.

A NEW BOOK.

A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.



35 Fine Engravings showing the positions and actions of sick horses. Gives the cause, symptoms and best treatment of diseases. Has a table giving the doses, effects and antidotes of all the principal medicines used for the horse, and a few pages on the action and uses of medicines. Rules for telling the age of a horse, with a fine engraving showing the appearance of the teeth at each year.

It is printed on fine paper and has nearly 100 pages, 7 1/2 x 5 inches. Price only 25 cents, or 5 for \$1, on receipt of which we will send by mail to any address.

DEWEY & CO., 202 Sansome St., S. F.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1850. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. STEVENS BROS., Northford, Conn.

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-RICK, the reputation of which is now established, having been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical Press now in use. Ten tons of hay from this Press can be put into a car. Price, \$200.
Also TOP DRAFTER for Header Spout. This Drafter prevents the wind from blowing the straw away and wasting wheat. No reaching down the Spout to assist elevation. It will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WIND MILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes.
Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information.

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

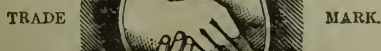
MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.



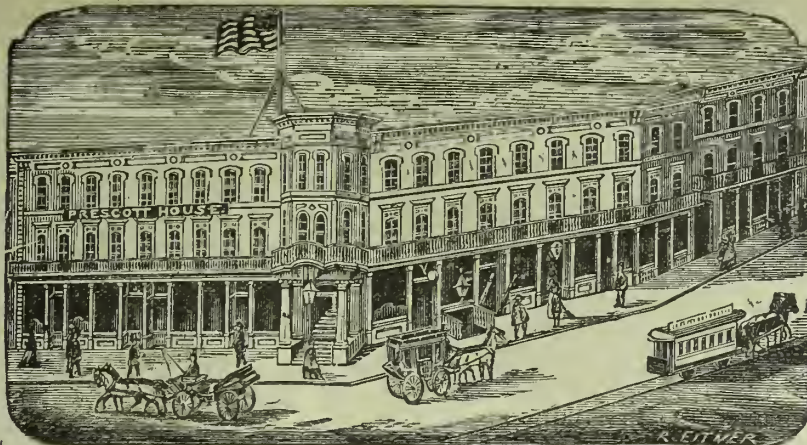
Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to
FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

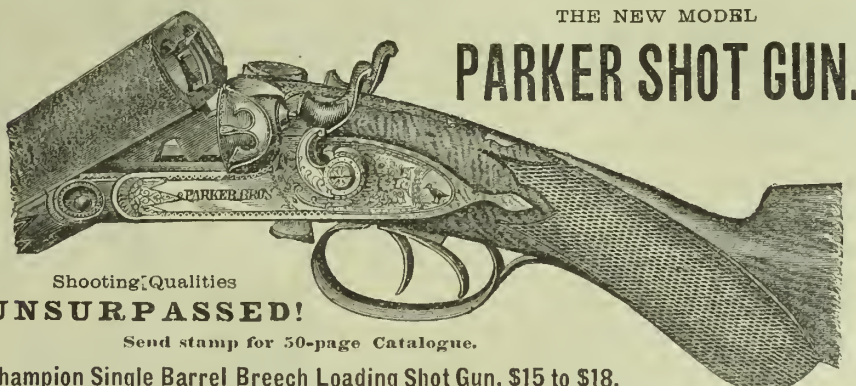
Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House



PARKER SHOT GUN.

Shooting Qualities
UNSURPASSED!

Send stamp for 50-page Catalogue.

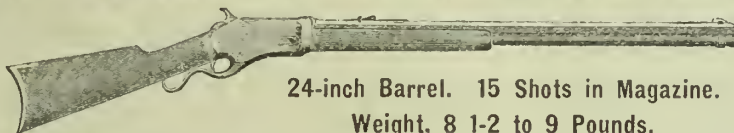
Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.
Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,
416 Market St., San Francisco.

SEEDS.

ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.
POP CORN.

115, 117 and 119 Kinzie Street, CHICAGO, ILLINOIS.

NEWSOM'S ARROYO GRANDE WARM SPRINGS.

D. F. NEWSOM, - - Proprietor.
SAN LUIS OBISPO CO., CAL.

Located 14 miles south of the city of San Luis Obispo, 12 miles from Port Harford, where passage can be had directly to the Springs. The Coast Line Stage connects daily at the Arroyo Grande.

The Waters of the Several Springs
ARE A SPECIFIC FOR

Piles, Nasal Catarrh, Neuralgia, Liver and
Kidney Complaints, Rheumatism, Gout,
Dropsy, Paralysis, Diseases of the
Stomach, Scrofula, Female Com-
plaints, Sore Eyes, Etc.

The ocean beach, which affords one of the finest drives in the State, and where surf-bathing, clamming and fishing are always in order, is within an easy drive of the Springs. The climate is delightful. No Summer, no Winter; Spring and Fall being the only seasons. Villa lots to lease for 10 years on most favorable terms. Neat and comfortable cottages to let.
Board, lodging and baths at rates to suit the times. Renters and Campers supplied with fresh Milk, Butter, Eggs, Fruits, Vegetables, etc., at current prices.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing,
Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired

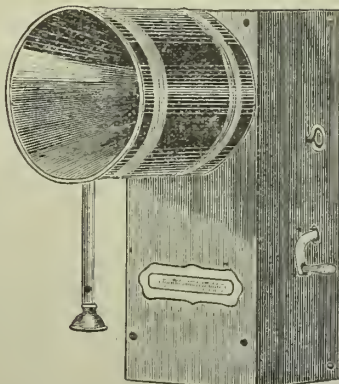
I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

50 Pertumed, Snowflakes, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

Hoover Telephone.

PATENTED.



\$10.00 PER SET.

Put up and guaranteed for one year. Private lines a specialty. It will cost you nothing to try them. No work, no pay. All orders promptly attended to. Circulars free. Room 24, 328 Montgomery St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best
GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$9 per doz. Address, G. W. JOLLY, Paraiso Springs, Cal. Pat. apld for

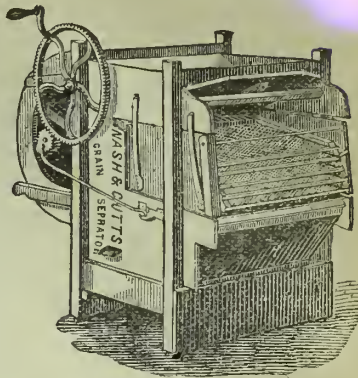


Dewey & Co { 202 San- } Patent Ag'ts
some St.

STILL AHEAD!

Trade Mark.

"The Improved Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly.
Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats, cracked wheat, etc., in a satisfactory manner, but is also successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE
CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

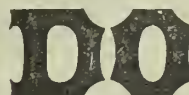
No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.

San Francisco, Cal.



DO NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,300 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wickets. Apply to
A SCHULLER,
209 Sansome St., S. F.

SADDLES,
HARNESS, WHIPS
LEATHER,

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in All Goods in this line.
Send for Catalogue

60 Elegant Perfumed Cards, Chromo, Motto, Lilly, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

INSURANCE AGENCY.

Hutchinson & Mann,

N. E. Corner Sansome and California Sts., San Francisco.

LA CAISSE GENERALE (Of Paris.)

Assets, January 1st, 1878.....\$4,636,302

Surplus, as to policy holders.....\$2,127,983

GIRARD INSURANCE CO. (of Philadelphia.)

Assets, January 1st, 1879.....\$1,131,838

Surplus, as to policy holders.....\$220,340

ST. PAUL INSURANCE CO. (of St. Paul.)

Assets, January 1st, 1879.....\$41,900

Surplus, as to policy holders.....\$561,172

WATERTOWN FIRE INS. CO. (of New York.)

Assets, January 1st, 1879.....\$764,816

Surplus, as to policy holders.....\$526,166

HOME INSURANCE CO. (of Columbus, O.)

Assets, January 1st, 1879.....\$271,271

Surplus, as to policy holders.....\$233,681

NEW ORLEANS INS. ASS'N (of New Orleans.)

Assets, January 1st, 1879.....\$504,192

Surplus, as to policy holders.....\$365,997

PEOPLE'S INSURANCE CO. (of Newark.)

Assets, January 1st, 1879.....\$503,040

Surplus, as to policy holders.....\$358,207

REVERE INSURANCE CO. (of Boston.)

Assets, January 1st, 1879.....\$274,573

Surplus, as to policy holders.....\$206,655

TEUTONIA INSURANCE CO. (New Orleans.)

Assets, January 1st, 1879.....\$358,893

Surplus, as to policy holders.....\$295,468

DWELLING HOUSE UNDERWRITERS (N. Y.)

Assets, January 1st, 1879.....\$1,948,925

Surplus, as to policy holders.....\$1,852,772

LA CONFIANCE INSURANCE CO. (of Paris.)

Capital and Assets.....\$5,329,321

Surplus, as to policy holders.....\$2,265,112

BERLIN-COLOGNE INS. CO. (of Berlin.)

Capital and Assets.....\$2,064,966

MARINE.

Paris Underwriting Ass'n (of Paris.)

Assets.....\$1,355,523

London Provincial Marine Ins. Co. (London.)

Capital and Assets.....\$5,727,975

Cash Assets Represented, \$25,715,540.

HUTCHINSON & MANN, Gen'l Agents for the Pacific Coast.

W. L. CHALMER, Z. P. CLARK and J. C. STAPLES, Special Agents and Adjusters.

DEWEY & CO.'S

Scientific PressPatent Agency.

[ESTABLISHED 1860.]

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency: We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY. W. B. EWER. GEO. H. STRONG.

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand.

OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

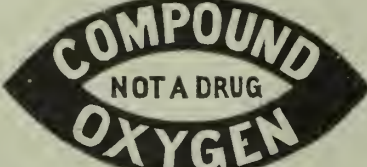
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags.

Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St, San Francisco



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION.

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address: DRs. STARKLEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 616 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies

C. D. Ladd,

821 Kearny Street, San Francisco, Cal.

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast }
FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

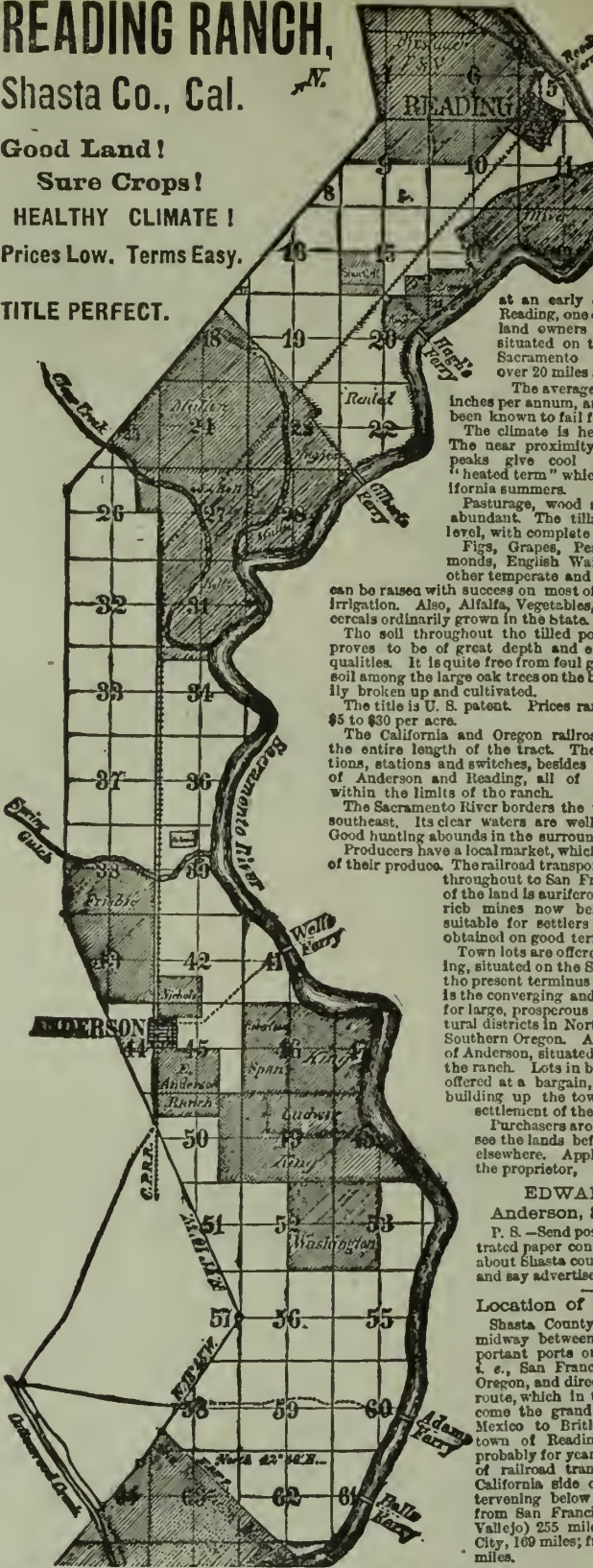
SEND FOR 1880 PRICE LIST.

READING RANCH,

Shasta Co., Cal.

Good Land!
Sure Crops!
HEALTHY CLIMATE!
Prices Low. Terms Easy.

TITLE PERFECT.



The Reading Ranch, in the upper Sacramento valley, originally embracing over 20,000 acres of choice grain, orchard and pasture land, is now offered for sale at low prices and on favorable terms of payment, in subdivisions to suit purchasers.

The ranch was selected at an early day by Major P. B. Reading, one of the largest pioneer land owners in California. It is situated on the west side of the Sacramento River and extends over 20 miles along its bank.

The average rainfall is about 30 inches per annum, and crops have never been known to fail from drought.

The climate is healthy and desirable. The near proximity of high mountain peaks give cool nights during the "heated term" which occurs in our California summers.

Pasture, wood and good water are abundant. The tillage land is mostly level, with complete drainage.

Figs, Grapes, Peaches, Prunes, Almonds, English Walnuts, Oranges and other temperate and semi-tropical fruits can be raised with success on most of the tract without irrigation. Also, Alfalfa, Vegetables, Corn and all other cereals ordinarily grown in the State.

The soil throughout the tilled portions of the ranch proves to be of great depth and enduring in its good qualities. It is quite free from foul growths. The virgin soil among the large oak trees on the bottom land is easily broken up and cultivated.

The title is U. S. patent. Prices range principally from \$5 to \$30 per acre.

The California and Oregon railroad traverses nearly the entire length of the tract. There are several sections, stations and switches, besides depots at the towns of Anderson and Reading, all of which are located within the limits of the ranch.

The Sacramento River borders the whole tract on the southeast. Its clear waters are well stocked with fish. Good hunting abounds in the surrounding country.

Producers have a local market, which enhances the value of their produce. The railroad transportation route is level throughout to San Francisco. A portion of the land is auriferous and located near rich mines now being worked. Land suitable for settlers in colonies can be obtained on good terms.

Town lots are offered for sale in Reading, situated on the Sacramento river, at the present terminus of the railroad. It is the converging and distributing point for large, prosperous mining and agricultural districts in Northern California and Southern Oregon. Also, lots in the town of Anderson, situated more centrally on the ranch. Lots in both these towns are offered at a bargain, for the purpose of building up the towns and facilitating settlement of the ranch.

Purchasers are invited to come and see the lands before buying here or elsewhere. Apply on the ranch, to the proprietor.

EDWARD FRISBIE,
Anderson, Shasta Co., Cal.
P. S.—Send postage stamp for illustrated paper containing information about Shasta county and these lands, and say advertised in this paper.

Location of Shasta County.

Shasta County lies not far from midway between the two most important ports on the Pacific shore, i. e., San Francisco and Portland, Oregon, and directly on the overland route, which in the future will become the grand thoroughfare from Mexico to British Columbia. The town of Reading, at present, and probably for years to come, the head of railroad transportation on the California side of the mountains intervening below Oregon, is distant from San Francisco by railroad (via Vallejo) 255 miles; from Sacramento City, 169 miles; from Marysville, 117 miles.

LAND FOR SALE OR RENT IN SUB-DIVISIONS.

Baling
Fencing
Telegraph
Telephone
Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address
J. A. POPPE, Sonoma, Cal.

MARBLE WORKS.

Monuments and Headstones
—IN—
Marble and Scotch Granite.

MANTELS AND GRATES.

MARBLE AND ENCAUSTIC TILES.

Designs sent on applying for them.

W. H. MCCORMICK.

827 Market St., between Fourth and Fifth.

BLOOMINGTON NURSERY.

Established 1852. 600 acres; 13 greenhouses. We offer a large stock of Trees, Shrubs, Roses, Bulbs, Apple Seedlings, Osage Plants, etc. New Fall Price List free. Address BAIRD & TUTTLE, Agents, Bloomington Nursery, Ill.

CANVASSERS Make from \$25 to \$50 per week selling goods for E. G. RIDEOUT & CO., 10 Barclay street, New York. Send for Catalogue and terms.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.



Volume XX.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 18, 1880.

Number 12

The Complete Harvester Problem.

The grain growers of South Australia seem disposed to give up the "complete harvester" problem, for the successful solution of which a prize of \$20,000 was offered by the government some time ago. Our readers will remember that the contest for that prize yielded no victory. The *Adelaide Observer*, after reviewing the general condition of the question, concludes as follows:

The only feasible plan for expediting the gathering in of our wheat crops, without the terrible waste which characterizes the Californian "header," seems to be in the widening of the comb of our present header and thrasher, together with some means for automatic bagging of the wheat from the winnower. This last machine might be improved upon, perhaps; but experiments have proved that it cannot be effected by making it larger, since by widening the fan and the feeder a dead space is created in the center of the blast which nullifies all the extra width. We believe that until the self-binders and the steam threshing machines, worked by independent gangs, are generally introduced, there can be little improvement made upon the present cheap and expeditious mode of dealing with our cereal crops; certainly the improvement will not be in the direction of a "complete harvester." We have not the slightest doubt that within a very short period all the wheat in the colony will be gathered in by these self-binders.

We have no doubt that the self-binders will also play an important part in harvesting in this State. Their advantages have been set forth and in many cases realized where the growth of the grain was of moderate height. Their handling of grain when it is in its best degree of ripeness and the economic features of their working are well established. But our large grain growers of the San Joaquin valley are not disposed to give up the problem of a complete harvester so easily as are the South Australians. There have been results attained in Merced county, the present season, which we believe are regarded as eminently satisfactory, and grain has been cut, threshed and sacked by one transit of the machine at a fabulously low rate per acre. Several new styles of machines for doing the same work have been brought forward this year, and the interest of inventor and grower seems unabated.

It is evident, however, from the progress of the problem thus far, that a machine which will suit the San Joaquin valley grain growers will not do at all in South Australia. They say the use of anything like 20 animals on a machine is not to be thought of. They cannot accept our header as basis for anything. Long stubble seems to mean short purses to them, and at the loss of straw and chaff they are inconsolable. So great a point is made on this matter that they even think of the advantages of a machine which would gather the grain in sacks, and have compartments into which the chaff and screenings could be caught, so that the machine could be drawn to the barn and the chaff cleaned out and sacked during the noontime. This idea will almost act as an emetic to the San Joaquin valley grain growers. A "complete harvester," which would store all the rubbish it made in half a day until it could be saved at noontime, would strike them as about as ridiculous a machine as could be thought of. Why one of our San Joaquin harvesters would make a big barn full of rubbish in half a day.

We begin to realize what the South Australians really want. They want a nice little thing to be drawn by not more than four horses, and into this must be concentrated a reaper, a threshing machine, a fanning mill, a sacking apparatus and a straw stack. One can easily see how diminutive each of these components must be to occupy its proportion of the power of four horses. Such an apparatus would hardly be considered too large for a patent office model of a California complete harvester, and the idea of putting such a toy into actual work upon our grain seas, would be like trying a sail in a nutshell. We are afraid we cannot do much at supplying such an apparatus as South Australia needs. Our inventors could do it if there is any such thing in mechanical possibilities, but the inventor would ship it to Australia before the paint was dry, rather than face the laughter of a California grain grower.

The late Miss Adelaide Neilson, instead of having been born in Saragossa, Spain, in 1850, really was born in Leeds, England, March 3, 1849. Her real name was Elizabeth Ann Brown, and her mother, who is still living, is a gypsy.

Indian Grass or Wood Grass.

Our engraving shows a grass which will be recognized by many of our readers who hail from the prairie States, where it figures quite largely in the native pasture. Botanically, it is a sorghum (*Sorghum nutans*), and it is tall-growing in its habit, the stalks being from three to four ft. high, in favorable locations.



INDIAN GRASS OR WOOD GRASS—Sorghum Nutans.

In order to show how grasses may vary in chemical composition and thus differ widely in economic value, we place side by side the proximate analysis of *Sorghum nutans* and *Sorghum Halapense* (green valley grass):

	Sorghum Nutans.	Sorghum Halapense.
Oil.....	1.57	2.25
Wax.....	.10	.61
Sugars.....	7.27	7.37
Gum, etc.....	3.75	5.14
Cellulose.....	36.70	25.15
Amylaceous do.....	27.25	25.87
Alkali extract.....	14.44	15.68
Albuminoids.....	3.29	13.13
Ash.....	5.63	4.85

The analyses were made by Dr. Peter Collier, chemist of the United States Department of Agriculture. The superior richness of the *S. Halapense* in oil, sugars and its notable increase of albuminoids, are plain evidence of its great comparative value. It has more gum also, which there is some reason to believe is convertible into sugar in the animal digestion. On the other hand the *Sorghum Halapense* has much less cellulose, which is indigestible and worthless. We gave an engraving of *Sorghum Hala-*

A Lesson in Bags.

The late bag ring had apparently as little substance to it as the smoke wreath which sometimes flies aloft from the stack of the locomotive when the air is still. Indeed both bag ring and smoke ring had a somewhat similar origin; they were both given form by a powerful puff of wind. Dropping the simile it may be remarked that although the bag combination was of short life it succeeded in doing injury to the general good, for many producers were forced to pay an extra fraction for their bags. There was no reason to advance the price, for the supply was ample; it was excessive. This is shown by the fact that now standard grain bags are weak at 8½ cents, although the trade is still in progress and the belated harvest will still call for more. In fact bags are selling for cash during harvest at a price less than has been set in contracts for future delivery. This shows quite plainly the condition of supplies.

We have said that the combination was given form by a powerful puff. When the thing was in contemplation there appeared in several journals elaborate statements showing the magnificent requirements for this most peerless harvest, and the small figure which the visible supply would cut in the matter. The lesson to be drawn was that there would be something approaching a bag famine, and consumers ought to be glad to pay the small advance which the combination claimed from week to week. The journals which indulged in this style of statistics and deductions therefrom, seemed to be wholly oblivious to the fact that they were writing just so much money out of the pockets of the grain producers into the hands of the bag speculators. We doubt not many a subscriber to those papers had to pay 10 times the cost of the publication, in his increased bag bill, because of this little piece of journalistic imagination. We are charitable enough to believe that, in most cases at least, these newspapers were led into these statistical cogitations on the bag market thoughtlessly, and because they did not see that the points furnished them were against the interests of the many and in the interest of the few. But thoughtlessness in a matter of this kind is criminal. It is a serious matter to add a fraction to the cost of a grain bag, or to contribute aid to those who are endeavoring to do it. For our own part we are chronically distrustful of figures drawn by interested parties, and we never give them type-room because of the harm they are likely to do. The present year's experience in the matter of bags should be a lesson to all these journals and to their readers. Although the harvest has proved much better than was thought possible in June, and although the supply was reduced by the stoppage of the Oakland factory for weeks, by a smallpox quarantine, there were still bags enough in hand and on the way to bring the price to its present level while the trade is still in progress.

As to the future in bags it is yet too early to say much. There are at least two cargoes to arrive from Calcutta before the year closes. It is announced that the burlap-making machinery for San Quentin, to be set in motion in accordance with Gov. Perkins' recommendations, is on its way, and may be producing bags for another harvest. There are several promising efforts putting forth to prepare material from California-grown textile plants by private enterprise, and possibly the millions sent abroad for bags may yet be distributed among our own people.

GRAPE DISCUSSION AT THE STATE FAIR.—We have received a note from R. B. Blowers, Viticultural Commissioner for the Sacramento District, announcing that there will be a meeting held during the State fair for discussion of grape growing, especially with reference to raisin making and sale as table grapes. This is a subject of the greatest importance, and we hope all interested will make it a point to attend and bring forward their experience. An address will be made by W. B. West, of Stockton, subject, "Raisins, Table Grapes, and Their Markets." The meeting will be held on Friday evening, Sept. 24th, in the lecture-room of the Sixth Street M. E. church, Sacramento, and all are cordially invited to attend.

pense in our issue of March 27, 1880, and it is interesting to compare their appearance in connection with this statement of their comparative composition.

Sorghum nutans has not been generally considered of much value except as one of the grasses in the native pasture, although if cut early the hay is nutritious. The main trouble with it is that it grows rather scantily and does not cover the ground well.

The stalks are smooth, hollow and straight, and have at the top a narrow panicle of handsome straw-colored or brownish flowers, which are rather drooping when the seed is formed.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds

A Wagon Trip to Yosemite.

EDITORS PRESS:—I have just returned from a visit to those marvelous works of the Almighty—the Yosemite valley and the Big Trees. Words altogether fail to describe, or pictures to truly represent them.

I started from Merced with my own team and camped at that busy little town, Hornitos. After driving over numberless hills, I came in sight of these trees, and the noble oak appeared as I neared the town. I slept at its outskirts and started on at 5 o'clock the next morning.

Sad is the picture of this once thriving city of Mariposa. Litigation clouds all around hers and depresses all enterprises. It would seem that the State or Congress ought to come to the rescue, for several rich mines and other resources are a deadlock pending the settlement of the tedious suit. To this point the roads are pretty fair, but leaving this once thriving city of Mariposa the road exhibits the dangers to be encountered, viz: the narrowness and steepness on one side, which makes it dangerous for two teams going in opposite directions to pass. This danger and difficulty is almost continuous on the route; the road being a single one throughout, with some exceptions. Nevertheless considerable heavy teaming is done in hauling lumber down and merchandises and horse-feed back. The stages go full through the summer, and an immense number of campers traverse the road, generally without any accident, as people are all the more careful to run no risks, and the teamsters on meets are careful and accommodating.

Some nice flats of valley land are occasionally met, and one of the first after leaving Hornitos and above Marmou Bar, is Knights, intrenched among steep hills and stupendous trees, with a copious flow of water. Here we camped the second night, contemplating the five miles or more up hill into Big Tree station. The roads are good all along here and not dangerous. There are some snug farms occasionally seen, and lots of Angora goats kept in these places are seemingly well-bred. There are fine fruit trees, hay and wheat are grown successfully, and there is plenty of water in some few of the flats or canyons.

This third day brought us into Big Tree station, where we had a cordial reception from the well-known Johnny Bruce, who is a good specimen of the good-living, healthy, cooling atmosphere and pure water which abound. The hotel seemed pretty full, and there were lots of campers on the camping ground. Big fires blazed, and songs filled the air and lulled you to sleep.

Next day we started for those indelible big trees, and rested, sauntering round the saw mill, meadows and vegetable garden just started this year, which promises to be a big success, as the amount of vegetables brought is something enormous. Three stages were crammed full each day of tourists. These stages go through from the railroad depot in one day, a journey which takes the campers two or three days. Stages have a constant relay of good horses and careful, experienced drivers.

The sixth day we left for the valley, and slept under the renowned Bridal Veil. The scenery in the Yosemite is almost impossible to describe, it is so gorgeous, so stupendously magnificent.

Before leaving the valley I may add that a party of four campers could see all the main points, big trees and valley for about \$8 each, \$32 in all, starting by wagon from Merced. Horse feed, hay and barley, is very high, the former \$40 to \$50 a ton; the barley \$3.50 per cental. The toll is 75 cents before entering Big Tree station, and at this point \$4.25, and half as much again if you return by the same route. If you return by Coulterville the toll is \$2.

M. J. O. BYRNE.

Merced, Cal.

A NEW AVENUE FOR A CHINESE IRRUPTION. The report that a steamer loaded with Chinese laborers was expected to arrive at Havana has set the newspapers of New Orleans to thinking and discussing the portents of the movement of this new class of cheap labor. Some of the papers predict that before long Louisiana, and probably other Southern States, will be made to feel the effects of the Chinese irruption. They believe that as the emancipation of the negroes has led the Cuban planters to adopt vigorous measures to secure cheap and trustworthy laborers, the sugar plantations of the island will be worked by the Chinese. It would appear that this radical change in the form of labor in Cuba, at least so far as its staples are concerned, has been long contemplated, and that the matter has been definitely arranged between the governments of the two countries. A Chinese consulate has been established at the city of Havana, and complete protection, amounting, it is said, to an equality of rights with the natives, is guaranteed to the Chinese laborer. The Chinese—cheap and docile, but above all else, cheap—has become the hope of the planters of the Spanish West Indies. The sugar growers of Louisiana may well regard this new avenue for a Chinese irruption as a portentous menace to one of their greatest industries.

SHEEP AND WOOL.

The Fall Wool Trade.

As the fall clip is now pressing for sale, the aspect of the Eastern markets is a matter of much interest. Walter Brown & Co., of Boston, in their latest circular, give the following outline of the trade and matters affecting it: The wool market for August opened with a moderate inquiry and strong prices; the purchases, however, by manufacturers were mostly confined to their immediate requirements, as they have had but little inducement from the sales of goods to encourage any anticipation of future wants by heavy investments in the raw material. As this month progressed, consumers held back from buying as much as possible, thus reducing the volume of sales, and this last week shows a smaller amount of transactions than for any similar period during the previous 60 days. The only active demand has been for delaine and combing selections, which have sold freely at steady values; all other wools have been in very limited request, and in some cases concessions have been made to effect sales. The weakest wools on the list are the low medium and coarse grades from Territories and Western States, which have been much neglected by consumers, and exhibit a great contrast to the active movement of last season.

The indifference shown by manufacturers to the wools offering on the market would indicate a larger stock in their hands than has been generally supposed by dealers in the staple, and a belief that they can safely postpone purchases until actual scarcity of stock makes it necessary for them to buy. On the other hand, a large number of the farmers in the best wool-growing districts of the country are holding their wools with confidence, feeling that they will be needed at their own figures before another clip is available. What the result will be is to-day quite as much of an enigma as it was two months ago; one fact, however, is quite evident, manufacturers, so long as the trade for their goods continues in its present unsatisfactory state, will not buy wool faster than they need it, and the question arises will this "hand to mouth" demand be sufficient to relieve the market of the large supplies of wool that have accumulated during the past few weeks without a further concession in prices.

The general prosperity of the country in its cereal interests, as indicating a good healthy fall trade in all branches, is a strong argument in favor of a renewed activity in the wool business, and of which the advent is only a question of time; the prices of the staple in foreign markets are to-day too high to admit of additional importations in competition, and even should a further decline take place in the values of domestic wools, it will probably be only temporary.

The London auction sales began on the 17th ultimo, with a very large offering of colonial wools; the attendance was good, but the bidding lacked spirit, and the prices opened about 5% below the closing rates of the previous series. As the sales have progressed, they have suffered no further decline, while at times some animation has been evident in the competition. The assortment, though large, comprises but little wool suitable for the American market, even were prices low enough to attract buyers from this country; as it is, there is no probability that our stocks will be at all increased by any purchases at this offering.

A Government Inquiry into Sheep Husbandry.

Hon. W. G. Le Due, Commissioner of Agriculture, Washington, D. C., has issued a circular calling a meeting of sheep-breeders at the Philadelphia sheep fair, on Sept. 22d. As the notice comes too late to allow any Californians to avail themselves of it unless they be now at the East, we print the list of points upon which information is desired. We presume Gen. Le Due will be pleased to receive communications on any of the subjects from any western flock owner. The following, among other subjects, are suggested for consideration:

Advancement of the general interests of the wool grower.

Prompt and systematic collection and distribution by this department of information concerning the supply of flock products, and the demand for them.

Relative advantages of our sheep-breeding States, and the breeds best adapted to them.

Methods of shearing and handling sheep, and of packing and grading wool for the market.

Increasing the production of the mountain lands of the Atlantic States, by the systematic extension of sheep husbandry.

Benefits resulting from the introduction of pure blood into our native flocks.

Breeds capable of yielding, from a given acreage, the most profitable returns in mutton and wool, taken jointly.

Management of sheep in summer and winter—of lambs most profitably for market.

Recent inventions in wool manufacture, and their relative importance.

Recent discoveries and inventions in the pro-

duction of dyes and the art of dying—their relative importance.

Grades of wool which this country must produce, in order fully to supply the demands of her looms, and how best to produce them.

MOVING A WELL-KNOWN FLOCK.—E. W. Woolsey & Son, whose Merino-breeding establishment at Berkeley has become known far and wide over the coast, have purchased a fine ranch about six miles from Santa Rosa, in Sonoma county. In their new location Messrs. Woolsey & Son will be able to produce feed to fine advantage, and will be fitted to extend their breeding as the demand warrants. This season they had quick sales and cleared out their young stock. We expect to hear good things of them from Sonoma county.

SHEEP FOR THE FAIR.—Mr. E. W. Peet informs us that he will be at the State fair at Sacramento with something like 60 head of the fine Merino sheep of J. H. Stobridge of Haywards. The sheep from this flock are famous as prize-takers, and it will be interesting to see how they sustain their record this year.

THE VINEYARD.

California Grape Growing.

The State Vinicultural Commission is making systematic efforts to procure all possible information in relation to this business of grape growing. George West, of Stockton, the Commissioner for the San Joaquin district, comprising the counties of San Joaquin, Stanislaus, Merced, Fresno, Tulare and Kern, has issued a circular addressed to all vine growers in this district, asking information regarding the various methods, processes and implements employed in grape growing, for the purpose of making a thorough compilation for the benefit of persons desirous of planting vineyards, as well as those already engaged in that industry. The Commissioner expects all persons receiving a circular to fill out the blanks and return them to him. It is the design of the Commissioner to compile and publish the information thus obtained for the benefit of all engaged in this business, or who may desire to do so. Persons engaged in grape raising who fail to receive a circular are requested to send for one. The following is a list of the questions submitted:

On Grape Culture.

Owner's name; name of vineyard; postoffice address; county; section, township and range; or description of Spanish grant; date of first planting; number of acres in full bearing; number of acres in vines; number of acres of principal varieties; is your vineyard hillside or plain; nature of surface soil—clay, sand, gravel or loam; nature of subsoil; depth to water; do you irrigate; what facilities have you for irrigating; can you submerge your vineyard; at what time do you irrigate or submerge; average value of vineyard land in your locality; is there much land suitable for grape-growing in your locality; method of preparing land and planting first year; do you plant cuttings or rooted vines; what is your method of planting cuttings, and length of same; distance apart of principal varieties; cost of preparing, planting and cultivating first year; cost of pruning and cultivating per year, for second and third years; cost of pruning and cultivating when in full bearing; describe method of pruning different varieties; what time do you winter prune; do you summer prune; at what age do your vines pay expenses; at what age do they come in full bearing; average yield when in full bearing; what varieties are most profitable; at what time do your principal varieties ripen; what fertilizers have you used, and with what success; what varieties would you advise planting in your locality for wine; what varieties for brandy; what varieties for table use; what varieties for raisins; do you make seedless raisins, and which do you consider the best; how many pounds of each variety to make one pound of raisins; do you dry by sun or artificial heat; if artificial, what is the highest degree of temperature; what is your mode of packing; give detailed account of experiments in grafting (this is very important, owing to the threatened inroads of the phylloxera, and will be useful in showing what varieties have been most successfully grafted); what disease affects your vines; when did it first appear; what remedies have you applied; what varieties most liable to mildew; how much sulphur used per acre; at what time, and how often applied; what varieties most liable to sunburn; what varieties most liable to canker or black knot; what do you consider the cause; what preventive or cure have you found; what insects injure the vines; what means have you used to destroy them; does the fruit of any variety mold or rot on the vines; what do you consider the cause, and what remedy have you found; what varieties, if any, do not set well; is your locality subject to late frosts; what precautions do you take to protect your vines?

To Wine-makers and Distillers.

The following additional questions are submitted to those engaged in wine-making and

distilling: How much wine did you make in 1879; how much brandy; what kinds of wine did you make; what date do you begin vintage; do you use cellars under ground or above ground, and of what material are they built; how much sugar do your grapes contain; do you ferment in open or closed tanks; how many days or hours do you ferment your red wine; do you stem your grapes or not while fermenting; what is the most favorable temperature for fermentation; when do you rack your wine from the vat, and how often afterwards during the first year; how often the second year; how do you fill up your casks; what apparatus do you use for distilling; do you distill by steam or fire heat; what degree of saccharine is the best for the making of light red or white wine; what varieties do you consider this best for whites and red wine; what variety best for brandy; have you had any experience in heating wine; by what process, for what purpose; to what temperature do you heat; how long is heat continued; what is the age and condition of the wine when heat is applied; what is the immediate effect of heating; what is the ultimate effect; what is the cost per gallon?

Australian Grape Shipments to England.

From our South Australia exchange, the *Adelaide Observer*, we learn that attempts of the colonial grape growers at sending fruit to London has not been altogether successful. A gentleman residing in Adelaide has received the following letter by the mail from a relative connected with the London Press, in reference to a quantity of grapes sent to England: "Last Wednesday (May 12th) 200 barrels of Almeria grapes, which had been kept over in the hope of realizing 40s. the 40-lb. barrel, now were exposed for sale, and realized one shilling a barrel. There were only a bunch or two of good grapes in each barrel. A fortnight ago a shipment of Australian grapes was twice put up in the auction room without finding buyers even at a shilling. They were in much the condition of soft soap. The grapes were packed in a dark-colored, apparently mahogany, sawdust. Not long ago a South African consignment, in biscuit boxes, carefully packed in wool and carefully soldered up, the biscuit boxes fitting in cases that held a dozen each, each biscuit box labeled with the name and vineyard of the grower, was offered for sale in the auction room, but when opened up turned out so badly that the principal of the Lower Thames-street firm of Sharpe & Co. certified that the condition was that of dung when the cases were removed from the auction room and placed on the Billingsgate dust carts. Everything has been tried for the packing of Almeria grapes, and the best material is not sawdust. When sawdust was used oak sawdust was preferred; when bran was used the bran heated and spoiled the whole; when the husk of rice was used (paddy) it also heated. With these experiences, I am told, that the chances are 100 to 1 against a good result. The feeling is that the hotter the climate from which grapes are shipped the more tender the skin of the fruit, and the less suited for shipment. Could the fruit be received here up to the end of July when the Almeria grapes come in they would sell well."

Another experiment seems to have been more successful. The *Southeastern Star* writes: "By the last mail Mr. W. Wedd, of this town, received advice of arrival in England of a 9-gallon keg of grapes in excellent condition. They were dispatched in the steamer *John Elder*, on March 10th, and arrived on May 20th, and notwithstanding that a week elapsed after their arrival before they were received by the gentleman to whom they were addressed, the fruit had suffered but very little damage, a few only of the berries being a little damp, while the bulk maintained their bloom and were excellent in flavor. Kiln-dried cedar sawdust was the material used in packing them in Adelaide for export."

Packing Fruit for Export.

There was an essay lately written for the Royal Agricultural Society of South Australia, by Mr. Amos Howard, on 'packing fruit for export, from which we take the following paragraphs:

Packing the Grape.—I consider the packing material a very important consideration. The materials I have had experience of are sawdust, seaweed, bran, fine meadow hay, and fine wood shavings. These were all partial failures, with the exception of the fine wood shavings; but of this last I cannot speak too highly. They combine these requisites—lightness, cleanliness, cheapness and elasticity. A good proportion of size for the cases is, length 2 ft., width 14 inches, and depth 11 inches—this size would contain about 50 lbs. of grapes. These boxes should be packed in the vineyard, the bunches being then but once handled. Sheets of common white paper are provided of two sizes, which a child can twist up into conical-shaped bags. They should be large enough to take in the bunch completely. The box is prepared for the reception of the fruits by placing a layer of the fine shavings on the bottom; the bunches are cut from the vine, held only by the stalk, and placed at once in the paper bags, being then laid carefully on the layer of shavings. On no account should the mouth of the bags be closed, as the sweating of the bunches would injure the berries. On the other hand, if the mouth of the bags is not doubled over, the shavings will absorb the moisture, and the fruit will remain uninjured. I have proved this from experience.

As soon as the first layer of grapes is complete, another of fine shavings is placed on them, and these slightly pressed down so as not to bruise the berries, for this purpose a light board cut to fit inside the case with a handle to lower it gently, will be found to press the packing more evenly than the hand—the packer's judgment will teach what pressure is necessary to pack the fruit securely. These layers should be continued until the case is filled, and in finishing off the lid should press slightly on the top layer of shavings.

Packing the Plum.—The method of packing these is more simple. In their case the fruit is placed in single layers between each layer of the fine shavings, the same care is necessary in gathering and at once putting them in the boxes, selecting fruits without spots. The plums are packed without paper; as they lay firmer without. (I would here remark, that firm packing is of the utmost importance, as the slightest looseness is ruin to the fruit.) As each layer of shavings is placed on the fruit, the light board before mentioned should be used for pressing them evenly down. The layers then are continued until the case is filled, the lid slightly pressing down the top shavings. The firm-fleshed varieties will keep well for seven and eight weeks, and damsons even longer.

Packing the Apple.—These should be packed in the same way as the plums, taking the extra care only of having a little shavings between each fruit. Cases of the size recommended should hold about 150 apples, spotless fruit should be selected and packed straight from the tree.

HORTICULTURE.

Certain Parasitic Plants.

[Written for RURAL PRESS by W. G. KLEE.]

The process by which plants obtain their aerial food, and by which, in the leaf, carbonic acid is decomposed into its two constituents, solid carbon and oxygen gas, is termed assimilation. This wonderful power so wisely given plants, is not extended to all of them; it is only to those that contain leaf-green (or, as it is called, chlorophyll) that it is given, and then only under the influence of light. Plants that contain chlorophyll are not necessarily of green appearance; covered with thick white down or waxy excretions, it is sometimes concealed, or the presence of a coloring matter prevents it from being seen. These, however, must be considered the exceptions, and as a general thing a plant that is not green, must be considered a suspicious character—that is, not able to make an honest living. They are, in fact, the robbers and thieves among plants. These so-called parasites are of two distinct kinds: 1. Those that live on decaying or diseased vegetation; 2. Those that take the already prepared life-sap as it flows and appropriate it for their tissue. Into the mystery of the first class, to which the well-known fungi belong, I shall not enter, but turn to those peculiar adaptations among higher plants that live on the hard-earned nourishment of their fellows.

As a general thing parasites are not green, but there exist, nevertheless, some; and as discovery in botany has advanced, there has become known a number of green half-parasitic plants, formerly thought to be independent, that are root-parasitic on other plants, though generally not all their lifetime. These then form the transition to the more reduced parasites. It is among the family of *Scrophulariaceae* that we naturally should find these plants, for closely allied to this we have the order *Orobanchaceae*, which consists of a large number of true parasitic plants. In Europe the *Euphrasia* (*E. Odontites*, Eyebright) has been considered dangerous to the rye, and another, *Rhinanthus* (*R. Cristigalli*, Yellowpattile), has been the plague of the barley. Here in America we have two conspicuous examples, the *Gerardia*, with its beautiful yellow flowers, and the *Castilleja*, a native of the Eastern States, as well as of this coast. Its name at the East is "painted cup," while it is generally known as the flame flower in California, where its bright scarlet flowers, surrounded with scarlet or yellow bracts, attracts everybody's attention.

In another quite different family we have the *Comandra* (the bastard toad-flax); also occurring in California. This has a yellowish-green color, and entire oval leaves, resembling considerably its arboreal relative, *Santalum*, of India and Australia. *Santalum* is not parasitic when quite young, and will grow for some time without support; besides this there are several other genera belonging to *Santaleaceae*, but the *Santalum album* is the most important, yielding the true sandalwood. Naturally related to the latter, we come to that of the mistletoe. These are old well-known plants. The European species, *Viscum album*, has from time immemorial played a part in the world. Not taking in consideration that its berries have furnished the bird-catcher's bird-lime, it has perhaps done more mischief than any other of its kind; for was it not by means of the mistletoe that the evil one, Loke, of the Scandinavian mythology,

caused the best of the gods, Balder, the personified Kindness and Love, to be killed by his blind brother. Whether the custom prevalent in England to give the privilege of kissing under the mistletoe bowers at Christmas, the cause of less mischief, I shall leave to the fair sex to decide. The various genera of mistletoe, *Viscum*, *phoradendron* and *Loranthus*, make forest trees as well as cultivated ones their victims. The seed is naturally carried by birds, to whose beak it sticks and is deposited in a crack by the bird trying to clean its beak; roots soon develop and penetrate deeply into the cambium and wood of the tree, soon forming as close and intricate a connection as if it were a branch of the tree itself. Once inserted this way, it is pretty hard to destroy without cutting off the branch and all. Here in California the mistletoe seems to prey mostly on oaks, chiefly on the white oak (*Quercus lobata*), which it often completely kills. It would be desirable to stay the spread of this evil by preventing it from seeding. In Australia occurs the genus *Loranthus*, that is a tree ornament, though a dangerous one, by its brilliant scarlet flowers.

Leaving the green parasites, we pass to the class of parasites that are destitute of chlorophyll, or leaf-green, and consequently only can live by drawing the elaborated sap from their hosts. I have mentioned before that closely allied to *Scrophulariaceae*, the family among which there was found a number of half-parasitic herbs, we find one of the largest orders of colored parasites, the *Orobanchaceae* or *broomrape* family. This is chiefly of the old world, but there is found several representatives of it here in the U. S. Of these the *Epiphegus* or beach-drops, a purplish-brown colored herb, is found on the root of the beach, and the cancer-root, of similar appearance, flourishes among the oak. The aphyllon (*Orobandro*) is found in the Eastern States, as well as here in California, where the species *A. Californicum* preys on the roots of the *Chemical* or *Adenostoma fasciculatum*. It is a brownish-purple fleshy plant, with scales on the roots, where it has attached itself; all further growth beyond the attachment ceases, and it is therefore found on the end of the roots. The flowers of this species are purple, with an agreeable perfume. Other species of similar aspect occur on other plants. Another family where colored parasites occur is that of *Ericaceae*, or the heath family. Among those found in America are the well-known pinedrops (*Pterospora*) and pinesap (*Sclavinitia*), in aspect resembling the members of the broomrape family, but distinguished by the typical heath flower. The Indian pipe or corpse plant (*Monotropa*) is of a delicate waxy white, and singular prominent in a dark, shady forest, where it is found on the roots of various trees. It is, however, in the mountains of California we find the most beautiful and remarkable of this family, the famous snow-plant, *Sarcodes sanguinea*. Unlike most of the parasites of the temperate zone, it is marked by a beautiful pink color, bordering on crimson, and when seen, as it often is, with the snow as background, or surrounded by snow, it is a sight not easily forgotten. The strong fleshy shaft shoots often up several ft. before reaching the surface. The bell-shaped, red, waxy flowers are often one-half inch long, each having a fringed bract at the base, and the huge raceme, that reminds some of a very large pink hyacinth, is often a ft. long. When taken away from its support undeveloped and placed in sand, it will unfold its flowers, but of course not live after all assimilated matter stored in the fleshy stalk has been consumed.

But another still more interesting in botanical respect is the *Pyrola aphylla*. *Pyrola* is the so-called winter-green, a genus of pretty evergreen shrubs. In the *Pyrola aphylla*, as the name indicates, the leaves are lost or rather transformed to scales unfit for the true office of leaves, and the plants, therefore, forms parasitic attachments, linked closely to the bright winter-greens; it forms thus a true transition from these to the before-named parasites.

Under the head of parasites, with remnants of leaves in form of scales, there are still two families of parasitic plants of general interest—the first (*Cytineae*) worth mentioning, on account of the attractive appearance of its members, which nevertheless ought not to favor their introduction, as they are pernicious parasites that had better be left in their native country—southern Europe and north Africa. Well known among these is the *Cytinus hypocistis*, parasitic on the *Cistus* or rock rose, as the name indicates. The second is the *Balanophora* or spathe-bearing parasites. They are close allies of the *Arum* family, which they resemble in many respects, but in that of not being provided with leaf-green. Unlike most parasites, we count its members among several of considerable usefulness, which somewhat justifies their peculiar mode of living.

The *Langsdorfia hypogaea* yields, in New Grenada, an abundance of wax that is manufactured into candles. In Bogota is the species there known as *Sipo*, utilized as a torch. In Java there is likewise derived a kind of wax from *Balanophora elongata*. Having now dwelt on the colored parasites, that though not provided with leaves capable of any assimilation, still in the form of bracts or scales show plain evidence of these, we step down still lower to certain plants, where, in the embryo, even there is scarcely any sign of leaves. I refer to the too well-known dodder; it is superfluous for me to dwell long on the description of these plants; their yellow tangles have too often discouraged many a farmer; seen it destroy his

flax field or clover. Here in California the species infesting the clover has long ago found its way to the alfalfa field. Farmers cannot be warned too often for this seed, and as a little close examination of it will reveal the true nature of it, it is, as stated, destitute of catyldolydon (seed leaves), a spirally-curved thread, with a few scattered, very minute, scales being all that is present, so that even in the embryo the peculiar aspect is foreshadowed of the mature plant. The danger of the dodder spreading is of course counteracted by the fact that the various species prey, as it seems, only on nearly related plants. There exist, however, Californian species that seems to prey on very different plants, for instance the live-oak (*Quercus agrifolia*), poison oak (*Rhus lobata*), groundsel tree, *Bachoris*, and might be liable to attack cultivated plants. The adaptability of the dodder species to all localities, from the salt marshes of the bay to the dry hills, seems to justify this apprehension, and it should, therefore, be pursued as a thief and robber that might be liable to attack you anytime.

In this connection I cannot pass a very curious and interesting case that I learnt the other day. The small white morning glory is a too well-known weed that threatens to be a pest in some places; many remedies have been tried, but short of picking every piece of root out nothing seem to be complete. An ingenious nurseryman hit upon the bright idea to employ the dodder as an exterminator of the morning glory, and according to his statement it did its work remarkably well, killing off its near relation very fast. If this species of dodder employed thus is not the same that preys on the clover tribe we shall after all have to take the robber as an ally; but if it is the same the remedy is a little too dangerous to be a safe one.

Dismissing the pernicious leafless yellow relative of the morning glory, we step down a step still lower and leave behind roots, leaves and stems until we find but the flower left. Plants consisting of nothing save one solitary flower. These vegetable wonders constitute the family of *Rafflesiaceae*, and are chiefly natives of As'a, though some are found in Chile. They vary in size from very minute until in the tropical jungles of Sumatra and Borneo they reach the largest size of any other flower known. The largest of these giant flowers is the species *Rafflesia Arnoldii*, which was first discovered by Dr. Arnold, who as naturalist accompanied the Governor, Sir Stamford Raffles, in Sumatra, and he relates it as follows: "I had accidentally absented myself from the party, when a Malagan servant came running up to me and with expression of the greatest surprise cried out. 'Come with me, sir! Come along! A flower very large, very fine, very wonderful!' I followed him a hundred paces into the jungle, where he pointed out to me between the bushes near the ground the most remarkable flower. It was attached to a slender, hardly two fingers breadth, thick root. I loosened the flower with Malay's parang, and bore it to my tent. When I saw it first there was a swarm of flies around probably seeking to deposit their eggs, as it had all the smell of decaying meat.' This *Rafflesia* is parasitic upon a *Cissus*, a relation of the grapevine; it has a perigonum (set of floral leaves), with five large lobes, thick and fleshy, brick-colored, with white warts; at the base of the lobes of the floral leaves is a kind of rim, and inside are found the numerous stamens. The fruit of this plant is a globular berry, containing numerous small seed. These are probably carried by large insects or birds and deposited in cracks in the vine; here in the damp atmosphere it soon develops and is completely enclosed, until, like a boil, it bursts through the bark and enfolds itself, reaching sometimes a diameter of 3 ft. and a weight of 15 lbs.

Taking the parasites as a class, they are of more than usual interest to the student of nature. They illustrate wonderfully the adaptation of organisms. Though so reduced in their form, they fall more or less naturally into the orders of plants, and proclaim thereby that they are developments of the same nature and conceived in the same spirit as other plants.

Berkeley, Cal.

Almonds Notes.

EDITORS PRESS:—The wail of disappointment continues to ascend from the unfortunate possessors of almond orchards. No section of the State appears exempt from the discouraging results, as the years pass without profitable returns or a satisfactory increase over the preceding crop. Speculative reasons are published and remedies suggested (better said guessed at), until now I believe the soil has been held accountable for some unknown quantity, quality or ingredient wanting. This is a safe conclusion; the very indefiniteness is its own protection, as the trees are growing in all kinds from the heavy loam to the light sand.

Without a thought of levity I will charge the fault to the blossom, and occupy the same secure ground of non-specification, wherever the Languedoc blossoms and drops the immature nut. For five years I have had two small orchards bountifully put forth their budding promise, changing to clouds of beautiful pink-tinted, gigantic bouquets of fragrant flowers. These in turn giving place to thousands of young nuts; in their first stage of growth, upon

"The dodder *Cuscuta* belongs to the family *Cuscutineae*, a sub-order of the morning glory family *Convolvulaceae*.

each tree, only to fall, like many another promising anticipation, in early immaturity. When hope had quite died out, with faith gone before, a mere chance action came to the rescue. Three years ago a few of King's Paper-shell almond trees were put out adjacent to one of the Languedoc orchards, making a little over half of a row. This year the 17 Languedocs, in immediate contact with the Paper-shells, are loaded with nuts; the next adjoining 17 have about one-third as many, while the 34 have more than the combined remaining portion of an orchard of 400 trees. This fact has been investigated by several experienced and intelligent horticulturists, who invariably pronounced the same verdict of fertilizing property from King's variety to the other. A redemption suggests itself for old non-productive trees by budding or grafting one limb upon each Languedoc to the Paper-shell. In two years a full crop can be reasonably expected, with previous condition similar to mine. The Kings are on the windward side of the orchard for the prevailing summer breezes.

M.
Pomona, Los Angeles Co.

Plums in Southern California.

A. R. Meserve, of Pomona, Los Angeles Co., writes to the *Riverside Press*, giving his experience in plum growing. We quote the following paragraphs: If southern Californians are willing to accept the decree issued by some doubting antediluvian that prunes are an interdicted fruit in this part of the State, I wish to claim for the Loop and Meserve tracts of the Pomona country an exemption from its general operation. Neither do I believe we occupy such an unsatisfactory position as the one favored spot in a region of wonderful and productive fruitfulness. Azusa has reported the Green Gage and Damson in full bearing this season. A neighbor has a plum tree well filled—variety unknown to me. The plum is medium size, very sweet and juicy, dark purple, with small pit. My experience includes 12 kinds, as follows: Green Gage, Quackenbos, Jefferson, Columbia, General Hand, Cherry, Royal Hative and Coe's Purple plum; the German, Fellenberg, Grosse d'Agén and Petite d'Agén prune. Of the plums the Royal Hative and Cherry were full, Coe's Purple about two dozen, the others only enough for samples. The Grosse and Petite d'Agén prune bore very satisfactorily, Fellenberg only a sample and German none. The plum above mentioned as Coe's Purple does not answer the description of any that I can find by that name—conforms better to the Duane Purple, except in size. The Duane is given as very large, while this is only medium.

The middle and coast counties have been considered the home of the plum, and their success in producing an abundance of fine fruit has heretofore appeared to give them a just claim of superiority. When the age of the trees is compared, I have never seen a more promising future in this culture than the plums and prunes above mentioned as bearing this year. The non-bearers were nearly devoid of small twigs or fruit spurs, and as they have put forth quite a number with this year's growth I have hopes they also will prove worth retaining. The cherry plum, may, from its name, suggest a size too small for desirable cultivation, but with me it equaled the Damson and was quite as prolific, which is saying a great deal in its favor, as I never saw anything excel the Damson for quality.

Since writing the above, the cumulative evidence in support of the fruitfulness of these fruits in adjoining districts and in other portions of the county, appears sufficient to place the prune upon a safe basis to figure upon in future calculations. The Green Gage and Damson also, have produced full crops in several places for three or more consecutive years. This fact should dispel the want of faith in the minds of many people, that this year being a very fruitful one with these doubtful kinds was no guarantee for the future. The uncertainty otherwise attendant is hereby removed in all localities with the above results. Unusual climatic conditions cannot be introduced in rebuttal, as last year was quite as unusual the other way, and the trees of suitable age gave equally as good returns. Mr. Burritt has the Petite d'Agén prune which gave fruit last year and this. Rev. C. F. Loop has been successful with the same kind. C. E. White, of the Pomona orchard, informed me that Judge Eaton, of Pasadena, has trees that have borne for three years. Mr. Kincaid, at the mouth of San Antonio canyon, considers the present crop of plums the largest for several years.

HOLLOW GROUND RAZORS.—It is not long since it was confidently asserted that, even if the required quality of steel could be produced here, the United States could never compete with England in the manufacture of razors and other fine cutlery, owing to the excessive cost of grinding and finishing. Like a good many other "insuperable" obstacles to American success in the arts, this seems to have been pretty well overcome, since large quantities of Sheffield razor "blanks" are now sent here expressly to be finished. It seems that the art of "hollow grinding," German style, requires a degree of skill a little beyond that of the Sheffield workmen. Accordingly Sheffield manufacturers have to pay double freight across the Atlantic to secure the fine finish to their razors that the trade now demands.—*Scientific American*.

PATRONS OF HUSBANDRY.

Grange Work and Party Zeal.

The next two months will be marked by the usual excitement and heat of a presidential campaign. The tendency will be on all sides to bend everything to the success of their several efforts. In this way often jealousies and ill-feeling arise. It is to be hoped that the Grange will not suffer because of the excitement of the season. We notice that the Master of the Missouri State Grange has issued an official letter upon this subject, and as it is timely we shall reproduce parts of it as follows:

"The prospects of our Order throughout the State are fully up to what they have been represented, and in many counties in advance of what they have been reported. In these localities there is no abatement of efforts. Members apparently seem to strengthen themselves daily with new energy and courage in the cause, and the good work moves steadily on. Politics in these Granges and counties have but little effect upon the Order. They keep right along in their work, discharging the duty they owe to their organization, independently of politics. When they act politically, they act independently of the Grange. Hence, there is no interference of one with the other. This is right, for a farmer, whether a Democrat or a Republican, Independent or Greenbacker, if otherwise eligible, cannot be excluded from the Grange on account of his political faith or preference. When these four political elements are mixed in one subordinate Grange, and each one desires the success of the Grange, they will generally work together in harmony, for the prosperity of their organization, and accord to every other member the same rights and privileges claimed for themselves, that is, grant to each that political freedom to discharge his political duties according to his own judgment and the dictates of his own conscience. Hence, you hear of no complaint of politics in the Grange, but all things work together for good, and there is no inclination to dominance, nor any danger of suspension of work until after the November election."

"It is somewhat surprising, as well as mortifying, to find a few localities in which the work is lagging, and nearly at a standstill for the present. The members here tell us it is on account of the political excitement, and when election is over, and the political elements have cooled down to temperate heat, then they will again resume labor, and once more make their Grange prosperous. This may be so, but four years' experience and a watchful care of the work lead us to serious doubts concerning the future of such Granges. When men can bestow all their leisure time to the interest of politics for several months, and not devote a day, or even a half day in a month, to the success and prosperity of their Grange, for the advancement of their own interests and the welfare of themselves and families, they must lack that true fraternal spirit which should characterize all true Patrons. The usefulness of such men is jeopardized, even in political work, by the neglect of Grange work. The principles taught in the Grange underlie all sound politics and true statesmanship. Then why should they neglect their Grange work, and the duties connected with it, on account of politics? But such will have to be the case until all members see the work in its true light, and become willing to discharge each and every duty at its proper time and in a proper manner. When this is done we not only see prosperity, but success in the Order, and reform in politics, as well as elsewhere."

In this connection we may remark that the Master of the National Grange Also counsels the maintenance of Grange work. In a letter to Bro. Pat Darden, of the Mississippi State Grange, Bro. Woodhams writes: "Our Order has already accomplished more in allaying sectional strife, harmonizing estranged feelings, and ennobling the people of the North and South to better know and understand each other, than all other influences combined. The importance of this work should be urged upon every subordinate Grange, and our membership cautioned not to allow the excitement of this political campaign to interfere with the good work, harmony and reviving prosperity of our great fraternity."

PASADENA SCHOOL.—The advent of Dr. and Mrs. Carr to the neighborhood has enabled the Trustees of the Pasadena public school to offer to students a much higher and more varied curriculum of studies than ordinarily falls to the lot of rural communities. There have been organized departments of higher instruction, which are in the charge of these accomplished instructors. Dr. Carr is instructor in natural sciences and their application, and Mrs. Jeanne C. Carr is principal and instructor in the higher department. Another most gratifying announcement is that weekly public lectures will be given upon the science and arts of domestic and rural economy, horticulture, etc., to which all citizens are cordially invited.

A COMPANY has been experimenting in Florida with palmetto for making paper with such gratifying success, that they will build 20 paper mills in various parts of the State.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

THE WASHINGTON WAREHOUSE FIRE.—Reporter: The warehouse at Washington Corners, owned by W. Mortimer, was destroyed by fire last week. The following is a partial account of the savings: Bray Bros. had 5,670 sacks, saved 2,178 sacks, insured for \$4,000 in the Home Mutual; A. Borrel & Co., 8,582 sacks, saved 4,381 sacks, insured for \$4,500 in the Oakland Home. The following lots were insured for a total of \$10,400, of which the insurance companies will have to pay \$6,700; John Lowrie, 2,113 sacks, 1,285 saved, insured in the Western of California; A. Decoto, 3,533 sacks, 2,016 saved, Western; A. Martin, 524 sacks, 200 saved, Western; R. Anderson, 1,300 sacks, 744 saved, Phoenix of Brooklyn; H. G. Ellsworth had 1,300 sacks, of which he saved 600 whole sacks and 250 broken; J. T. Walker had 2,543 sacks, and saved 1,100 whole sacks (about half of this amount had been insured, but the insurance had expired not long before the fire). Thos. Benbo had 1,630 sacks, insured in the Fireman's Fund for \$1,400. Total number of sacks on hand, 45,109. About 20,000 sacks have been taken out whole, and about 4,000 sacks of loose grain will be saved, but all, or nearly all, is damaged. The best judges think there will be a loss of one-third in quantity of the grain destroyed, and not much, if any, less than one-third of the total value saved. The warehouse will be rebuilt immediately, but the site will be removed to the north of the road to the Mission, upon the same side of the railroad track.

FRESNO.

A SUMMER FROST.—Expositor: From a correspondent at Fresno Fla. we learn that the vegetables in that neighborhood were injured by frost on the night of August 30th.

LASSEN.

PECULIARITIES.—Advocate: We are credibly informed that it is next to impossible to produce a good onion in any of the gardens in Susanville, while fine ones can be raised a short distance from town. Repeated attempts made to cultivate this vegetable in our town gardens have failed. Of course there is a reason for this, and not such an one as the Plumas National man would suggest, either, but what is it? They grow well in soil exactly similar, as far as the eye can see, and why not here? Will some of our local scientists explain? It is also said that the second crop of potatoes grown on the same ground is almost always rough and scabby on the outside, while the potato is otherwise excellent. Of course this is a bad feature, as it spoils the sale of the product. What's the reason?

DISTRICT FAIR.—Particular attention is invited to the new advertisement of Agricultural Association, District No. 11, which embraces the counties of Plumas, Lassen, Sierra and Modoc, and is to be held at Greenville, commencing Tuesday, October 12, 1880, and continuing four days. It will be the first meeting of the association, as it was organized under an act of the last Legislature, and every effort is being made by its officers to secure a large attendance, and to have arrangements all complete for a successful meeting. It is certainly desirable that Lassen county should be well represented, and we trust the owners of fine stock and fast horses in this county will surely be on hand, that some of the numerous premiums offered may be secured to our citizens.

LOS ANGELES.

THE TWO FAIRS.—Semi-Tropic California: Much progress has been made since our last issue by the horticultural and agricultural societies looking toward a grand success of the two fairs this fall. The premium list of the Horticultural Society is large and ample, with a guaranty fund to promptly pay all premiums at the close of the fair. The Sixth District Agricultural Society, as organized under the State law, has raised a large fund and purchased the agricultural park, and financially are in a better condition than any other agricultural society in the State. In addition to the usual exhibits of the Horticultural Society, the agricultural products for which premiums are offered by the Sixth District Agricultural Society, will also be exhibited in the horticultural pavilion this year. In the language of the circus man, we will have "two shows under one tent," which will certainly be a drawing card. The price of admission will not be advanced from that of last year. The fair is already, thus early, an assured success, and with the co-operation of our farmers will be a grand exhibition and redound to the welfare of the horticultural and agricultural interests of southern California. [We acknowledge receipt of complimentary tickets and copies of the pamphlet containing the premium lists. The inducements to exhibitors are ample, and we trust a grand exhibition will result. The date of the fairs will be October 18th to 23d inclusive.—EDS. PRESS.]

THE ALDEN FACTORY.—Express, Sept. 11: A ready market has been found for all the fruits dried this season at the Alden works in this city. The peaches brought 18 and 27 cents per pound for unpeeled and peeled. The early peach crop is about closed out, and the works have been operated for a few days on onions. Alden dried onions are worth 24 cents per pound in the market, and the owners of the

works will realize handsomely from their run on this excellent. Apples will be the next fruit dried, and we are informed that the crop is ample to furnish a large amount of stock for the factory. The late Crawford peaches will come in in about two weeks, and they will probably furnish the material for a good run. When the various crops of fruits have been entirely exhausted, then the works will be run altogether to vegetables. The most profitable of these to the driers has been found to be the pumpkin. There is always a good demand for the dried and pulverized pumpkin. As a regular standby, to keep the works going when about everything else in the vegetable line is either exhausted or out of season, is the Irish potato. MENDOCINO.

THE HOP FIELDS AND MARKET.—Ukiah Dispatch: The present warm weather is having a tendency to ripen the hops with greater rapidity than is desirable, as the scarcity of hands makes the picking very slow work. The yield this season, too, is greater than usual, the average usually being about 1,000 lbs. to the acre, while this year there are several fields that will yield 1,500 and 2,000 lbs. per acre. As yet the hop market has not become settled, and prices range from 25 to 30 cents a lb. It is our candid opinion, however, that the superior quality of the Russian River hops will command a better price than is now offered, and that money will be made by those who can afford to hold on to their crops for a month or two.

MERCED.

EDITORS PRESS:—The threshing is dragging along very slowly around here, also at Merced Falls and Snelling, owing to a scarcity of threshers compared with the large area of wheat to be worked up. We were near a "burst-up" with a steam engine in this locality, and it has been nearly all the week in the hands of repairers.—M. J. O'B.

THE HARVEST.—Harvesting is nearly completed in this section of the valley, and, judging by the way grain is coming in and the quantities in the warehouses, the aggregate yield of the hundreds of thousands of broad acres in cultivation in the valley is immense. But the price is too low to justify farmers in selling at present, and consequently but little is changing hands.

NAPA.

THE GRAPE INTEREST.—Cor. Napa Register: All land adapted to the culture of the grape in the vicinity of St. Helena is rapidly being planted to vines. These large vineyards are peculiarly attractive at this season of the year, their bright green foliage contrasting pleasantly with the dusty roads and glaring stubble-fields. Land has rapidly appreciated in value here during the past year, that which is suitable for the planting of vine now commanding from \$100 to \$150 per acre, without a vine upon it. Vines usually do not bear sufficiently well to pay expenses until three or four years old, but this season two-year-old vines, in many vineyards, yield well. Grafts inserted last spring, in not a few instances, have grown 10 or 12 ft. already, bear from 10 to 20 lbs. of grapes of the first crop, and as much more of the second crop. In some vineyards it is impossible to walk between the vines without crushing large clusters of the fruit. Summer plowing has been found by repeated experiments this year to be very beneficial when done in a proper manner. When vines are not thus pruned, they bend over from the center when about two-thirds grown, leaving considerable fruit exposed to the sun, which often is so hot as to literally cook it. If, just before the shoots bend over, one or two of the terminal buds are cut off, laterals are thrown out which protect the fruit otherwise exposed. The crop now ripening is immense. No one who has not been through these productive vineyards can form any adequate idea of the yield. Former crops are not to be compared with that of this season. Large prices are paid, and the consequence is that this fall more money will be put in circulation in this vicinity than ever before.

SANTA BARBARA.

EDITORS PRESS:—On Saturday, Sept. 4th, the farmers of Carpinteria met and organized the "Farmers' Association of Carpinteria." L. B. Hogue was elected temporary chairman, F. Barnard, secretary. The society is to meet on Friday, Sept. 17th, to elect permanent officers, which are to consist of president, vice-president and secretary. The object of the association is to discuss all subjects of importance that may present themselves, in the way of planting, cultivating, harvesting, marketing, etc., of our crops. Our main crop this year is the Lima bean, which now looks well, and with good weather to ripen and harvest, we expect a good yield, which we are determined shall be fitted for the market in the best possible manner. We believe we can excel in the production of the Lima bean, and we consider it the most important production of our rich soil. It is certainly what our farmers are most interested in now. The wheat crop was fine, but very little grown, as the rust has been the foe of that grain. Hay is plenty and cheap; so with barley. There was not as much corn planted as usual, but it looks well. Late potatoes look fine, but the prospect is poor for a market. The fruit crop is fair, although many varieties are light, and grapes very seriously injured with mildew. Apricots were of the finest quality. Most of them have been canned; some at the orchard, but most of them were put up at the Santa Barbara cannery. We believe our apricots cannot be excelled in quality and appearance in any way they may be

placed on the market. This is the first year that our apricots have been put up for the market, and those wishing the best of fruit in tins will do well to try our product.—O. N. CADWELL, Pomona's Retreat, Carpinteria.

SHOWER.—There was quite a shower of rain at Central City, Santa Barbara county, last Tuesday night. The storm extended as far south as Los Angeles. The flashes of lightning were distinctly visible in this city. The rain did not extend as far north as San Luis Obispo county. SAN BENITO.

THE TRIAL OF ENSILAGE.—Hollister Advance: This new system of preserving feed in its natural green state is attracting a great deal of attention in this section. Many of our most sagacious farmers have interested themselves in it, and are resolved to give the process a thorough trial. A silo has been built by Messrs. Ladd and Green on the Springbrook farm, belonging to the latter, about four miles from town, which will be filled next week with corn, grain, grasses, and other material for fodder. It is claimed that the feed can be preserved in this vat, in its natural green state, for an unlimited time, which, should it prove to be as represented, will be of immense benefit to farmers and stock-raisers. Messrs. Ladd and Green tell us that they will allow the fodder to lie in the Springbrook silo for about six weeks—long enough to establish the utility of the process—when it will be opened, at which time a big picnic and barbeque will be given, to which every one who may feel an interest in the matter is cordially invited. These gentlemen have the utmost confidence in this process, and believe that it must come into general use. They desire us to tender their thanks to Messrs. T. F. Whiteside, H. Miller, J. Bolado, Thos. Flint, J. A. Steinbeck, J. S. Harris, J. Luther, E. A. Sawyer, L. L. Hawn, A. Brewster and others, who have interested themselves in the experiment and rendered substantial aid towards carrying it out. If there are any other persons who feel interested in the matter, and desire to assist in demonstrating its practicability, they can leave their donations with R. Shaw, at Baldwin & Griffith's store, who will receipt for them. There is no doubt that a system by which fodder can be preserved in its natural green condition for several months will be of great benefit to the farming and stock-raising interests of this county. We believe that in ensilage we have something which will accomplish this result; at any rate, the theory is plausible, and it should receive a thorough trial.

SAN MATEO.

DAIRYING AT PESCADERO.—Cor. Times and Gazette: Within the area of about 12 miles around this center there are about 15 dairy farms; and we are told too that the number of cows milked for dairy purposes at these different places number in the aggregate about 1,300; also, that some of these differ greatly to the number of cows they use from that of others, varying from about 200 to 20 cows. These several dairies are devoted mainly to cheese making. There are a few, however, making butter only, and those are among the smaller farms, with one exception; that is, Mr. Tom Moore's dairy. Upon this extensive farm is still found one of the oldest dairies within this beautiful valley. Formerly there were two dairies upon this place devoted to cheese making, but of later years one has been abandoned and the other used for the manufacture of butter only. The cows belonging to this and the other dairies are of graded stock, mostly Durham; also some of the Devon and Holstein. We will mention too that with the raising of calves more or less attention is given on all these places to the raising of hogs. Some of dairies are feeding large numbers. The calves too, belonging to many of the ranches, are sold for what they may bring. Also large quantities of green feed are raised upon these lands, and fed to the cows in the late fall and early winter months. Judging from those dairies we have seen, and those from which we have otherwise been informed, there seems to be with all the necessary facilities for this business as well as a good and orderly management of the work. The largest dairies here are those belonging to Mr. Steele and Mr. Coburn. These dairies for the number of their cows, their business facilities, management, order, etc., have not their equals, perhaps, in the county. Their cheese houses are large and airy, facing the ocean, where daily they are swept by its refreshing breezes. Their respective distances from Pescadero are 12 and 7 miles, on the Santa Cruz road.

SOLANO.

PLEASANT VALLEY NOTES.—Suisun Republican, Sept. 10: Pleasant valley is almost one continuous orchard, and all kinds of fruit known to this zone and many of the tropics are grown here. The fruit crop this year is very prolific, prices are good, and the farmers in this section are correspondingly happy. To give a faint idea of this business, we will say that last week Mr. L. W. Buck shipped to Chicago and other markets 5,000 boxes of peaches, pears, etc., and 2,000 boxes of grapes, and Mrs. Pierston is clearing over \$700 per week from her orchard. Mr. Buck has one of the best appointed fruit ranches in the county, and, withal, the pleasantest. O. Garlish has another fine place, and lives in perfect contentment. We might go on and enumerate and describe the many fruit ranches to be seen in this section, but they must be seen to be appreciated. Universal prosperity prevails among fruit men this year, and it is a

pleasure to visit them when they are in such good spirits, and see their smiling countenances. Elmira is differently situated, being surrounded by grain farms instead of fruit ranches. But Elmira is the great forwarding point. G. W. Fraser has a very fine place near Elmira, all under a high state of cultivation. When it is known that he has three acres planted in sweet potatoes, the high state of cultivation of his land will be appreciated. One would hardly believe that this tender plant could be made to grow with profit out on those plains, but Mr. Fraser has succeeded in demonstrating that it is quite possible.

AGRICULTURAL ASSOCIATION.—Last Thursday this association, which met two weeks ago to organize, held an adjourned meeting. A number of influential men were present, and all seemed to evince a determination to have the venture succeed. On motion, it was decided to call the association the "Solano Agricultural and Mechanical Association," located at Suisun. It now takes a wide range, and in time it is expected to give fairs, etc. The committee to select grounds made a contingent report, and were given four weeks further time. Three available pieces of property were reported upon. One was on the Roberts' estate; the other the present track, extending into land belonging to Reeves & Peyton; and the other is a piece of land bordering on the tules, belonging to Lewis Pierce. The Committee on By-Laws reported progress. The association adjourned, to meet on Saturday, Oct. 9th.

SONOMA.

ASSESSMENT OF SHEEP.—*Republican:* R. A. Thompson, clerk of the Board of Supervisors, having informed the State Board of Equalization that all sheep of ordinary grade had been raised by the County Board to the uniform value of \$1.50 per head, has received an official communication from the State Board to the effect that no further raise of the valuation of sheep in Sonoma county will be made by the State Board.

TEHAMA.

EDITORS PRESS:—Our harvest this year has been prolonged to such a period, that it seems monotonous to mention anything in connection with it week after week; still a month or six weeks will elapse before our farmers will all have finished harvesting their grain. E. King is owner of a very fine threshing outfit, consisting of a Hoadley engine, with a straw burner of King's patent attached to it; a separator of Pitt's manufacture, with derrick forks and all other paraphernalia belonging to a first-class outfit. The crew are all white men, and have turned out some splendid work during the season in and around Riceville, Thomas creek, Red Bank and vicinity. They are now on the Dry Creek ranch, owned by H. C. Wilson, leased to C. F. Foster, who sublets it to McDonald & Glenn. There is a month's work for the outfit on this fine farm, where about 11,000 sacks of splendid wheat will be threshed. R. J. Gemmill's fine machine turned out 1,133 sacks on the ranch of Hugh Mooney on Tuesday last, and 1,000 sacks on Wednesday. The hum of the modern motive powers for threshing out our glorious harvest is heard throughout the county, and piles upon piles of the golden grain are found in every conceivable shipping place and storage house; \$1.05 to \$1.10 per cent is all that buyers are offering in this market for the best brands, which is too low a figure for the producers to come out even on. Transportation of the vast crop that our farmers raised this year is slow and expensive. Many of our small and medium farmers are a long way from storage, and are slowly hauling in their crops—so many trips a week, making a tedious and expensive job, which, at the present low price for the grain, is very discouraging. Sheep are coming down from their mountain ranges to eat off the stubble and get clipped for winter. The clip this fall will hardly come up to the usual fall clips for several reasons, principally because the spring clip was taken off very late, and the flocks were driven to their mountain ranges much later than usual. Leo McCoy came down on Saturday from the Eagle Lake country, in Lassen county, with 4,350 sheep, which he drove down on the splendid stubble of Ashurst & Foster. It is his intention to shear in about two weeks, by which time the flock will have rested and shaken off a good portion of the dust, which in their drive their fleeces must have become saturated with. Twenty-three days were consumed in the journey, as short drives could only be taken, owing to the heat. Cattle are being sought after by purchasers for the lower markets, and the lucky owners of good heaves are feeling good at the advanced prices. Hogs pass through from the foothill country daily, and the stubble fields will soon be stocked with swine. Fruit of all kinds is coming in from our foothill orchards. On Saturday, Eugene Reardon, who rents a pretty mountain dairy and fruit farm of H. C. Wilson, situated on Payne's creek, brought in a splendid specimen of fruit from his vineyard in the shape of mammoth bunches of grapes, 5 of which weighed 24 lbs. Two of the bunches were of the white raisin variety, and the other three were of the Black Hamburg variety. Eugene sent them to Petaluma as a sample of what our fruiterers of the Sierra Nevada range can produce. Fruit seems to have been neglected in the foothill country until lately. Our foothill farmers are commencing to put out orchards and vineyards, and the time is not far distant when our fruit product will be an important factor in the industries of our county. Our foothills are especially adapted to the production of grapes, and many of our

vineyards are now commencing to give returns to their owners, which pay better than the raising of wheat. In a couple of weeks at the farthest, our tillers of the soil will be busy seeding the soil for another harvest.—*FELIX, Red Bluffs.*

TULARE.

WHEAT.—*Delta,* Sept. 10: Sands Baker tells us that at his ranch near Farmersville he this season experimented with Propo wheat. Three sacks weighing 133 lbs. to the sack, were sown on 7½ acres, from which, with no extra culture, he has harvested 96 sacks, weighing 141 lbs. to the sack. He thinks this variety of wheat the best for this section. It is full as early and more hardy than the Sonora, and while it out-yields the latter variety, from its superior quality for milling purposes, it commands a higher price in the market. Mr. Baker found his other varieties this season injured in spots by the late frosts, while the Propo was untouched. The Sonora wheat on this ranch was the heaviest we have heard of, the small 23x36 sacks averaging 146 lbs.

BIDDLE'S WAREHOUSE IN RUINS.—The citizens in the vicinity of Hanford were startled on last Monday night, about 8:30 o'clock, by a loud crash, which shook the ground like the shock of an earthquake, and resounded to the distance of a mile from town. Rallying from their sudden fright they saw that the large warehouse of S. E. Biddle & Bro. had fallen to the ground, and was before them a mass of ruins. Fortunately no one was in the building at the time; but two men, one of them George Lane, were on the platform by the railroad track, having just finished loading a car, when of a sudden they heard a creaking of timbers, and leaping from the platform they barely escaped the falling mass. Some 40,000 sacks of grain were stored in the building, and their enormous weight proved too much for the underpinning, and the superstructure gave way, precipitating the whole building with its valuable contents into one confused pile. The walls fell outward, while the roof settled on the grain, but the timbers of both are badly broken, and it is doubtful if much of it can be used in rebuilding. This warehouse was erected during the present season at a cost of about \$4,000. Its dimensions were 50x180 ft.

Awards at District Fair at Petaluma

The fair of the Sonoma and Marin District Agricultural Society, at Petaluma, last week was, as usual, a notable success and largely attended. The following is the list of awards in the agricultural departments of the fair:

Horses.

Thoroughbred Horses—Stallion, 4 yrs old, Wheatleigh, J. G. Underhill, Santa Rosa; stallion, 1 yr old, Valentine, John Conway; mare, 4 yrs old, Carrio C., G. Pacheco; mare, 3 yrs old, Rosette, J. G. Underhill; mare, 2 yrs old, brown filly, G. Pacheco; mare colt, Dairy Maid, G. Pacheco.

Graded Horses—Stallion, 4 yrs, Eureka, John Pfau; stallion, 3 yrs, Billy Hayes, Robert Seavy; stallion, 2 yrs, George, Wm. Bihler; stallion, 1 yr, Grenadier, B. E. Harris; mare, 4 yrs, Annie Adams, Dan Brown; mare, 3 yrs, Butter Ball, John Pfau; mare, 2 yrs, Mary Gray, Wm. Bihler; mare, 1 yr, Fawn, B. E. Harris; horse colt, Mike, John Pfau; mare colt, Fannie, James Biggins; stallion and 6 colts, Eureka and 6 colts, John Pfau.

Horses of all Work—Stallion, 4 yrs, Gen. McClellan, J. R. Rose; stallion, 3 yrs, Twilight, H. H. Helman; stallion, 2 yrs, Sultan, Jr., J. A. Peyton; stallion, 1 yr, Kallioch, T. M. Chapman; mare, 4 yrs, Kate, T. M. Chapman; mare, 3 yrs, Lizzie May, John Pfau; mare, 2 yrs, Mary, L. Perry; mare, 1 yr, Nanette, J. R. Rose; horse colt, Robert Crane; mare colt, Willis Faught; stallion and 6 colts, Young Geo. M. Patchen, Joel Merchant.

Draft Horses—Stallion, 4 yrs, Duke de Chartres, Petaluma Horse Breeders' Association; stallion, 3 yrs, Don Pedro, Wm. A. Munion, Solano county; stallion, 2 yrs, Prince Charlie, D. Stewart; stallion, 1 yr, Charlemagne, J. R. Rose; mare, 4 yrs, Kate, G. D. Green; mare, 3 yrs, Little Dale, W. D. Canfield; mare, 2 yrs, Belle, J. B. Lewis; mare, 1 yr, H. Mechem; horse colt, G. D. Green; mare colt, H. Mechem; stallion and 6 colts, Duke de Chartres, Petaluma Horse Breeders' Association.

Roadsters—Stallion, 4 yrs, Voluteer, Dan Brown; stallion, 3 yrs, Jackson Temple, Dan Brown; stallion, 2 yrs, Reform, Wm. Bihler; mare, 4 yrs, Nellie, J. Fritsch; mare, 2 yrs, Molly Scott, Wm. Bihler; colt, 1 yr, sired by a roadster stallion, Dividend, B. E. Harris; stallion and 6 colts, Gen. Dana, Wm. Bihler.

Carriage and Saddle Horses and Jacks—Buggy horse, Eda, C. Caseres; saddle horse, Ned, U. P. Taylor; jack, John Henry, W. A. Munion.

Cattle.

Thoroughbred Cattle—Durhams—Bull, 4 yrs, El Medico, Page Bros.; bull, 3 yrs, Dan Rice, B. E. Cannon; bull, 2 yrs, Little Pat, Frank Judson; bull, 1 yr, Carol Oxford, Page Bros.; bull calf, Gold Note, I. R. Jewell; cow, 4 yrs, Maid of Petaluma, I. R. Jewell; cow, 3 yrs, Belle Christmas, Page Bros.; heifer, 2 yrs, Belle Oxford, Page Bros.; best Durham 1 yr, Marica, Page Bros.; heifer calf, Lady Ashburner, Page Bros.

Ayrshires—Bull, 1 yr, Duke, A. Higgins; bull calf, Tom, A. Higgins; cow, 4 yrs, Katie Clyde, A. Higgins; cow, 3 yrs, Stedlita, G. Bement; heifer, 2 yrs, Dolly Varden, A. Higgins; 1 yr, Highland Maid, G. Bement; heifer calf, Marietta, G. Bement.

Devons—Bull, 4 yrs, Prince, L. Hanson; bull, 3 yrs, Pedro, J. R. Rose; bull, 1 yr, Jude Blunder, J. R. Rose; bull calf, Frank Quarterly, J. R. Rose; cow, 4 yrs, Maud Second, J. R. Rose; cow, 3 yrs, Rubie, J. R. Rose; heifer, 2 yrs, Blossom, J. R. Rose; 1 yr, Joanie, J. R. Rose; heifer calf, Blossom Second, J. R. Rose.

Alderneys—Bull, 4 yrs, Cadoui, J. McM. Shafter; bull, 2 yrs, Young Surprise, J. McM. Shafter; bull, 1 yr, Blucher, W. S. Edminster; bull calf, Romeo, Col. Walter Turnbull; cow, 4 yrs, Olema, J. McM. Shafter; cow, 3 yrs, Daisy, Col. Walter Turnbull; heifer calf, J. McM. Shafter.

Holsteins—Bull, 4 yrs, Duke of Holstein, Frank Judson. Graded Stock—Bull, 4 yrs, King William, P. Lawler; bull, 3 yrs, Dick F. Starke, Fred Starke; bull, 1 yr, Punk, I. R. Jewell; bull calf, Pasha, Page Bros.; cow, 4 yrs, Lady Fragrant, Page Bros.; cow, 3 yrs, Wm. Hill; heifer, 2 yrs, Maude, Page Bros.; heifer, 1 yr, Sprightly, Page Bros.; heifer calf, Wm. Hill.

Sweepstakes—Best graded herd of not less than 6 animals and not more than 1 male, Page Bros.

Sheep.

Thoroughbred Sheep—Spanish ram, Wm. Hill; Spanish ewes, Page Bros.; Shropshire ram, R. B. Cannon; Southdown ram, R. H. Crane; Southdown ewes, R. H. Crane; Cotswold ram, H. Mechem; Cotswold ewes, Frank Judson; 5 ram lambs, Page Bros.; 5 ewe lambs, Spanish Me-

rino, Page Bros.; 5 ewe lambs, Southdowns, Robert Crane.

Grade Stock—Ram, R. B. Cannon; 5 ewes, Page Bros.; 5 ram lambs and 5 ewe lambs, R. B. Cannon.

Swine.

Pure Bred—Berkshire boar, Fred Merchant; Berkshire sow, Wm. Hill; Essex boar, Essex sow, D. Stuart; China Poland sow, China Poland sow, R. H. Crane; five pigs of any breed, G. Campbell.

Grade Stock—Sow, John Merritt; five pigs, A. C. Shelton; finest and fattest hog, Geo. Zimmerman.

Poultry.

Best exhibit, W. D. Freeman, Two Rock; light Brahma, W. D. Freeman; dark Brahma, Mrs. F. Purrlington; Partridge Cochins, W. D. Freeman; black Cochins, T. D. Morris; white Cochins, T. D. Morris; huff Cochins, Wm. Hill; Plymouth Rock, W. D. Freeman; white Leghorn, W. D. Freeman; brown Leghorn, W. D. Freeman; white-faced black Spanish, W. D. Freeman; white and white-crested Polish, T. D. Morris; black and white crested Polish, T. D. Morris; golden spangled Hamburg, W. D. Freeman; silver spangled Hamburg, W. D. Freeman; Houdan fowls, W. D. Freeman; black-breasted game, T. B. Cary; brown game, T. B. Cary; blue game, T. B. Morris; Malay game, T. D. Morris; black-breasted game Bantam, T. B. Cary; Sultan, T. D. Morris; Bronze turkeys, T. D. Morris; wild turkeys, T. D. Morris; Toulouse geese, T. D. Morris; Bremen geese, T. D. Morris; China geese, W. D. Freeman; Pekin ducks, E. K. Evans; Cayuga ducks, T. D. Morris; Muscovy ducks, W. D. Freeman; Guinea fowls, W. D. Freeman.

Field and Garden Products.

Exhibit grain, Roht. Crane; Australian wheat, Wm. Comstock; Club wheat, W. N. Chapman; Propo wheat, Roht. Crane; Chile wheat, T. C. Putnam; Smith wheat, J. H. Tupper; wheat, any other variety, Roht. Crane; barley, W. D. Freeman; rye, John Kendall; oats, J. D. Kendall; sheaf Australian wheat, A. Jackson; sheaf Smith wheat, T. C. Putnam; sheaf Chile wheat, T. C. Putnam; sheaf Club wheat, C. D. Grover; sheaf Propo wheat, A. Jackson; sheaf wheat any other variety, Roht. Crane; sheaf barley, H. Mechem; sheaf oats, John Kendall; sheaf rye, H. Mechem; flax seed, J. C. Risk; collection potatoes, P. Mullally; single variety potatoes, P. Mullally; exhibit squashes, J. M. Horax; peas, John Kendall; beans, Mrs. J. Purrlington; sugar beets, T. M. Chapman; mangel wurtzels, T. M. Chapman; blood beet, R. H. Crane; rutabagas, John Kendall; corn on stalk, John Kendall; hops, I. R. Jewell; cabbage, H. Mechem; watermelons, Roht. Crane; muskmelons, C. S. Gibson; cantaloupe melons, Robert Crane; carrots, H. Mechem; pie plant, W. W. Chapman; display garden vegetables, John Kendall.

Fruit and Nuts.

Best collection of fruits, C. J. Musselman; second best, John Harmon; collection of fruits raised in one orchard, John Harmon; apples, W. W. Chapman; single variety apples, J. Harmon; best 6 varieties apples, J. K. Fix; collection pears, L. P. Rixford; single variety pears, R. H. Crane; 6 varieties pears, W. N. Chapman; quinces, J. K. Fix; collection oranges, N. Carriger; collection lemons, Morris Bros.; largest and best collection grapes, R. R. Hall; second best, Morris Bros.; collection grapes raised in one vineyard, Morris Bros.; exhibit foreign grapes, Morris Bros.; exhibit California grapes, Morris Bros.; largest bunch of grapes, R. R. Hall; peaches, Mrs. L. A. Burchard; plums, J. K. Fix; figs, L. P. Rixford; almonds, L. P. Rixford.

Preserved Fruits, etc.—Exhibit dried fruits, W. W. Chapman; dried apples, W. W. Chapman; dried peaches, W. W. Chapman; dried plums, C. P. Hatt; dried plums, sceded, W. W. Chapman; raisins, R. R. Hall; canned fruits, G. W. Case; jellies, P. Mathews; preserves, Mrs. G. W. Case; pickles, Mary Dahlman; catsup, Mrs. G. W. Case.

Dairy and Provisions.

Box fresh butter, Geo. Campbell; second best, T. M. Chapman; packed butter, packed 3 months, D. Stuart; second best, E. R. Charles; exhibit cheese, S. Morrison; second best, I. R. Jewell; ham, Roht. Crane; bacon, John Merritt.

Wine, Cider, etc.

Exhibit wines, Geo. F. Hooper; champagne, G. W. Edelman; port wine, Roney & Prince; red wine, G. W. Edelman; white wine, G. F. Hooper; brandy, Roney & Prince; cider, E. F. Connolly.

Plants and Flowers.

All premiums awarded to W. A. T. Stratton, of Petaluma.

"THE CALIFORNIAN" FOR OCTOBER.—That rising popular monthly, *The Californian*, is making rapid strides toward perfection. The October issue, just received, is one of the most interesting ever published. Among the papers specially worthy of remark we notice the opening article, by Mr. W. W. Crane, Jr., who is now traveling in Europe, giving the first instalment of the experiences of "A Winter in Berlin." Henry D. Wolfe has been "Cruising in a Chinese Man-of-War," and tells of the strange sights he saw. Mr. W. C. Morrow's thrilling story, "A Strange Confession," is continued, and grows in interest. Prof. E. R. Sill, of the University, under the title, "A Private Letter," reads us a telling lecture on our daily speech. John Murray has a discriminating criticism on John G. Whittier; Philip G. Galpin contributes a memorial on Gov. Haight; Capt. Edward Field relates "Some Incidents of the Seven Days;" Henry S. Brooks gives "A Scrap of Frontier History;" Marie Howland has an able account of "Education in Japan;" Alexander Del Mar formulates the railroad side of the controversy with the State; and a writer who signs himself "Lorelle," but whom we suspect to be a well-known contributor, looks into the future, and, in a semi-humorous way, prophesies the result of Chinese immigration in the year 2080. Short stories are supplied by Sallie R. Heath and Mary W. Glascock, and some good poetry is contributed by Charlotte Perry, Seddie E. Anderson and Charles H. Shinn. The usual departments are added, and the number, as a whole, is very complete and satisfactory, and fully the peer of any magazine published. Our readers should bear in mind that by sending their yearly subscriptions to the *Californian* (202 Sansome St., San Francisco) before the first of the coming month, October, they can get it for \$3 instead of \$4. Don't delay, but send your subscriptions at once.

Mrs. ATKINSON is succeeded in the superintendency of the Massachusetts State prison for women by Dr. Eliza M. Mosher, formerly physician of the prison and deemed capable of administering its affairs successfully.

THE winter wheat crop of Illinois is 53,865,000 bushels, valued at \$44,457,000. Over 46,000,000 bushels are to be shipped.

News in Brief.

LARGE forest fires are reported southeast of Salt Lake City.

It is stated that Chile has accepted the mediation of the United States.

No hope is entertained for the men in the mine at Seaham, England.

THERE were 180 horses in the Seaham mine at the time of the explosion.

A STEAMER from Baltimore for Liverpool lost 225 head of cattle on the passage.

THE Chinese portion of Auburn, Placer county, has been destroyed by fire.

GENERALS STEWART and Roberts have received the grand cross of the Order of the Bath.

A BERLIN dispatch says that Prince Bismarck has abandoned the project of a bi-metallic system.

MAIL service has been ordered on the new railroad between Battle Mountain and Austin, Nev.

AN electric light of 10,000 candle power now adorns the front of the Madison Square theater, N. Y.

A HUMAN skeleton was recently found near Hood river lodged in a tree 15 ft. from the ground.

PHILADELPHIA is to have a new club, composed of the amateur artists and musicians of the city.

THE Mexican troops are to immediately recommence the campaign against Victorio's band of Apaches.

A MEMBER of the Guards' Club, London, has been expelled for brutally beating one of the house servants.

THREE THOUSAND Smiths, alleged descendants of a man who lived 150 years ago, met recently in New Jersey.

THE London and Northwestern railroad was lately discovered to be mined with dynamite and gunpowder.

THE Emperor of Germany and his entire Court will visit Cologne, Oct. 15th, to officially open the cathedral.

THE mail bags on the Pecos mail line were rifled on Thursday night, Sept. 9th, near Anton Chico, New Mexico.

A STAGE has been captured by Indians near Fort Cummings, N. M. The driver and two passengers were killed.

STANLEY has stated to a Portuguese captain that the object of his expedition up the Congo is to open a path for traders.

A FIRE in Saint Beat, Haute Caronne, Sept. 10th, has destroyed 32 houses and rendered hundreds of people homeless.

A DISPATCH from Rome, Sept. 10th, says a stream of lava is issuing from Mt. Vesuvius, near the new railway to the crater.

OWING to tobacco worms and damaging rains, the tobacco crop in portions of Virginia will be the smallest known for many years.

IT is said that fish recently caught in the Columbia river branded with letters were put in the Atlantic, by an Eastern hatchery.

THE belief that the evacuation of Candahar would be the abandonment of all the fruits of war, has now become universal in India.

L. COLBATH and George M. Scott have been appointed Commissioners for Utah for the great world's exhibition in New York, in 1883.

LUCY TAPPAN, a graduate of Vassar and the Massachusetts normal school, takes the chair of mathematics at Lassell seminary, Auburndale.

THE stone lighthouse on the first point of Tanging-Koelinge, on the west coast of Java, has been thrown down by a violent earthquake.

THE Irish Royal College of Surgeons has lately severely cautioned its members against having any communication with homeopaths.

A TRAIN from Waterloo station, London, for Hampton Court, came in collision with an engine. Four persons were killed and 30 injured.

HEER GERHARD ROHLFS, the explorer, is going to Abyssinia as a diplomat. He is charged by the Emperor William with a mission to King John.

MARTINEZ, a leader of the recent revolution in Sonora, has been arrested by a deputy United States Marshal for violating the neutrality laws.

M. GAMBETTA speaks very fast in public. Most men pronounce but about 180 words a minute, but M. Gambetta talks at the rate of 235 a minute.

WHENEVER members of the Chinese Embassy appear in the streets of New York they are hooted at and pelted with stones by the Gotham "hoodlums."

A MINER, whose name could not be ascertained, fell through a snow-bridge into Panther creek, in Washington Territory, on the 9th instant and was drowned.

A WOMAN in Root Co., Nev., the wife of a Justice of the Peace, the other day made the wedding cake for a couple her husband married, dressed the bride, and gave birth to twins.

A DISPATCH from St. Johns (N. F.), of Sept. 10th, says the British steamer *Anglia*, from Boston to London, foundered at sea, four days out on the 6th. All saved. Vessel and cargo lost.

A POET, named Sarragin, finding fame did not come to him quickly enough, determined to make it. He has just astonished the city of Lyons by entering a cage of lions and reading one of his poems.

DR. O. W. HOLMES once perpetrated a pun in relation to the rival claims of the late Dr. Jackson and another physician to the discovery of anesthetics. He proposed that a single monument be erected to both jointly, on which should be inscribed: "Here's to ether."



"Abide With Us."

Thick on Thy world lie all things that are beautiful,
Fair are Thy skies from the dawn to the night,
Thousands of singers chant songs sweet and dutiful,
Stay Thou with us, and we too shall have light.

Lord, 'tis Thy face turning earthward in tenderness
Maketh all nature be happy and gay;
We are in sorrow, alone and defenderless,
Lord, abide with us, and bless us to day.

All the fair flowers bend their heads as harmoniously,
Nearer they creep to the feet of their King;
All the glad birds lift their voices melodiously,
Master, stay with us, and we too shall sing.

We have grown sad through long winters of carefulness,
Now the sun shines, and the summer is here;
Heed thou the cry that we offer in prayerfulness,
Thou art our Joy-Giver, Lord, come Thou near.

See, we are eager, confiding, and emulous,
We would fain keep Thee as others have kept;
None have come close to Thee, hopeful if treacherous,
Then, disappointed, returning, have wept.

So do we hold Thee, in faith and in lowliness,
Are we not sorrowful, needing Thy love?
Come to us, stay with us, teach us Thy holiness,
Then lead us home to be with The above.

Fair are Thy world lie all things that are beautiful,
Glad are Thy children from morning to night;
Lord, we adore Thee, now strong, loyal, dutiful,
Feeling Thee near us, we walk in Thy light.

—Marianne Farningham.

Another Budget of School Reminiscences.

(Written for the RURAL PRESS by DOLLY JUNIPER.)

While reading with pleasure the school reminiscences of some of your contributors, I am tempted to give you a short chapter on the same subject, if it has not grown threadbare. These scenes stand out so vividly in my mind, and show with such clear lines the difference between then and now—the old and new—in educational ways. Those were days when sternness ruled the school, and awe, not love, kept us in the right way. When tasks of Scripture were set us to learn as punishment for misdemeanors, and the pride of pupils was to see who could transgress most without being found out. I recollect a long task being set for me to learn as a punishment for taking a feast of green apples, with salt, in school, with another little girl who sat behind the door with me. The lecture that followed contained no explanation as to the harm to our stomachs of such a diet; only the great sin of not "minding our books" was held up in all its enormity. But the task from Revelations had its effect. For two or three years I never dared to go out of doors after dark for fear of meeting the "beast with seven heads and ten horns," or being hit on the head with some of the contents of those "vials of wrath." A vial was a very common receptacle of medicine in those days. Of any medicine I had a horror, but to have it poured on one's head from heaven would be terrible. I used to look up, when I had committed any childish sin, to see if I could discover any trace of the vials coming down, and would take care to stay under a roof for a while.

Once a week we learned one of Watt's hymns, or a psalm in meter, to repeat. The lines of one hymn greatly mystified me—

"The moth around the candle wheels."

What were the candle wheels, and where could I see them? But I should never have dared to ask the teacher about it. And thus my childish mind groped along for several years.

We had a lady teacher from Boston one summer. She was prim, precise, exacting and somewhat stern. When she pursed her thin lips and leaned forward in her chair without bending her back, and tapped her little bell once and said, "Young ladies, less levity," there was a sudden cessation of smiles and a fixed attention to books. She was conscientious, and meant to be kind, as I now know; but to me then she was something to dread, and kept my little heart jumping into my mouth most of the time during that, to me, eventful summer.

At the close of a long day, after the books were laid aside, she said in tones that sounded very loud to me, and very awful, "Emma S—, you will please remain after school to-night." To be requested to remain after school could mean nothing but wrong-doing on my part and a lecture or punishment on hers. As I sat puzzling my brains to recall what wrong I had committed, or what duty omitted, my cheeks flushed, my eyes filled with tears, and trembling from head to foot, I saw the last one of my playmates file out of the school ground. I never can forget the dread and awe I felt at that moment. I think to be left entirely alone with that teacher for one half hour, just to have her sit still and look at me, without moving or speaking, would have been sufficient punishment for any sin I may have committed,

although she never whipped us and seldom scolded. But I was timid and sensitive, and there was no love nor sympathy between teacher or pupils.

I thought of how I had hidden my shoes in a hollow log on the way to school, and come bare-footed, because my great friends, the Hixon girls, came without shoes. I thought of the hole in the skirt of my dress, kept together with pins, of the part I had taken with others in teasing Buh Weeks, aged four, because he wore dresses and his sister brought a little pillow on which he took a nap every day. Each of these enormous crimes rose up in my mind, and I wondered for which I was to be arraigned.

When we were alone the teacher cleared her throat and said in solemn tones: "Emma, you have now arrived at the age of 10 years. It is proper that you should begin to write compositions. I wish you to write one for next week. This is Friday, and your composition must be brought in next Monday. As you are inexperienced in writing, I will assist you by giving you a subject. It is this:

"The spider's most attenuated thread is cord, is cable, to man's strumest tie on earthly bliss."

I sat dumb, bewildered. Had she told me to write a sermon and preach it on the next Sunday, I should have felt quite as competent. And yet I had no thought of disobeying her. I must write the composition, that I knew, and yet I could not. I could not even recollect the subject, and timidly asked her to write it down. With my sun-bonnet well pulled over my face and the slip of paper in my hand, I walked slowly home and sat down on the front door stone to think of it all and wonder what I could do. My heart was too heavy to join the other children in their play at this hack of the house. The gate clicked. I looked up. Uncle Robert was coming. Great-hearted, tender, loving Uncle Robert! Seeing me alone and in tears, it did not take long, as I sat upon his knee, with his arms about me, to unburden to him the whole story. As I gave him the slip of paper with the subject upon which I was expected to write, I wondered what made him laugh so long and heartily. The matter was so serious to me. At length putting the slip of paper in his vest pocket, he took my hand and led me down the walk to the garden at the side of the house. It was a sweet, old-fashioned garden, with its chamomile bed, and its patches of thoroughwort, fennel and dill. On one side were vegetables, and on the other grew flaming poppies, yellow marigolds, ragged ladies, hollyhocks and sunflowers. I loved them all, and to this day no flowers are so sweet. On the flower side were some hives of bees, standing on a bench close by the fence.

A honey bee lighted on a flower near us. My uncle called my attention to it; to his curious body—in three parts; to his legs made to carry pollen for bee bread; to his little pipe through which he gathered honey. He talked in plain language and kind words about the bee, its habits and structure, drew from me all that I knew or could think of about honey, etc., called my attention to the similarities and differences between bees and other insects, told me how they talked to each other by means of feelers, how the queen was made by being fed upon royal food, and of the care the worker bees took of their young; fanning them when too warm, and hovering them if in danger of being chilled. In short he interested and delighted me, I forgot my sorrow. "Now," said my uncle, "will my little girl write down for me all she knows about the honey bee?" Yes, indeed I would! How much I could think of! Two whole pages, and no one helped me. The writing it was a pleasant pastime.

When finished, my uncle wrote a note which he said I was to hand to the teacher on Monday morning together with what I had written.

I never knew what the note contained, but my effort was accepted and, "the spider's attenuated thread" was not alluded to afterward.

The ice once more broken, I found that if permitted to choose my own subjects and write about things I knew something of, compositions were not such a great bug-bear after all.

San Luis Obispo, Sept. 4th. 1880.

EDUCATED WOMEN.—Educated women have a wide sphere. There is, indeed, some discussion as to its exact bounds—some doubts, for instance, whether they have legitimate function in the pulpit. Our own view is that character and ability are God's chart of duty. But whatever may be decided in regard to the pulpit, there is one field where educated women are in demand. That is the home. The educated woman is the best wife, the best mother, the best housekeeper, the best economist. The "coming men" could afford to pay all the expense of a full training for their future wives, merely for the greater good they will receive from them. In these days we pity the ignorant mother. Six years of hard study are invested, if for nothing more than to be able to answer a thousand questions which curious youngsters will be asking in a few years.

A VETERAN DIGGER.—In a report of a field trial in Australia we read: The digging match created no little interest, from the fact that a gentleman nearly 70 years old entered as a competitor, three young men having had a start of about 10 minutes. He, however, carried off the palm, making a much better and earlier finish than either of the younger competitors.

"If you make it hoptional with me," says the Englishman, "I'll take beer."—*Courier-Journal*.

A Plea for Boys.

Owing to a slight indisposition we must forego the pleasure of writing our usual message, but would emphasize the wisdom contained in the following plea for the boys, for with all of our hereby upon the woman question, we believe in boys, and daily insist that boys have some rights that their sisters are bound to respect.

Our theme is not a new one; it can never be old. As long as one-fourth of humanity is represented by the irrepresible boy, so long will the happiness and well-being of the boy be of moment to all.

I shall preface what I am about to say by relating an incident, the facts of which came under my immediate observation.

A sister and brother nine and seven years old respectively, whose home was in the far West, came to spend the summer with their grandparents in New England. It was a large many-roomed house to which they came, and upon their arrival a carpeted room with dainty belongings was assigned to the little girl, while the boy—no less dearly loved by his grandmother—was given a chamber, airy and comfortable, but guiltless of ornament save the glorious rays of sunlight that waked the little sleeper each returning morning.

Judge of the surprise of the family, one afternoon, at finding all the little fellow's possessions—his box of clothing, his fishing tackle, his balls, his top, his miniature canoe—transferred to his sister's room, he averring, upon being questioned, that he liked pretty and tasteful things as well as his sister did, and that he was not going to stay it that old, bare room.

Now we do not say that every mother can give her boys pretty carpeted rooms; but we do insist that the boys should have their share of whatever of grace and beauty the house affords. If the little sister has two pretty pictures in her room, let her give one of them to the brother. If she makes a dainty cushion for her own toilet table, let one equally pretty be made for that of her brother.

Then there are the boy's own treasures. Give him the privilege of arranging them in his own way. Doubtless it will be oftentimes a very individual way; but what of that? Do we not every day sacrifice our own tastes for fashion's sake—for friends? Surely we can do at least as much for our boys.

I have in my mind the memory of a boy just in his teens, who for the first time was to have a room by himself. With his mother's help his treasures were given each its place of honor or convenience. Most highly prized of all was a gun, the gift of an older brother. His taste claimed its installment on brackets on the wall of his room, and the mother, stifling her woman's fear of fire-arms, gave him her help in arranging it there. The look with which he thanked her will be a pleasant memory for years.

Let us do all we can for our boys. Let us "make homes attractive" to them, not only by filling our houses with things beautiful and tasteful, but by making them feel that they, not less than their sisters, have a share in its arrangements.

When the echo of children's footsteps shall be no longer heard in the house, and the tired hands have more time to rest, we shall be glad to recall the eager, happy face of the boy 20 years ago, as he stood by our side while we put the last strong stitches in the cover of his ball, or fastened one morsel bob on his cherished kite.

In the cradle, in his first suit of clothes which launches him on the world as the individual boy, in the transition from "little boy" to "big boy," from the "big boy" to the youth—let us stand by him with our help, our counsel, and our prayers.—*The Woman's Journal*.

WILL HE SUCCEED.—In nine cases out of ten, man's life will not be a success if he does not bear burdens in his childhood. If the fondness or the vanity of father or mother has kept him from hard work; if another always helped him out at the end of his row; if instead of taking his turn at pitching off, he stowed away all the time—in short, if what was light always fell to him, and what was heavy about the same work to some one else; if he has been permitted to shirk until shirking has become a habit, unless a miracle has been wrought, his life will be a failure; and the blame will not be half so much his as that of his weak and foolish parents. On the other hand, if a boy has been brought up to do his part, never allowed to shirk his responsibility or to dodge work, whether or not it made his head ache or soiled his hands, until bearing burdens has become a matter of pride, the heavy end of the wood his choice, parents as they bid him good-bye may dismiss their fear. The elements of success are his, and at some time and in some way the world will recognize his capacity.

A MAN out West obtained a divorce from his wife and married again within three days after the decree was granted. An Irishman, commenting on the man's action, remarked, "Bedad, he couldn't have had much respect for his first wife, to be marrying again so soon after lavin' her."

"MINE poy Hans," said Smigglefritz to a friend, "is the piggesht pig der vas in Galveston." "How did he do?" "Vell, I sends him the odder day to the groshery to bring me a pucket of peer for mineself all alone, and, py shimmy, he drinks himself almost a pint on the way home."

Wedding Outfits.

What an absurd idea it is that when a girl gets married she must have an enormous wardrobe, dozens of stockings, handkerchiefs and gloves, and bales of underclothing, the greater part of which will be yellow and out of style before she can use it. This great preparation implies that the girl has never had anything decent to wear before, or that she does not expect ever to get anything of the sort from her husband, depending on him only for her food and shelter.

It is this custom—and a very lamentable one—for the parents to supply the daughter's trousseau on her marriage, without any reference to her future condition in life, but in accordance with her own wishes, or the extent of her mother's desire to make a show. Many a bride has had her trunks filled with fine clothes and costly jewelry, but not a dollar she could call her own.

It is well to provide a girl with a good outfit, but it should be a suitable one, that will be of use to her in the future as well as in the present. Piles of underclothing are as unnecessary as a great number of dresses, for while the latter go out of fashion, the former grow yellow and rotten. A friend of mine, who has been married 25 years, tells me that she is still wearing the white skirts made for her trousseau. She had 23 of them, all elaborately trimmed, and has never felt able to afford to give them away and buy others, though the fashion in skirts has changed very materially since then, and they are gored now, while at that time they were made full, fuller, fullest.

In her anxiety about the selection of her outfit, the style and fabric of her dresses, the variety and fineness of her underwear, the young lady about to be married often wears herself down to such a condition that she is in no fit state to go through the trying ordeal of the wedding ceremony, the weariness of the reception which follows it as a rule, and the fatiguing wedding tour. Only yesterday a lady was telling me how ill her daughter was for weeks after her marriage, and the doctors said it was in consequence of the many hours she had hunched over her needle "getting ready." Her mother said: "Hattie wished then that she had put fewer tucks in her white skirts, and less ruffling and embroidery on her dressing sacques." A fit of sickness was needed to teach her common sense, you see.

A cousin of mine, who was engaged to a naval officer, was obliged, owing to his being ordered away on a three-years' cruise, to be married much sooner than she had anticipated if she would not stay single for three years longer. She had but three weeks in which to make all her preparations and no time was lost. Her mother, sister, a dressmaker and herself were busy literally day and night sewing on the trousseau. The night before the eventful day she faints three times while trying on her numerous dresses for the last time, to see that they were perfect in fit and draping. On her marriage day, when she should have looked her brightest and best, she was pale, wan, weary and hollow-eyed, and fainted during the long breakfast which followed the reception.

Half a dozen of each article of underwear is amply sufficient to start the bride of moderate circumstances in her married life, with a traveling dress (if she is to travel), a black cashmere for evening wear, a pretty wrapper, and two morning dresses. If she expects to attend any evening entertainments after her marriage, it is well to provide herself with a light silk or a Swiss muslin. This outfit is for the fall marriage. Some changes are necessary if the bride enters on her new life in the spring, and these will suggest themselves. It is hardly necessary to speak of gloves, hose and handkerchiefs, for these are a matter of course. It is reasonable to suppose that the young lady has at least a few articles of clothing already, which, being suitable for her single days, will not be unsuitable for her married ones.—*Florence H. Birney, in American Cultivator*.

Redeeming the Time.

Teach yourself, and your daughter after you, to perform all household duties with as great dispatch as consists with perfect thoroughness. Do not give needless time to any piece of work. Never wash and scrub and rub after all dirt is removed from clothes and wood-work, just "to be certain that they are clean." When you know that fact, be satisfied.

There are some women so extra thorough that it becomes (like any virtue taken to excess), a positive vice.

Mrs. R. used to scrub so unceasingly about her kitchen and sheds and steps that they were always in the uncomfortable process of drying, always damp and unwholesome, never white and sunny and neat.

Learn to stop when you are through. Very elaborate work of any kind is not to great profit, especially in the matter of table fare. When one reads the difficult details of some wonderful article for dessert, which takes hours of skilled labor in the hot kitchen to make it, we wonder at the patience which holds out through it all, but sighs "to what purpose was this waste." Not waste of money, for that is trifling compared to the great waste of woman's life power which was given to her for so much nobler purposes.—*Rural New Yorker*.

"SANCTUARY shoes" are advertised in England. They are warranted not to squeak.

Chaff.

The incorrigible bachelor hath a miss shun in the world.

A CHILD without legs has just been born. "Thank heaven," said the weeping father, "this will never be a champion pedestrian."

SPEAK of man's marble brow and he will glow with conscious pride, but allude to his marble head and he's mad in a minute.

WHEN we see XX or XXX on a liquor cask we always think of the amount of criss-cross walking condensed inside of it.

THE best summer resort for a spitz dog is a watering place. The dog should be placed about four feet under water.

It is no doubt a very nice thing to marry a wealthy maiden, but at the same time a wealthy widow should not be spoken of disparagingly.

THERE'S a man out in Illinois who swings dumbbells for an hour every morning, and walks ten miles every day, and yet he is too lazy to work for a living.

THE Boston Post remarks: "It isn't pleasant for a man in delicate kid gloves to grasp a door-knob just after it has been turned by a man in search of a towel."

WHEN a man hasn't more than a minute to catch a train, and is running for it with all his might, it is somehow just the time set apart by fate for one of his shoestrings to break.

A LADY friend recently found a small eel in her milk-pail, and when she spoke to the milkman about it, he said that he had noticed that one of his cows acted strangely. He'd sift the water before he allowed the cows to drink it hereafter.

THE English language is wonderful for its aptness of expression. When a number of men and women get together, and look at each other from the sides of a room, that's called a sociable. When a hungry crowd calls upon a poor minister and eats him out of house and home, that's called a donation party.

"You know," said Plato to Socrates, "that melons must be kept cool." Socrates nodded assent. "Now," continued Plato, "if melons were scarce and descendants of Ham very numerous in the vicinity, how would you keep your melons cool and secure?" "I'd put them," replied Socrates, "in a chilled iron safe."

THE New Zealand newspapers notice an amusing instance of the manner in which colonial railway trains are sometimes stopped. The engine-driver, noticing a lady waving her hand at a siding where the train was not timed to stop, as if she wished to get on board, stopped the train, only to discover that the lady wanted to know if any passenger had change for a £1 note.

A Baby's Wardrobe.

Many young mothers are greatly puzzled in the arrangement of a baby's "layette," and are likely to indulge in many unnecessary expenses for trimmings, lace, and embroideries. It is much more essential a child should have a sufficient number of each article than that each should be covered with elaborate trimmings. The "layette" is generally made up of articles in three different sizes. The first size, however, is the one most especially referred to at present. The most advantageous way of making up the "layette" is to have several of each article trimmed and the remainder plain. For instance, there may be six chemises of fine linen trimmed, and six more of plain linen only hemmed. Six muslin or batiste caps embroidered and trimmed with lace, and six others only hemmed on the borders, with a plain piece of Valenciennes sewed on the edge without any fullness. Six pique night-caps are scalloped on the border. Six "havesettes" are embroidered and trimmed with lace and insertions, while twelve more are only scalloped and bound with cotton braid. Six half-dresses are of Nainsook, trimmed, and six others are of plain muslin, without trimming. One rich white cashemire pelisse is embroidered with silk and trimmed with white silk fringe, and two more are of plain Nainsook. The remaining articles of the "layette" are divided in the same manner. As the fashion for short dresses and chemisettes changes, these are not minutely described. The number of them in the "layette" is generally from four to six. The bed curtains are of embroidered muslin, trimmed with lace. The bedding consists of 12 hemmed under-sheets and 12 scalloped ones. Many "layettes" have only six of each of these. There are 12 pillow-cases, half of which are trimmed and half plain; six woolen coverings, three silk wadded quilts, three cotton or pique coverings, and two white pique quilts, trimmed around with bands of embroidery.—*New York Times*.

THE floating of birds on and with the wind does not appear specially mysterious. It is now recognized that a breeze of air is a succession of denser and denser volumes, rushing in to supply the place of comparative vacuity, and thus to maintain pneumatic equilibrium. Passing along the surface of land or sea, this succession of densities possesses the properties of a wedge, tending to lift from the ground objects whose specific gravity is greater than that of air. Thus, on a windy day, thistledown, feathers, straw, paper, may be seen floating on the "wings of the wind;" and should the gale increase to a hurricane, trees, roofs and even cattle may be lifted from the earth. Inanimate objects being in this way capable of sustentation, it is not surprising that a bird can adjust its wings in such a way as to appropriate to the full the floatative power of the wind.

Young Folks' Column.

Our Puzzle Box.

Cross-word Enigma.

My first is in fool, but not in silly;
My second is in flower, but not in lily;
My third is in storm, but not in gale;
My fourth is in ridge, but not in dale;
My fifth is in silent, but not in loud;
My sixth is in pretty, but not in proud;
My seventh is in nymph, but not in fairy;
My eighth is in Mabel, but not in Mary;
My ninth is in kindness, but not in kiss;
My tenth is in woman, but not in miss;
My eleventh is in petrel, but not in dove;
My whole is an emblem of truth and love.

UNCLE CLAUDE.

Double Acrostic.

1. He appeared stern and grave.
2. Electricity travels at the rate of 283,000 miles in a second.
3. There are many who have innocently suffered from the wrong-doing of others.
4. The poem is an excellent composition.
5. At eve never expose yourself to the chill air.
6. "And thou, too, Brutus!"
7. Either oil or gas makes a good light.
8. He paid little attention to my arguments.
9. The firm has met with a heavy loss.
10. The plant has a germ in it.
11. The years come and are gone.

Concealed in the above sentences are words with the following meanings, which will form a double acrostic, the initials of which name a historical work, and the initials a science.

1. A pile.
2. A point of time.
3. Behind.
4. A European river.
5. Level.
6. An adverb.
7. A sudden vehemence.
8. A low piece of land.
9. A prophecy.
10. A constellation.
11. An affirmation.

CERITA.

Charade.

My first, a sound, comes faint and low,
From tiny, restless wings;
On pinions light, or creeping slow,
My last the spring-time brings.

When'er the sun with joyful smile
Pours down its wealth of gold,
My whole have lived to cheat, beguile,
For centuries untold.

Curtailements.

1. Curtail an object by the way and leave beside.
2. Curtail to a rike with the head and leave only.

MELANCHTON.

Letter Changes.

Change the initials of a male child as many times and form: shy, happiness, a boy's name, and a plaything.

MARTIN.

Answers to Last Puzzles.

NUMERICAL ENIGMA.—"Look not upon the wine when it is red."

PROBLEM.—Take X from IX and I is left; add X to XXI and XXIX is obtained.

DECAPITATIONS.—1. Ait, it. 2. Bear, ear. 3. Cheat, heat. 4. Dire, ire. 5. Star, tar.

DIAMOND PUZZLE.—

J
R O D
R A C E R
J O C U L A R
D E L A Y
R A Y
R

BLANKS.—1. Came, mace. 2. Rat, tar. 3. Chum, much. 4. May, yam. 5. Peel, leap.

Shot.

"Run home now, children," said Mr. Blake; "I hear it thundering, and you'll have to run to get home before the rain. Tell mother her dinner was good, and the sweet cakes the best I ever ate."

Four pairs of feet trotted off pretty fast across the woods from the charcoal pits. Two of them belonged to Ben and Patty, and the other two to Shot the old yellow dog that always went with them.

"Oh, Ben," Patty cried presently, "just look at those big blackberries!"

Up the bank they scrambled for just a few; it wouldn't take a minute. Into their mouths they popped one after the other, and oh, they were so good! But those further on looked even bigger and blacker and sweeter. It was hard work for Ben to push through the bushes with the basket and heavy dishes, but Patty found the big umbrella rather a help in climbing over logs and parting the tangled branches. In a few minutes they found themselves such a long distance apart that Patty was frightened, so Ben struggled through to her, and they concluded to go along together, Ben picking all on one side and Patty on the other. They set the pitcher up straight, and put the very biggest in it for mother.

"S'pose we was lost," said Patty.

"We'd live on blackberries," answered Ben, crushing a great, juicy fellow between the roof of his mouth and his tongue. "Don't you remember the people mother was reading about that lived on berries and roots and bread they found on a tree. But I don't see any bread on any of these trees," added he, looking up.

"I felt a drop of rain on my nose," said Patty; "let's get home. Where's my sunbonnet?" But she had left it far behind on the bushes.

Which way was the path? Patty thought one way and Ben the other, so they tried both, but the path was not to be found, and the rain was coming faster and heavier. The wind swept with a wail through the tops of the trees and the bushes bent low before it. On and on they wandered, until at last Ben acknowledged, his eyes big with fear:

"We're lost sure 'nough, Patty."

And Patty began to cry.

"We're not far from the creek, now; let's sit down on this big stone under these bushes and wait. Maybe some one 'll come to us."

But nobody did come, not even Shot, who still sat far behind in the path waiting for them to come out of the blackberry bushes.

How the rain poured down! And how swollen the creek got! And oh, how lonesome and frightened they were!

Possibly Shot got an idea something was wrong, for after awhile he started into the bushes on a wild run through the heating rain, and not very long afterward poked his cold wet nose into Patty's hand. It was almost as good as being at home to have Shot with them, and they made room for him under the umbrella. But the rain stopped and it began to grow dark, and Patty began to sob again. Shot trotted down to the creek that was roaring over its stones, stood there a minute thinking, then plunged in and swam back and forth several times as if seeking a shallow place. Then he came back and whined, and finally pulled Patty's skirt.

"He must want us to go over," said Patty and immediately began to take off her soaked shoes and stockings, and pinned them up around her waist in her apron. Shot gently pulled them to the water and swam across a little way, then looked back to see if they were following. But it took a good deal of persuasion to get them into that water. However, with Shot's coaxing they waded across, though the current nearly took them off their feet, and Patty lost her shoes and stockings. Up the bank they followed Shot, and in a few moments came upon the charcoal pits they had left early in the afternoon. Wet and weary they sat by the friendly fires to warm and dry themselves, afraid to move away from them into the growing darkness. Shot was off like a flash, and reached home in the midst of the consternation and confusion that ensued when Mr. Blake arrived without the children, and said he had sent them home hours before. He jumped upon Mr. Blake, kissed his face, whined, ran down the road up which the wagons had just come, turned around to look, then ran on. Mr. Blake started off in one of the wagons and followed the dog, which led him straight back to the pits, where he found the two little wanderers fast asleep, lips purpled with berries, and a few very damp but large berries still in the bottom of the pitcher. Joyfully he carried them to the wagon, wrapped blankets around them, and took them and Shot home to a good warm supper and beds. Dear old Shot! How everybody loves him!—*Our Little Grangers*.

GOOD HEALTH.

HYSTERIA—WHAT IS IT?—What is hysteria? asks a young lady who says some day she will study medicine and be a physician, even if for no other purpose than to know about the body, so wonderful in its make-up and its action. In reply we may say that hysteria has been defined in many ways by many physiologists, but in our opinion most of their definitions are faulty in many ways. Hysteria is a sort of nervous storm, in which nervous action breaks over all restraint of the will and the judgment, forsakes its normal course and gives rise to incoherent, unnatural, irrational ravings. Hysteria is a sort of insanity. The forces in the nervous system, like the forces in nature, are subject to various disturbances. In nature they break out in thunder-storms, hurricanes, etc. In the human body we have instead, hysteria, passion, and other phenomena. If we could control the distribution of heat and cold in nature, we could modify or do away with violent cosmic changes by equalizing everything. The same would prevent hysteria. Equalize the circulation of the blood in the human body and hysteria would rarely if ever appear.—*Herald of Health*.

THEY HAD ALL HAD IT!—A health officer writes to a Canadian medical journal as follows: "Inspected a house in the country at the request of the attending physician, as the general health of the family had been bad for a long time, they having suffered from a class of complaints that would indicate bad drainage, etc. Found under the floor a wooden drain with rotten cover, and soil saturated with sewage; trap on water-closet non-effective; water-closet foul; situation very bad; ventilation so arranged as to poison the room above it, a sleeping apartment occupied by a young man suffering for a long time from general ill health. No trap on kitchen sink; water supply, cistern connected directly with the sewer without traps in the overflow pipe. On my reporting the latter fact to the family, and expressing my surprise that they had not all had typhoid fever, they exclaimed in chorus, 'Oh, we have all had it!'"

It is a sin to be sick, says an exchange, unless the illness is hereditary, and sickness is reformatory punishment of violated law, always. But "In knowledge there is power," and in order to make people healthy they must learn the laws of health, and the results of disobeying them. In every walk of life there is need of more self-knowledge. The most enlightened sometimes touch the harp strings of life too roughly, and the harmony of sound is soon destroyed. But ignorance, self-will, gratification of appetites and passions have kept misery in the world, and probably will continue to cause disease and untimely deaths for many years—at least until we reach a higher plane of intellectuality, and learn to live simply and in obedience to hygienic laws.

DOMESTIC ECONOMY.

BATTER CAKES.—1. With one quart of flour sift five times two heaping teaspoonfuls of baking powder, or one teaspoonful of soda and two of cream-tartar, add a tablespoonful of salt and sweet milk till the batter is of the right consistency. Then add two eggs, beaten whites and yolks apart and then together. Fry on a hot griddle, using a little fat to fry with as possible. If the griddle is of polished steel, no fat at all will be needed. 2. Into one quart of flour pour enough buttermilk or sour milk to make the batter of the right thickness, add soda to neutralize the acid, salt to taste, and two eggs beaten as prescribed in the recipe above. Try a bit of the mixture, and see whether the proportions of the soda are right before you fry the whole. Old buttermilk or sour milk will not make nice cakes, and buttermilk is much to be preferred to sour milk. The griddle must be of just the right hotness to insure success, and the fire must be good and steady. In spite of everything, however, one does not always produce the best results in batter cakes, and fails without being able to divine any possible reason for failure. Some malicious fairy doubtless gets into the dish and spoils it.

PEELING PEACHES WITH LYE.—I have used lye for removing skins from peaches for canning or drying purposes, and think it better than peeling with a knife. It is not only a quicker process, but a better one, leaving the fruit perfectly smooth, and especially nice for preserving whole. Fill an iron kettle with water; place over the fire; put in a piece of concentrated lye, and let it dissolve until strong enough to cut the skins (you can tell of its strength by dropping in two or three peaches), then take out and put in the fruit. Home-made lye is a good as concentrated, but not having any ashes, I thought the concentrated article. The fruit must not remain in longer than is necessary to cut the skins. A wire basket is the best thing I have found for dipping them in and taking out. Plunge at once into a tub of cold water, rinse thoroughly, and wipe the skins off with a cloth.—*Mrs. M. L. K. in Rural New Yorker*.

HOP YEAST.—Three large potatoes, one handful of yeast; put in a small bag; put the potatoes and hops into two quarts of water and boil down to one quart; take out the bag of hops and potatoes; mash the potatoes fine and throw back into the boiling water; stir flour into this while hot until it is quite stiff; let it stand until it is nearly cold, then add half a cupful of yeast, half a cupful of sugar, one tablespoonful of salt, and half a tablespoonful of ginger; set in a warm place to rise; when light, put in a covered jar and place in a cool place.

OKRA SOUP OR "GUMBO."—Two dozen tender okra pods, two quarts of water. If only an okra soup is wanted, 10 or 12 pods will suffice, but then it is not a gumbo, and you miss a good thing. Cut pods in circular slices, fry in butter or lard, or with bacon slices, till well brown (not burned); have ready boiling half a chicken or hits of mutton or beef or rabbit in aforesaid two quarts of water; add a handful of washed rice, pepper, salt, tomatoes, a few pods of tender green beans, one ear of corn (cut grains), and last, fried okra.

STUFFED TOMATOES.—Take large, smooth tomatoes, take out a little of the inside at the top, and stuff with a forcemeat made thus: Fry some minced onion in butter, and add some bread crumbs, some cold chicken chopped very fine, some chopped parsley, and a little stock to moisten, and pepper and salt, mix well; take from the range, add raw yolk of egg, stuff the tomatoes, and bake them in the oven. Broil your chops nicely, hutter them hot, and arrange them around a platter with the stuffed tomatoes in the center.

HARD YEAST.—Stir into a pint of lively yeast enough flour to make a thick batter, and a tablespoonful of salt. Let it raise once, then roll out thin, cut into cakes with a cake-cutter, and dry in the shade in clear, windy weather. When perfectly dry put in a bag and hang in a cool, dry place. They will keep good six months. One of these cakes dissolved in a little milk or water is enough for four quarts of flour.

BEEF RISsoles.—Mince and season cold beef, and flavor it with mushroom or walnut catsup. Make of beef dripping a very thin paste, roll it out in thin pieces, about four inches square; enclose in each piece some of the mince, in the same way as for puffs, cutting each neatly all round; fry them in drippings of a very light brown. The paste can scarcely be rolled out too thin.

TO STEW CARROTS.—Half boil, then nicely scrape, and slice them into a stew-pan. Put to them half a teacupful of any weak broth, some pepper and salt, and half a cupful of cream; simmer them till they are very tender, but not broken. Before serving up, rub a very little flour, with a bit of butter, and warm up with them.

POTATO YEAST.—Cook and mash six potatoes, and add water enough to make a thin batter; when cool add a cupful of sugar, a teaspoonful of salt, and yeast enough to make it rise; set in a warm place till light; then put it in bottles and set in a dark, cool place till wanted.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line. 25 .80 \$2.00 \$5.00
Half inch (1 square). \$1.00 \$3.00 7.50 24.00
One inch. 2.00 5.00 14.00 40.00

Our latest forms go to press on Wednesday evening

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, September 18, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Complete Harvester Problem; Indian Grass or Wood Grass; A Lesson in Bags, 177. The Week; Ocean and Rail Again, 184. The University of Southern California; European Studies of American Agriculture, 185. The Mussel Slough Settlers and the President, 188.

ILLUSTRATIONS.—Indian Grass or Wood Grass—Sorghum Nutans, 177. First Building of the University of Southern California in Los Angeles, 185.

ENTOMOLOGICAL.—The Phylloxera; Information on Grasshoppers Desired; Early Work at the Pests; Tomato Tea as an Insecticide; To Destroy Ants Around Trees; Worse and Worse, 184.

QUERIES AND REPLIES.—Andrus Island Sorghum, 184.

PATRONS OF HUSBANDRY.—Grange Work and Party Zeal, 180.

AGRICULTURAL NOTES from the various counties of California, 180-81.

NEWS IN BRIEF, on page 181 and other pages.

CORRESPONDENCE.—A Wagon Trip to Yosemite, 178.

SHEEP AND WOOL.—The Fall Wool Trade; A Government Inquiry into Sheep Husbandry; Moving a Well-Known Flock; Sheep for the Fair, 179.

THE VINEYARD.—California Grape Growing; Australian Grape Shipments to England; Packing Fruit for Export, 173.

HORTICULTURE.—Certain Parasitic Plants; Almond Notes; Plums in Southern California, 179.

HOME CIRCLE.—"Abide With Us" (poetry); Another Budget of School Reminiscences; Educated Woman; A Veteran Digger; A Plea for Boys; Will He Succeed; Wedding Outfits; Redeeming the Times, 182.

Chaff; A Baby's Wardrobe, 183.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; Shot, 183.

GOOD HEALTH.—Hysteria—What is it? They Had all Had It! 183.

DOMESTIC ECONOMY.—Batter Cakes; Peeling Peaches with Lye; Hop Yeast; Okra Soup or "Gumbo"; Stuffed Tomatoes; Hard Yeast; Beef Rissoles; To Stew Carrots; Potato Yeast, 183.

MISCELLANEOUS.—A New Avenue for a Chinese Immigrant, 178. A Remarkable Clock; The Future Lumber Supply; Natural Silver-Plating; Dr. Tanner's Great Task; "North American Review;" Terrestrial Magnetism; To Distinguish Dyes in Colored Goods; "The Microscopist;" Sleeping in a Volcano, 186.

Business Announcements.

Spring Tooth Harrow—Batchelor, Van Gelder & Co., Sac. Wool and Commission Merchants—Moody & Farish, S. F. Guns—P. Lowell & Son, Cincinnati, Ohio. Chromo and Scroll Cards. The Imperial Egg Food—H. C. Swan, Agent, S. F. Leather Belting—L. P. Degen, S. F. Stencil Plates—A. E. Ridley & Co., S. F.

The Week.

The President has arrived and has been absorbed. On Thursday last every one in the city knew that he was coming. Tens of thousands lined the streets, and obtained ocular evidence that he had come, and shouted their honor and welcome. To-day not one person in a hundred knows whether the President is in the city or whether he has departed. Such is the fleeting character of our thoughts that each day has a new sensation and each week a new hero. It must be a queer sensation to the hero, although not an unwelcome one, to find himself dropped from the public grasp which yesterday threatened to crush him—one day to look down upon a struggling mass of humanity almost rolling over itself to catch sight of you, and the next to walk at will along the street, enquiring your way of those you meet, with no huzzas in the air, no multitude gathering. There has always been much charm thrown about stories of potentates who have gone up and down among the masses incognito, and thus learned their behavior and their needs. In this country the manner is different. The President goes abroad with his best clothes on, with his well known face in fair view. Passers by turn their heads; some give a respectful salutation, some do not. He walks here and there, seeing the sights and enjoying the new scenes of the Western coast, as would any other interested traveler. It is infinitely better thus than to be hedged about with royalty, like a Czar, whose life is only safe if it can be kept out of the reach of the people.

The fairs are now in full progress. Last week was the Petaluma fair, well attended and successful. This week the Oakland farmers hold their exhibition, and next week will come the great effort of the newly appointed State Board of Agriculture at Sacramento. Later will come the other districts, each with a new organization, and renewed endeavor to make this year's exhibition notable.

Ocean and Rail Again.

The fact that shippers of agricultural machinery have failed to renew their contracts, and will be obliged to forward their shipments by clipper, caused a good feeling with agents of lines, and in anticipation of larger shipments than usual, they are providing large carrying vessels—*Telegram from New York, Sept. 11th.*

This appears to be an indication that the unfortunate practice of neglecting the ships and shipping merchandise hither only by rail, is being abandoned. It is natural that the importers of agricultural implements should first see the wrong done our producers by adopting a policy which will reduce the number of ships at this port. Those who sell machines to farmers have a good opportunity to learn farmers' needs and farmers' benefits, and if they have abandoned their contracts with the railways because of the prospective injury from the new system of shipping their goods, they should have due credit. We are not sure that the change has been wholly affected by motives of this kind. In fact, it is reported that there was some disagreement between the implement dealers and the railway agents as to date of shipments. However this may be, the throwing of patronage to the ships is a good thing however it was brought about, and we hope it will proceed with other classes of merchandise, until the ocean traffic becomes again profitable to ship owners, and a lower rate of freight for grain to Liverpool may result.

The depression among ship owners, because of their decreased business, is marked. One of the largest firms in the shipping trade between New York and San Francisco suspended last week after 30 years of honorable existence. It is true that outside matters had a great deal to do with the suspension of the firm, but if their ship property had been fairly productive, it might have stood the storm and righted itself. It is announced that a number of the firm's ships are in foreign ports needing repairs, which would aggregate \$120,000, and this amount the firm could not raise mainly because ships are such unprofitable concerns.

It sounds well to hear of New York ship agents looking about for larger vessels to send to this port. We trust they will continually have to seek more and larger ones, and that the old ocean, the world's highway, may not be made of no value to us because of patronage given to land transit, which affords no exit for our great wheat crop. The railroad has important uses of course, and as the lines are multiplied there will doubtless be a better disposition to serve the public at a fairer price than heretofore, so that the rails will be still more beneficial in their offices in the building up of our western enterprises. But the neglect of the ship can only be fraught with danger to our truest interests, and we hope it will proceed no further. Speaking of ocean transit the mind turns naturally to the hopes of producers of quickened transportation to Europe through the proposed isthmus canal. A few weeks ago we gave some figures to show the advantage to grain growers of the cut off through the canal. The leading advocate of the Nicaragua route, Admiral Ammen, has treated the same matter in an article published last week in New York and of which an outline is furnished by telegraph. He presents a supposed case of two vessels leaving San Francisco together, bound for Liverpool—one going around the cape and the other through the canal. It is shown that the latter traverses only half the distance passed over by the former, and supposing the canal transit to be without cost, the freight of the vessel around the horn should pay more than double rates to make the voyage of equal profit with the isthmus voyage to the owners of the ships. Ammen also alludes to the quantity of wheat for export this year, and says that the staple will find a natural outlet toward Europe through the canal, and an increase of traffic will be insured sufficient not only to pay interest on the investment, but decrease toll rates until they are but a small figure. The cost of the canal has much to do with the question of commercial advantage. The total amount necessary for the completion of the canal will be \$40,000,000.

It is to be hoped that something definite can be done toward realizing the advantages of crossing the isthmus before another year rolls around. DeLesseps is still urging his Panama canal, and the question of raising money for it is now being considered by the Eastern and European bankers. The Nicaragua route seems the favorite of American engineers and merchants, and there is some promise now that it will be pushed forward.

A NEW SQUIRREL SUFFOCATOR.—Prof. H. B. Norton, of the State Normal School, has high rank as an educator, and he must be accorded high standing, also, as a farmer, for he has a ranch on the top of the Santa Cruz mountains. He is a devoted student of agricultural problems, and we are interested to read in the *Hollister Advance* of a new method by which he proposes to make the air of a squirrel hole unhealthy. He pulverizes a pound of potassic chlorate, and mixes this with six pounds of sulphur, takes an ounce of the compound, wraps it in a newspaper, and ignites it in a squirrel hole. The particular virtue of the mixture is that it will burn when shut off from the air, hence the fumes can be confined underground by closing up the holes. The chlorate and sulphur must be pulverized separately. We should like to have our readers experiment with this treatment and report results.

ENTOMOLOGICAL.

The Phylloxera.

EDITORS PRESS:—I have been giving some attention to the phylloxera of late, studying its nature and habits, with such means as I could obtain, and I have so far satisfied myself with a remedy as to offer it to the public: Take of strong, unleached ashes 90 lbs.; sulphur, 10 lbs.; mix and sow a good coat on the vineyard twice a year—in the fall after the fruit is gathered, and apply another coating in the spring just before plowing the vineyard. Plow deep enough, so that the mixture will come in contact with the roots. Before sowing the mixture in the fall, let sheep and hogs into the vineyard to eat up all the leaves and decaying fruit.—DANIEL WOOD, Visalia, Cal.

This will certainly invigorate the vines and be worth the doing on that account at least. We saw abundant evidence on Morris Brothers' ranch, in Sonoma county, that digging in ashes, lime and manure around the vines would give the vine new life, and would reclaim one that had so far gone that the canes were short and devoid of fruit, and bring on again long, vigorous canes and plenty of grapes. There were many such vines shown us, but the insect was still found on the roots, and the question remains whether they will increase so as to subdue the new growth which the vine had gained.

Prof. Hilgard mentioned to us the other day that it is a fact that some vineyards in Solano county which were given up because of the work of the insect, began at length to regain their vigor, and the owners, seeing this, returned to cultivating and caring for them, with good results thus far. This is certainly an interesting phase of the question, and holds out some hope to other infested regions.

Mr. A. T. Hatch, of Cordelia, who saw vines at Sonoma growing on red knolls (soil in which iron is abundant), while vines around on different soil were ruined. He believes the application of iron will aid the vine to withstand the insect, and suggests that it be tried.

Information on Grasshoppers Desired.

EDITORS PRESS:—I have just been requested by Prof. Thomas (representing the U. S. Locust Commission) to write up the locust matter of this country for their forthcoming report. I propose to do it with the help of every one in possession of facts and specimens who will be kind enough to spare them. What do you know of the extension of the scourge, either in Oregon, Arizona or Nevada? Have you any specimens—no matter how broken and fragmentary? Please help me to make a creditable report.—J. G. LEMMON, Oakland, Cal.

We hope our readers will aid Prof. Lemmon in this matter with all points in their experience and observation. There is quite a visitation of grasshoppers in some parts of the great valleys this year, as well as in the mountain valleys, which have been so sorely afflicted for the last two or three years. We hear also of several species with striking characteristics. It would be very interesting and profitable to have all the information concerning these collected, and if those who know will send Prof. Lemmon the results of their observations and specimens of the insects, this result will be attained. Doubtless Prof. Lemmon will return the favors which our readers may extend to him by furnishing us an early outline of the report which will be forwarded in full to the commission at Washington.

Early Work at the Pests.

J. W. Barton gives the *Santa Rosa Republican* a good article on the various insects which attack our trees and bushes, and concludes with this valuable advice: It is a great mistake to either wait until summer before attempting to destroy noxious insects, or to throw the brushwood and trimmings from trees, vines, and other plants into heaps in some out-of-the-way place and leave them there to decay. All such refuse should be burned as soon as possible after it is removed from the plant, and if the wood is too green to burn freely, add enough dry material to insure the combustion of the whole. Vast numbers of noxious insects may be destroyed in this manner, the presence of which may or may not be known to the gardener or farmer who performs the operation. A few hours or even days devoted to the search for insects, and the cleaning up of rubbish will be time well spent, and if all farmers would do so, insect pests might become less numerous than at present. The increase of noxious insects is not caused merely by the destruction of their natural enemies, or the cleaning up of the country, but is due in great part to the indifference of the farmer and gardener in the taking of the simplest precautionary measures to prevent it.

Tomato Tea as an Insecticide.

A reader of the *PRESS* at Gold Hill, Nevada, sends us a prescription advocated by a writer in a German paper, in which he says the stems and leaves of the tomato are well boiled in water, and when the liquid is cold it is syringed over plants attacked by insects. It at once destroys black or green flies, caterpillars, etc., and it leaves behind a peculiar odor which prevents insects from coming again for a long time. The writer says that he found this remedy more effectual than fumigating, washing, etc. Though neglected, a house of camellias had become almost hopelessly infested with black lice, but two syringings with the tomato plant decoction thoroughly cleansed them. This material has also been recommended by some of our readers in Santa Clara county, and it is worth trying.

To Destroy Ants Around Trees.

In case our Riverside friends who are troubled with ants at the base of their trees have not yet succeeded in destroying them, we recommend the experience of a German with dilute carbolic acid. He used 1 part of the acid to 100 parts of water. It was poured over trees,

rose bushes and peach trees, and was most efficacious in destroying all kinds of insects. A small quantity was also poured over an ant-hill, and the insects forsook their nest with such rapidity that they left their eggs behind, a circumstance almost unknown in the annals of ant history. A small cherry tree, the ripening fruit of which attracted the ants in such great number that it was gradually dying, was saved by a narrow ring of the solution being made round the roots, which, by being renewed every four or five days, effectually kept the intruders away.

Worse and Worse.

The *American Cultivator* has an elaborate article on the vineyard interest of California, in which the following startling information is given: "The disquieting rumors from California respecting the discoveries of Prof. Hilgard of the State University (who claims to have found two prolific varieties of the seven-winged phylloxera), excite a feeling bordering on alarm." We should say there was feeling bordering on insanity in the mind of the writer. Prof. Hilgard found two fertile individuals in a lot of seven specimens of the winged form which were sent him. He is credited with finding two "prolific varieties" of the "seven-winged phylloxera." We expect this announcement will give Prof. Hilgard something like an Edisonian reputation among entomologists.

QUERIES AND REPLIES.

Andrus Island Sorghum.

EDITORS PRESS:—I have just returned from a trip among the islands lying between the Sacramento and San Joaquin rivers. I was much interested in the best-sugar factory at Isleton, on Andrus island. It is turning out some very fine sugar, both crude and refined. The proprietors import the seed from Germany, furnish it free of charge to the farmers and pay them \$4 per ton for beets delivered at the factory. I was shown some fine, large fields of growing beets, and, from all that I could learn, I judge the prospects of the factory to be very flattering.

I made the acquaintance of Mr. M. Denicke, of Andrus Island, to whom I am indebted for many courtesies, and whose well-cultivated lands, free from weeds, are in sharp and pleasing contrast with others I could mention on the island. He took me in his buggy all over Andrus and Brannan islands, which, blessed with good crops, are in a flourishing condition. This gentleman has several acres of sugar cane planted as an experiment. It is growing finely, and is now from 10 to 12 ft. high, samples of which I send herewith. It is very rich in saccharine matter, and appearances indicate a complete success of the experiment, so far as that locality is concerned.—A. B. BOWEN, San Francisco.

The specimens are splendid; one is the Amber cane. Both are 12 ft. high, as sent to us, and they were cut some distance above the ground. The canes are well nourished, and to teeth tests show much saccharinity.

ENCOURAGEMENT OF TREE-PLANTING.—The other day the American Association for the Advancement of Science met at Boston, and among other things done it recommended the encouragement of tree-planting. A committee was appointed to memorialize Congress and the State Legislature in regard to the important matter of the cultivation of timber. Among the practical means for promoting this business the association recommended the passage of a law for the protection of trees planted along highways, and the encouragement of such planting by relieving them from highway taxes; and by the appropriation of money to agricultural and horticultural societies, to be applied as premiums for tree-planting and for prizes for the best essays, and reports on the subject of forest culture. One very important recommendation was the enactment of stringent laws against the reckless firing of forests—a practice which leads to enormous waste of timber on this coast. It ought to be checked by the imposition of severe penalties. The association also recommended the establishment under favorable conditions of model plantations, as a means of encouraging the general planting of trees and their preservation.

PLUMS AND PRUNES.—The September meeting of the State Horticultural Society will be held at 232 Sutter St., in this city, on Friday, Sept. 24th, at 1 P. M. The subject of plums and prunes, continued from last meeting, will be introduced by W. H. Jessup, of Haywards, and it will be in order for all growers to bring samples of their fruit for comparison, etc. A report will be expected from Messrs. W. B. West, J. Shinn and B. S. Fox, who were appointed a committee to recommend the best varieties for planting, also, the best packages for marketing the fruit. Prof. J. Henry Comstock, entomologist of the Department of Agriculture, will read a paper on orchard pests, which, it is believed, will give an outline of his extended studies of the subject in our orchards during the present summer. The meeting certainly promises to be one of unusual interest, and it is hoped there will be a large attendance of all those interested in the work of the society, and all are invited.

FLORIDA fruit growers are beginning to cultivate the lemon with care, and with such good results that it is believed the State will soon furnish almost as many lemons to the trade as she now does oranges.

STATE ENGINEER HALL returned to Sacramento lately from a visit to the scene of the debris works on the Yuba and Bear rivers. He reports the work as progressing finely.

The University of Southern California.

We present to our readers an engraving of the first building of the new institution named the University of Southern California, and located in Los Angeles. In July, 1879, Rev. A. M. Hough, Dr. J. P. Widney, E. F. Spence, Rev. M. M. Bovard, G. D. Compton and Judge R. M. Widney, negotiated from Ex-Gov. Downey, I. W. Hellman and O. N. Childs a gift of 308 lots at west Los Angeles to be devoted to establishing a University for southern California. The deed of trust provides that 30 of the lots lying in a square form shall be used for the campus on which is to be erected the main buildings. The trust further provides that "the funds received from the sales of said other lots less costs of sales and expenses and improvements not to exceed 15% of the price received, shall be and forever remain an endowment fund, the net income from which shall be for the use and support of said University to be established as aforesaid, provided that from the first sales of lots the sum not to exceed \$500 may be used for expenses of properly placing the property on the market, and from the next money received \$5,000 shall be used for the purpose of erecting a college building. The annual net income from the endowment fund shall be used in establishing and supporting the University. The outstanding warrants shall not be in excess of the income for the year in which they are drawn, all others shall be void. For any misappropriation of the funds or conversion thereof, the trustee or trustees liable therefor shall be personally responsible to repay and make good the amount thereof, so that said fund may never be diminished, and so that the income thereof may be used as herein stated."

The articles of incorporation prohibit the incurring of any debts, or the creating of any mortgage or lien on any property of the University. The institution, therefore, is established on such a basis that it cannot be destroyed by debt, the curse of all other educational institutions.

Pursuant to the terms of the deed of trust, 25 lots were sold at \$200 each to citizens of Los Angeles, and with the funds the first building was erected and finished in September, 1880. The engraving was made from the first

draft of the architect. Since then nearly \$1,000 in cost has been added to the exterior of the building in porticos, dormer windows, etc. A new engraving from a photograph will be prepared in a short time, and when finished, we will present it in a subsequent issue.

The building is 50 ft. square, with ceilings 16 ft. in the clear. There are four large recitation rooms and a business room on the first floor. On the second floor are two large rooms and a chapel 49x30 ft.; ceiling 20 ft.

Two hundred and fifty-three lots remain for sale at \$300 each, payable \$50 cash, balance payable in five annual instalments with 10% interest. From the sale of these lots \$60,000 for an endowment fund will be netted. The Trustees intend to accomplish this during the next 10 to 15 years, during which time the rise in property and increased building on lots sold will make this a success. As this endowment fund becomes interest-bearing, there will be provided from the interest an accumulated fund which, as it reaches say \$15,000, will be used to erect a new building and to furnish apparatus, libraries, etc.

During the early years of the institution, this interest fund will be used to build up; after that, it will be used to provide the most efficient corps of professors that can be commanded.

On September 4th the ceremony of placing the corner-stone occurred in the presence of one of the largest and most deeply interested audiences that has been gathered in Los Angeles for years. Bishops Wiley and Simpson, and Ex-Governor Downey, addressed the audience in enthusiastic and prophetic language as to the safe basis on which the plan of the enterprise rested, and as to the future before it. The Bishops stated that the plan was the most perfect and safest they had ever known in the United States. Said Bishop Simpson: "This

institution, situated in a beautiful, productive plain, and surrounded by the orange groves and fields of grain, with the majestic mountains looking down upon it from the east, and the ocean breeze wafted upon it from the west, with an invigorating climate, and with all the essentials to stimulate health and vigorous mental efforts, I can see in the future possibilities for this institution that cannot be attained in any other place on the continent."

The cars of the street railroad pass the door of the University, running from the center of Los Angeles city. The Santa Monica railroad, a branch of the Southern Pacific railroad, runs within four blocks of the building.

The first term will commence October 6th, 1880. Rev. M. M. Bovard, D. D., President, with an efficient corps of professors and teachers, have charge. From present indications the first session will begin with about 100 students.

THE PROMOTION OF AGRICULTURE.—We learn from data sent us from the East that there has been organized an association whose object shall be "the promotion of agriculture by fostering investigation in science applied to agriculture." For the accomplishment of this object the members shall meet annually for the presentation and discussion of original papers on subjects embraced within the scope of this field of further investigation, either individual or co-enquiry, and for the consideration of plans for creative. Papers may be offered at the meetings

European Studies of American Agriculture.

There seems reason to believe that we, as a nation, are in imminent danger of being puffed up with conceit at the attention which is now being directed to our agriculture by the hoary countries of the old world. During the present summer there has been one commission or another all the time in our grain fields, sheep folds or vineyards. As soon as one departs another appears, and their note books are fat with information. This is the case in California, and the same is true to a much greater degree at the East, for most of the commissioners become tired of the immensity of the country before they get to the Rocky mountains, and turn back to their cosy little countries in Europe without giving California a call. The results of this avalanche of investigators are now beginning to appear in the European agricultural journals, and from the amount of space which is kindly given to matters from or about the United States, one might almost regard our nation as a world newly discovered instead of a vigorous off-shot which has far outgrown the parent stock.

The report of the commissioners sent to this country last year by the English parliament, is now being published in the London papers. It

Odessa. "A meeting has, however, been held for the purpose of discussing these and other recommendations, which was well attended by high officials, private bankers and large proprietors. Mr. Orbinisky was the principal speaker, and his arguments were logical and conclusive. It was impossible at present, he pointed out, for Russia to compete with America in the exportation of cereals, because of the suitable means of transport which existed in that country and which did not exist in their own country. In the United States the network of railways was in such close proximity that it came within 15 versts of the most distant farmer. Another thing that assisted in reducing the rate of the transport was the facilities elevators gave in the shipment of grain. After a long discussion, those present at the meeting decided (1) to interest themselves in the improvement of the rural economy of the black soil districts of Russia, so that they should not lie waste; (2) to petition the government to unite different places as quickly possible, so as to enliven the grain trades by a new network of railways; and (3) to interest themselves in establishing elevators and other facilities which exist in America, and which make it impossible for Russia to compete with that country."

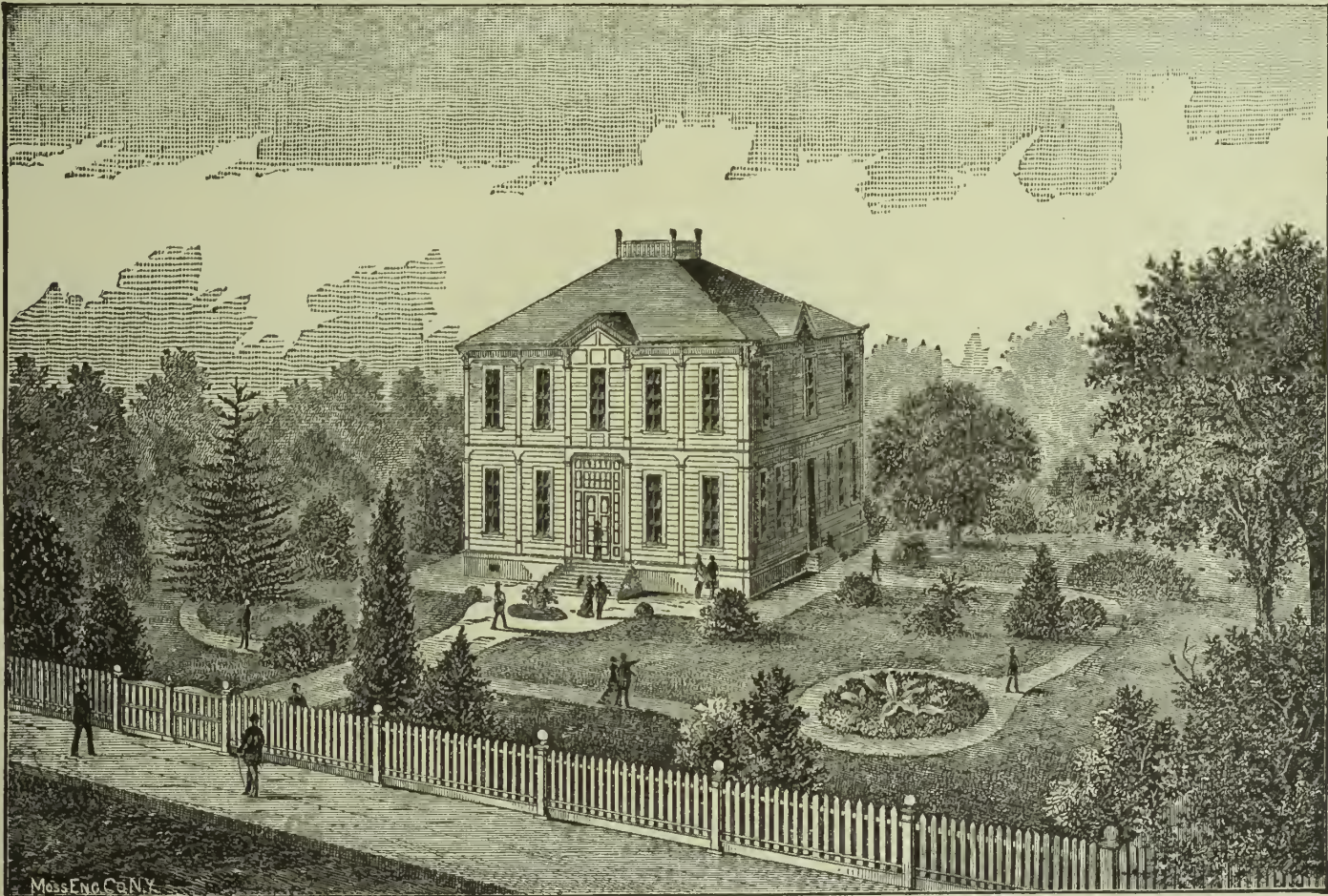
Thus it appears that American vigor and enterprise are stirring the agricultural systems of Europe to their foundations. And while this is in progress, the attention which is directed to our opportunities for founding small fortunes and prosperous homesteads, is attracting a multitude of individual immigrants and colonies, which will result in the farther settlement of our vacant areas and add to the growth of our population and productive industries. Thus we receive rewards for our pains to educate the commissioners. The investment is a good one. Let the commissioners increase lunches and introductions are trifles compared with the value of the fame we are securing ahead.

Let the commissioners increase lunches and introductions are trifles compared with the value of the fame we are securing ahead.

CARP.—Levi Davis, of Forestville, sends us a copy of a letter which he recently wrote in reply to inquiries about carp culture, from which we take the following points: The advantages of carp are the ease of growing them, their table quality; the fact that they are not cannibals, and, therefore, all ages and sizes can be kept in the same pond. Their chief food is vegetable, although they do eat the larva of insects. The succulent roots and

leaves of water plants is their main support. They may be fed on cabbage, lettuce, potatoes, pumpkins, melons, grain of any kind, the refuse of the kitchen and stable, etc., but all hard substances must be hoiled before feeding. Carp need slug gish, warm water to breed and grow well in. Mr. Davis prefers a small pond for breeding, say four ft. deep in the deepest part and with sloping edges, with plenty of aquatic vegetation in it. The fish begin to spawn in April and may continue until August. They are rapid growers, and the average weight of mature fish is said to be about 20 lbs. Some are reported to have reached the extraordinary weight of 200 lbs. Mr. Davis' increase has been about 1,500 young fish from each female, but he has an account of one female which weighed 23 lbs., end on being opened was found to contain 12 lbs. of roe. After weighing a part and counting the eggs he computed that the fish contained 7,760,000 eggs in all. This accounts for their rapid increase under favorable conditions. Mr. Davis' fish are doing splendidly, and have increased so fast that he is overstocked, and is now looking for a new location in which to extend his culture. He thinks a piece of 100 to 500 acres of tule or marsh land that can be flooded by building a four or five-ft. levee, would suit him if he had plenty of fresh water to convey to it.

MECHANICS' FAIR PREMIUMS.—We expected to have the pleasure of announcing this week the award of premiums for horticultural exhibits at the Mechanics' fair, which closed on Saturday evening of last week. The committees have duly reported, but the reports have yet to be combined and the result submitted to the managers of the Institute for their approval. For this reason we are unable to announce the awards in this issue of the PRESS.



FIRST BUILDING OF THE UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES.

through members by non-members, for reading and discussion, and for the indorsement of the association; and the association shall endeavor especially in this manner to encourage, as far as lies within its power, all exact investigation leading to advancement in agriculture. Membership is to be limited to a small number, say 40 or 50. New members are to be appointed by the association itself on such conditions as may be agreed upon hereafter. The papers read are to be published, under such conditions as may be devised by the association. We are acquainted with many of those named as members, and, from their standing as original investigators, we expect many valuable results will be attained by their labors. The Secretary is Dr. E. L. Sturtevant, at Waushakum Farm, South Framingham, Mass.—a thorough student, with a fine record of achievements. The member named for California is Prof. Hilgard, and the association has certainly made a wise choice from this part of the country.

BET SUGAR IN LOS ANGELES.—We are somewhat at a loss to understand the present condition of the beet sugar experiment in Los Angeles county, and perhaps some of our readers at the scene of action will expound the matter. We have two Los Angeles papers of the same date, Sept. 11th. One of them states that the new factory started up and closed again because there was something found in the beet which prevented working it, as had been planned. The other paper says nothing of any difficulty, but announces that slicing and drying are proceeding rapidly, and that some elements in the soil which grape growers have been trying to get rid of are proving just the things needed in the beet. Perhaps Mr. Gennert will give us an exposition of the situation.

seems to be a well written, and quite fair description of grain-growing in the prairie States, and the profit gained from the small investment of capital required is clearly shown. That the commission became alarmed at the extent of territory before them is apparent from the following sentence: "Any idea, if entertained, of crossing to California was dismissed from the first, as well as the hope of being able to investigate on the spot the capability of Manitoba and the northwest to supersede the United States in the supply of grain to Great Britain." Perhaps the lack of California information may be supplied by the commissioner who has been in this State and returned last week. We have, however, some distrust of the comprehensiveness of his work, as we heard of many things which had been brought to his attention after his return ticket had been purchased, and he was therefore precluded from investigating them. We hope, however, that he has points enough to convince the English public that California is not a sand-ridden Sahara, as some English writers now seem disposed to make it.

Some very forcible impressions seem to have been gained of this country by a Russian Commissioner, Prof. Orbinisky, sent by the Russian Government to report on the system adopted in the region east of the Rocky mountains for the transportation and classification of the grain. His report shows that a very different system exists throughout the United States from that in use in Russia, and he urgently recommends that some portions of the American system—especially referring to the classification of the grain into different qualities, and the general use of elevators—should be adopted at once. Consul-General Stanley remarks on this that such is the apathy of the farmers and merchants in south Russia that probably many years will elapse before we see these improvements, even in

A Remarkable Clock.

Probably the most ingeniously-contrived piece of mechanism in the late fair was the clock which was invented and constructed by Mr. A. Jackson, of this city. Mr. Jackson is quite an inventor, this being only one of his devices. This he calls a "pantorologue," and is the result of three years' study. It is in the Art gallery near the stairs. The clock stands in a case over 10 ft. high. At the base is a globe completely mapped, giving the daily recurring motion of the earth. A hollow shaft on the axle carries the moon around the earth in its due proper course of time. The moon, which is half bright and half dark, keeps the bright side constantly to the sun, showing its various phases in the course of its journey around the earth—showing at full moon its bright side to the earth, and at the first and third quarters the half moon. Over the globe is a dial, divided into 24 equal parts, signifying the 24 hours, and painted to show sunrise, noon, sunset and midnight. To the left is an aquarium filled with water and containing living goldfish; and in the aquarium, by means of a scale, the rise and fall of the tide in San Francisco each day, with its variations, are demonstrated to a nicety. A large gold ball projecting from the mathematical center of the picture is the sun, and affixed to the sun, and revolving around it in proper rotation, are the planets, keeping, in their revolutions around the sun, their bright side to and their dark side away from it, showing day and night in each planet. A look at the painting will explain what constellation any one of the planets is in at that particular time.

There is also a calendar on which is presented the month, day of the month, and day of the week. It takes care of February very nicely. Two minutes before each hour, the figure of a messenger boy emerges from a door on the right of the clock, bearing in his hand a card marked "Time," and comes to the center. He remains standing for a little while, when Winter passes into the little cabinet door, and Spring again appears. The little bell does not strike the hour, that being struck by an electric bell in the tower, on the left-hand corner of the clock. This bell is struck by an operator, sitting in a niche, who telegraphs the moment when the messenger boy is to appear. To the right, about three ft. distant, and attached by a narrow brass rod, is an independent electric clock, admitting a current to the main clock every minute, and, though separate, governing the motion in the main instrument. To the pendulum of the electric clock is attached a thermometer, showing the average temperature, and a barometer showing the state of the temperature. In the base of the clock is a musical box, playing a number of airs with flute accompaniment.—*Mechanics' Fair Daily.*

THE FUTURE LUMBER SUPPLY.—What are the lumbermen of the Pacific coast doing to replace the forests they destroy? This is a serious matter, and it ought to be looked squarely in the face. It is attracting the attention of ship builders and other lumber interests on the Atlantic side, and it should not be neglected on the Pacific where the lumber industry is assuming vast proportions. In relation to this business, the *American Ship* thinks that the Lumbermen's Association should consider the matter and endeavor, through the action of its members, to secure protection for the timber lands so that the trees shall be thinned out rather than destroyed, and given an opportunity to make fresh growths from year to year. That journal says: Some legislation may be needed in the public interest for the protection of the forests against the cupidity of men, anxious only about present profits, and the Lumbermen's Association ought to be able to suggest measures that will be fair to all interests. There is scarcely a nation in Europe that does not to-day regret its neglect to provide in time for forest culture, though nearly all now have laws on the subject. The existing laws in this country are really applicable only in the far Western States, where there are public lands which might be worth obtaining for forest culture. In the States now most in need of growing forests, there is very little tree planting, but the waste goes on at a great rate.

NATURAL SILVER PLATING.—A singular instance of natural silver-plating is reported by the *Register-Call* as occurring in the Lord of Lorne mine, American Flat, Gilpin county, Col. The sides next to the vein and the hanging walls are covered with a thin coating of native silver as smooth as glass. The vein itself is narrow, and is prospected by means of a tunnel. The superintendent of the mine says this curious feature of the inclosing walls is observable so far as the tunnel has followed the vein. The ore is friable and easily mined, and discloses both chlorides and sulphurets, but does not assay highly. The filmy coating of silver on the walls was apparently condensed and deposited there under tremendous pressure, for it has a smooth and burnished appearance.

HARDENING GLUE.—The only thing that will render glue perfectly insoluble is bichromate of potash. If you add a little of this in solution to the glue, and after applying the glue to the article expose it to the sunlight, it will become insoluble even in hot water. Better expose for a good while, say an hour or so, to make sure that all the glue has become insoluble.—*Boston Journal of Commerce.*

Dr. Tanner's Great Task.

It should not be lost sight of, says the *Scientific American*, that the fasting of Dr. Tanner was very different from cases where a fast is held by necessity, such as being compelled by disease, by shipwreck, by being lost in a wilderness or forest, being hurried in a mine, or lost in a cave. Dr. Tanner had enormous advantages over all these cases, and hence, he could indulge at once in hearty meals, as his digestive apparatus was not impaired by disease, nor his nervous system shattered by anxiety; in such cases it would be very dangerous, if not fatal, at once to indulge immediately in such abundance of food. In the case of shipwreck, the exposure of the survivors, resulting in a total want of any comfort, but to the enduring a suffering from other distressing discomforts, and exposure to the elements, contributes as much if not more to the fatal results than the need of nourishment. To this must be added the anxiety and uncertainty which keeps the nervous system upon an exhausting strain. It is the same with those being lost in a wilderness or forest. Of these the forest gives the best chances of survival; but in case of burial in a mine, the utter want of light and the gloom surrounding the victim, combined with the extreme anxiety, make a fast under such circumstances the most destructive to the nervous system. Persons who, for instance, were lost in caves, such as frequently happened in the Mammoth cave, were, after only a few days' search, found to be nearly insane, so much so that they hid themselves from the searchers.

It is evident that Dr. Tanner had an easy time, if his fast is compared with that of any of the fasters for causes mentioned above. If he had been locked up under threat that no food would be given him for 40 days, he surely would not have stood it so well, as the mere consciousness of the constrained situation would have affected his mind, and all ease and comfort would have been at an end. To the contrary, his mind was kept at peace because he had plenty of air and water, the comforts of good shelter, and all the conveniences of life.

These facts were overlooked by those who from the first declared a 40 days' fast an impossibility, and staked money on it. They were not well informed about actual fasts for so long a period, of which there are instances on record, or they did not believe the truth of such records.

Dr. Tanner may not have proved that everybody can fast 40 days, but if he has only proved that man can fast longer than has generally been supposed, that we are all eating too much, and that for a family remedy, fasting affords a better, safer, and more economical cure than the taking of all sorts of patent medicine, to which many people are so much addicted, he has done a really good work.

"NORTH AMERICAN REVIEW."—We have received the September number of this solid monthly from the publishers. It contains seven articles, the first of which, by M. Charnay, is the initial part of "The Ruins of Central America." The narrative of this writer is felicitous, and his charming descriptions will awaken a new interest in the remains of a departed race. These papers ought to largely increase the readers of the *Review*. "The Perpetuity of the Chinese Empire," by S. Wells Williams, long a resident of the country and familiar with its language and institutions, will not fail to interest all who desire to extend their knowledge of this abnormal people. J. W. Clappitt follows with an article on "The Trial of Mrs. Surratt." The writer was one of her counsel, and he presents a powerful special plea in favor of the innocence of the unfortunate woman. The lovers of metaphysical speculation will find matter to their liking in Prof. Harris' article on "The Personality of God." "Steamboat Disasters," by R. B. Forbes, offers several practical suggestions of value. We like the racy flavor of the Rev. E. E. Hale's paper on "Insincerity in the Pulpit," although it will doubtless subject the writer to much sharp criticism. Finally, Dr. George M. Beard contributes an admirable article on "Recent Works on the Brain and Nerves." The *Review* is published by D. Appleton & Co., New York, at \$5 a year, or 50 cents a number.

TERRESTRIAL MAGNETISM.—Prof. Balfour Stewart, in a letter to *Nature*, July 1, 1880, discusses the connection between auroras and magnetic storms. Since we have changes produced in stationary strata by a moving magnet, cannot the reverse be true? May we not have discharges produced in moving strata by a stationary magnet? The sun in this case would by convection currents produce changes in the atmospheric strata, and the earth as a permanent magnet would cause electric disturbances, which in turn would react upon terrestrial magnetism. Working upon this hypothesis Balfour Stewart has been led to the fact "that certain magnetic diurnal changes lag behind corresponding solar changes, just as meteorological changes would do," and he also states that his observations up to the present appear to show that an increase or decrease of solar activity corresponds to an increase or decrease of both magnetic and meteorological activity. The probability of a progress of magnetic phenomena from west to east, corresponding in character to a progress of meteorological phenomena is alluded to. Magnetic weather appears to travel faster, however, than meteorological weather.

To Distinguish Dyes in Colored Goods.

It is often necessary to know with what coloring matters a pattern has been dyed. In some cases an experienced dyer can soon ascertain, almost at a glance, or by simple methods, which dyestuff has been employed; but with many colors this is sometimes impossible. Especially is this the case with blue dyed fabrics, in which it is not easy to say whether a pattern has been dyed with vat indigo alone, or has been topped with cheaper stuff.

The detection can be made by a chemical analysis, the method consisting in destroying one of the coloring matters by some reagent, and thus prove its existence by the use of the destroying medium. To ascertain which mordant has been used, it is only necessary to burn a certain quantity of the fabric, and to find out by chemical analysis which oxide was present on the fabric. These methods are, however, only of use to chemists; but the following is a simple method that may be employed by anybody to determine the coloring matter. To begin with blue dyed fabrics. *Vat blue*, in the first place, is neither affected by alkalies nor acids (with the exception of nitric acid). Only chlorine and chlorine compounds react on vat blue.

A blue dyed with *sulphate*, or *extract*, or *carmine* of indigo, is readily abstracted by boiling water, and even more so by caustic alkalies.

Prussian blue is easily recognized by using alkalies which destroy it, while chlorine and acids have no effect upon it. However, the alkaline chlorine compounds of commerce (bleaching powder, etc.) react upon it.

Goods dyed with *logwood* give, with acids, a coloration more or less yellowish. In case there is another color associated with logwood, the latter may be extracted with a large quantity of acid. The fabric is then well washed, and the remaining color examined.

The red colors are more difficult to determine; but these colors have not the same importance as the blues.

Colors dyed with *cochineal* and *Brazil wood* (which, however, every dyer can easily distinguish) become gooseberry red when treated with muriatic acid. If it is washed, and then passed through milk of lime, a pretty loose violet is obtained. *Madder red*, treated exactly in the same way, and after the milk of lime bath boiled with soap, acquires a more intense color.

Cochineal red and *Brazil wood red* can be easily distinguished by means of oxalic acid, cochineal red becoming brighter, while the other is more or less destroyed.

Black, which is generally dyed by two methods, either with iron or chrome, when treated with chlorine, is destroyed if dyed with iron; but, if a chrome black, resists to a certain extent, only becoming chestnut brown, even with strong treatment.

To distinguish other colors there are many methods, which are, however, too complicated to be mentioned here. Aniline colors require greater chemical knowledge to distinguish them from each other.

"The Microscopist."

We have before us the fourth edition of "The Microscopist," which, it is but truthful to say, is one of the most complete and comprehensive works on microscopy extant. The publishers, Messrs. Lindsay & Blakiston, of Philadelphia, have spared no pains in giving the work a neat typographical appearance, and no expense in embellishing it with a profusion of well-executed and most faithful illustrations in each of the several branches of study to which it is devoted. This edition has been enlarged by the addition of over 200 pages of entirely new matter, devoted to Pathology, Diagnosis, and Etiology, illustrated with wood-cuts from Rindfleisch. A full index and glossary have also been combined in this edition, which, together with notices of recent additions and improvements to the microscope, will be found a source of much valuable information to the microscopist.

The work, as it now appears, is a perfect manual of microscopy and a full compendium of microscopic science in all of its leading branches of mineralogy, chemistry, biology, histology and medicine. No physician, at the present day, can be considered well up or can keep up with his profession, without practical knowledge of the microscope and microscopic science. To the student of physical phenomena, a knowledge of the minute structures of the universe is quite as essential as the study of those grander aspects of nature which are shown forth in the heavens or spread out upon the surface of our earthly sphere. In the arts also, as well as in scientific investigations, the microscope now finds a most needful and conspicuous place. The jeweler, the engraver, the miner, the man of commerce and, in particular, the agriculturist and horticulturist must make more or less use, and have more or less knowledge of the microscope, either as a simple or compound instrument.

It is to Dr. J. H. Wythe, of Oakland, that the public is indebted for this most valuable work, and we trust it may be the means of adding largely to the grand army of true and earnest workers already engaged in the various fields

of microscopic research. We speak from personal knowledge when we say that the Doctor is a modest and unpretending, yet a rare and most enthusiastic worker in this interesting field of science; and that he works for the love of it and for the good that may grow out of it, rather than from any hope of pecuniary reward. "The Microscopist" is for sale at the bookstores generally, price \$5, neatly bound in cloth.

Sleeping in a Volcano.

When all the stragglers had come up, a consultation was held, and it was decided that it was too late to go down that day, and that we must spend the night in the crater. Waving adieu to the world, we clambered down the wall of ice, and found ourselves on a narrow strip of warm sand, overtopping what is known as the interior lip. From this point there is a treacherous descent of seventy-five feet to the point where the wall of the crater becomes abrupt and perpendicular; and here, on an overhanging rock, is planted a rickety old windlass on which the sulphur miners ascend and descend. The windlass is worked by hand. There is no cage or basket at the end of the coil. You are tied into a loop at the end of the rope, like a box of sulphur, and lowered away over the smoking abyss, the bottom of which is 300 ft. beneath you. One by one we were lowered over the precipice in this manner, and then commenced a most treacherous and difficult descent over the sloping pile of debris, from the base of the precipice, 1,500 feet down the very bottom of the crater, where the only place of safety is to be found. We had hardly commenced this perilous descent when a tremendous report saluted our ears, and a hundred tons of rocks went crashing past us on the left and rolled into the bottom of the chasm. This was a mode of salutation that we had not anticipated, but it soon became evident that the ability to dodge rocks was the only guarantee of safety here. Owing to the alternate action of heat and cold, the sides of the crater have become completely rotten, and during the heat of the day immense quantities of rocks are constantly falling. Toward morning they freeze in again, and all remains quiet for a while. During the past twenty years many men have been killed on this spot by these avalanches of stones. In order to protect themselves, the sulphur miners have built little huts in the crevices among the huge boulders at the center of the crater. Some dying convulsion swelled up a little mound at this point, and only the larger boulders, falling from the highest peaks, ever reach it. There is still danger on one side, however, from ordinary stones, and when that startling word, *pedra*, rings out through the chasm, the men come swarming out of the mines like a flock of quails, and hide themselves in well-known places of safety. On entering the crater no one escapes the dread malaria of the spot. Indian and white man alike go down, with flying pains in the head, and a nauseating feeling at the stomach that is worse than sea-sickness. Conklin, of all our party, seemed most affected. He had strength enough to crawl to one of the huts, and there he sank down on a mat in an almost insensible condition. It was not long before the rest of us joined him, and then commenced one of the most unpleasant nights I ever spent. Seven of us were confined in a space of about six by seven feet. It was impossible for any man to stretch himself out at full length. Nearly all of us were deathly sick, and combined with these discomforts was the constant fear of being crushed by the falling rocks. All night long they fell with fearful reverberating echoes from the surrounding cliffs. We were told that more than usual came down, owing to the fact that the preceding day had been a little warmer than common. In contrast with the booming sound of these flying boulders, came the sneaking, surging sound of the great *respiraderos* all around us. These breathing holes, or vapor-jets, are six in number. They are in constant action, and throw off immense quantities of smoke and vapor, with now and then a lurid tongue of flame. All the heat of the crater is not confined to these spots, however. Little jets of steam creep out from every crevice, all the rocks are warm, and it is impossible to find a place to lie down where you are not tormented by curling whiffs of sulphur smoke rising from the earth beneath you. Toward midnight I found it impossible to endure my cramped position in the hut any longer. Every muscle in my body ached, and, as sleep was out of the question, I gathered up my blanket and made my way out into the open air. A scene of the most weird and awful character presented itself. The crater seemed full of smoke. Detached clouds of vapor waved themselves back and forth along the cliffs like ghosts, and as I listened to the hoarse breathing of that mysterious power which I could not see, I thought of the wild Aztec legends connected with the spot, and, in my superstitious mood, I half believed that the restless spirit of their departed chiefs had risen to confront and haunt me for my intrusion into their dread abode.—*D. S. Richardson in September Californian.*

TO RELIEVE CASKS FROM MUSTINESS.—Burn a little sulphur in the empty casks, bung, and let them stand for a day.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAKS & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

SHEEP AND GOATS.

J. B. HOYT, P. O. Address, Birds Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams, \$30 and \$40 each. Ewes, \$10 per head. Also cross-bred Rams from Choice Merino Dam and Shropshire Sire; price, \$20 and \$25 each. Also 1/2 Shropshire and 1/2 Merino Rams for sale.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. O. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

THE IMPROVED EVAPORATORS For Making SUGAR, SYRUP AND APPLE JELLY.



Make the best syrup and sugar with less fuel and labor than any other apparatus. Will condense sweet cider into delicious Jelly at the rate of four barrels per hour. Agents wanted. Send for descriptive circulars.

VT. FARM MACHINE CO.,
BELLOWS FALLS, VT.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

California Inventors

Should consult DEWILY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1830. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of THE MINING AND SCIENTIFIC PRESS AND PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

AGENTS WANTED Everywhere, to sell the **Best Family Knitting Machine** ever invented. Will knit a pair of stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.**, 409 Washington St., Boston, Mass.

BLOOMINGTON NURSERY.

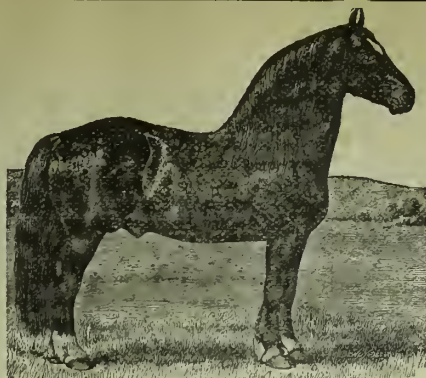
Established 1852. 600 acres; 13 greenhouses. We offer a large stock of Trees, Shrubs, Roses, Bulbs, Apple Seedlings, Osage Plants, etc. New Fall Price List free. Address BAIRD & TUTTLE, Agents, Bloomington Nursery, Ill.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address
J. A. POPPE, Sonoma, Cal.

Engraving Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of THE MINING AND SCIENTIFIC PRESS, San Francisco at favorable rates.

CANVASSERS Make from \$25 to \$50 per week selling goods for E. G. RIDEOUT & CO., 10 Barclay street, New York. Send for Catalogue and terms.



Lakeside Stock Farm.

HOLSTEIN CATTLE.

Clydesdale Horses, Hambletonian Horses.

Largest Importers and Breeders of HOLSTEINS in America. Also large Importers and Breeders of CLYDESDALES, and Breeders of HAMBLETONIAN HORSES. Send for Catalogue.

SMITHS & POWELL, Syracuse, N. Y.

If orders for a sufficient number of animals to fill a car are received within two months, arrangements will be made for sending a carload, thus making freight on each animal very reasonable.

PATREY'S Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted.

Yours truly, M. T. EMMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows.

J. W. GAHNS.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds.

J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins.

Most respectfully, B. B. GLASCOCK.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,
In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY, President
JOHN LEWELLING, Vice-President
ALBERT MONTPELLIER, Cashier and Manager
FRANK McMULLEN, Secretary

DIRECTORS:

G. W. COLBY, President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER,.....Alameda Co
URIAH WOOD,.....San Benito Co
J. C. MERYFIELD,.....Solano Co
THOMAS MCCONNELL,.....Sacramento Co
L. O. STEELE,.....San Mateo Co
SOLOMON JEWETT,.....Kern Co
C. J. CRESSEY,.....Stanislaus Co
SENECA EWER,.....Napa Co
A. D. LOGAN,.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES OF DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER, Cashier and Manager

San Francisco, Oct. 15th, 1879.

Rent paid two and a quarter years buys one.

MASON

AND

HAMLIN

ORGANS

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHBRED



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast.

Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped,..... \$5.00
Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



Sheep

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

300 Choice Rams

FOR SALE.

THOROUGHBREDS AND GRADES.

Apply to L. U. SHIPPEE,
Stockton, Cal.

B. K. BLISS & SONS' HAND BOOK.
A COMPLETE GUIDE FOR THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

SEND FOR THE
\$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address
BOERICKE & TAFEL,
Homœopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - - Proprietors.
Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiculture, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Lands for Sale and to Let.

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.; 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail, will be sold at a bargain, and on reasonable terms to a responsible purchaser.

N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

FINE ORANGE ORCHARD FOR SALE.



Three Miles South of Los Angeles.

174 56-100 ACRES,

Comprising 68 acres of ten-year old trees, 5,800 in number, now just beginning to bear. Irrigated from surplus city water at a cost of \$60 per annum. The remainder of the land, 106 56-100 acres is of the finest quality of

DEEP, SANDY LOAM,

The very best of land for Orange, Grape, Olive or General Cultivation. The tract is surrounded by streets, and lies favorably for subdivision. The orchard can be cultivated at a total cost of \$1,800 per annum, and within two years will pay a handsome interest on the investment, which with good management will soon afterwards reach 20%, 30% and 50% per annum on the sum for which it now can be bought.

For Sale at Foreclosure Prices.

A rare opportunity for a Fortune.

C. T. HOPKINS,

No. 318 California St., S. F.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N., R. 6 W., M. D. M.; will keep 6,000 sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 26th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch.

J. K. HOUSTON.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Sequel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Sequel, Cal.

HOPE FOR THE DEAF

Garmore's Artificial Ear Drums

PERFECTLY RESTORE THE HEARING and perform the work of the Natural Drum. Always in position, but invisible to others. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address
JOHN GARMORE & CO.,
S. W. Corner 6th & Race Sts., Cincinnati, O.

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. E. NAYLOR,
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

Dewey & Co. { 202 San- } Patent Ag'ts
some St.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING SEPTEMBER 7th, 1880.

231,990.—BENCH-PLANE.—A. P. J. Bossel, Virginia, Nev.
231,997.—SUBMARINE WALL.—D. A. Dyer, Ferndale, Cal.
232,044.—BUTON.—L. Leszynsky, S. F.
231,967.—VALVE.—G. Milne and W. H. Gants, S. F.
232,056.—PICK.—C. Norton, Tuscarora, Nev.
231,998.—FORMING DRAIN PIPE.—W. Hamlet, Merced, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

SUGAR MOLDING MACHINERY.—William H. Wiester, S. F. Patented August 24, 1880. No. 231,638. In this machine the molds are filled, their contents discharged in molded form onto plates on a belt; delivering them to the drying room. The loose particles of sugar are pushed off, the molds are washed and their sliding bottoms pushed back in place ready to receive their next charge. This operation is rapid and continuous and automatic, requiring no attention or skill on the part of the attendants.

RUDDER.—Uriah B. Scott, Portland, Oregon. Patented August 24, 1880. No. 231,623. This invention relates to certain improvements in that class of rudders known as "balanced" rudders, such as are commonly used on light-draft stern-wheel river steamers; and the improvements consist in providing a curved or bent rudder stock, so that when the rudder is turned it will fit close to the bottom of the boat at all points of its swing, thereby preventing drift-wood or other obstructions getting between the rudder-plates and bottom of the boat.

Prevention and Cure of Disease.

The most valuable work we have ever seen in the shape of a popular treatise concerning the preservation of health and the best things to do in case of sickness, is Dr. Napheys' "Prevention and Cure of Disease." In homes remote from good doctors many maladies must be treated, in their first stages at least, by home talent, and what to do is a vexed question which is often wrongly solved and troubles are aggravated. And even in the neighborhood of doctors there are simple complaints which can be cured by good care and simple remedies. In both situations there is need of good advice at first. No sensible person would risk a cherished life by not calling in a wise and experienced physician, unless there are unmistakable signs that home treatment is succeeding, and Dr. Napheys does not recommend dispensing with the services of those who make our well-being a constant and devoted study. He proposes that the right course should be taken at first, so that if it be found necessary to call a physician, he may not find the malady aggravated by neglect or random treatment. His motive in writing his work on the "Prevention and Cure of Disease," we are told, was "because he was deeply interested in the health of the people, and bit-terly opposed to patent medicines, as well as the dosing and drugging the people for every little ailment. He believed the surest way to stop it was to instruct the people when not to take medicine, as well as when to use it. He believed that much care and little medicine would do more to check disease than any nauseous and nasty dose; that the mother properly instructed is the best physician for her child; that a majority of the cases of sickness could be prevented by common remedies always at hand, if the people only had a proper guide to tell them how and when to use them."

Dr. Napheys' book is a large one and covers the whole of diseases likely to arise in the household. We have read considerable parts of it, and they commend the author's judgment and ability, and accord with such limited experience as we have had in the matter of children's complaints and the minor maladies of adults. We believe it will be a good thing for the general well-being of our households if his suggestions are carefully read and observed. The author is a physician and writer of high rank, and it would be well if his work should replace all the so-called "home doctors" and "guides to health" of which we have any knowledge. The book is now being introduced to the people of this coast by D. N. Dilla, of 1,921 Myrtle St., Oakland, who is the general agent for the Pacific coast. He is desirous of extending his work by the aid of trustworthy canvassers.

The Mussel Slough Settlers and the President.

A delegation of Mussel Slough settlers, consisting of Dr. J. B. Flewelling, J. J. Doyle, J. Coffey and F. J. Clark, called upon President Hayes at the Palace hotel on Saturday evening last and invited him to visit Hanford. The delegation presented an address numerously signed by settlers of Tulare and Fresno counties. It sets forth at length their grievances, reviews their land controversy with the Southern Pacific Railroad Company, and recites the immediate circumstances which led to the collision last May between the settlers and the parties accompanying Marshal Poole in his attempt to execute writs of possession, wherein seven persons lost their lives.

The address earnestly requests the President to come to the Mussel Slough country and see the people and learn of their earnest work in the development of the region as an agricultural district. They promise not to importune him, but they merely desire to give him an opportunity to see for himself and determine:

First—Whether we are a collection of outlaws or of respectable American citizens.

Second—Whether we have not acted like men who believed that they were securing fairly and honorably permanent homes for themselves and their families.

Third—Whether we have not accomplished a great work of reclamation and development.

Fourth—Whether we have not solid equities, if not legal rights, which ought to be fully and definitely adjudicated before we are evicted.

Fifth—Whether the Federal Government should permit the Southern Pacific Railroad Company, through any of the departments, to use any unusual or extraordinary methods to dispossess us.

Sixth—Whether the Attorney-General of the United States should not commence proceedings to cancel the patents heretofore issued to the Southern Pacific Railroad Company.

Seventh—Whether we have not been placed by Providence in a position to represent a cause in which the whole people of the United States, who are Americans at heart and value the stability of our political institutions, are concerned, namely: Organized and peaceable resistance, not to the just rights, but to the usurpations, corruptions and unjust exactions of railroad corporations; and whether this subject, thus pointed by an example, does not deserve special notice by your Excellency in your communications with Congress, by which body the act of 1866 and the resolution of 1870, without interfering with any vested rights, might be so modified or amended as to give us relief.

Eighth—Whether the fluctuating decisions of the Department of the Interior should not cease, at least so far as the unconstructed portion of the railroad between Tres Pinos and Huron is concerned, and the public lands along that gap be thrown open to settlement.

Points for Judging Apiary Products.

The judging of apiary products will fall to the lot of numerous committees during the State and District fairs which are now approaching. The Los Angeles County Beekeepers' Association lately held a meeting and proposed certain points for judging, which may be suggestive to our readers elsewhere. It was resolved that it was the sense of the association that the following points govern the judges in their awards of premiums:

1. Honey.—Extracted, flavor, body and color.
2. Honeycomb.—Flavor, color and marketable.
3. Honey-producing flowers.—The greatest number of wild flowers known to produce honey pollen or propolis.
4. Best display of honey.—Marketable condition.
5. Wax.—Texture and color.
6. Comb-foundation.—Body and color.
7. Honey extractors.—Facility for handling combs, draft and durability.
8. Bees.—Full colony and purity of Italian stock.
9. Queen.—Purity of Italian stock and size.
- 10.—Sugar made from honey.—Flavor and color.
11. Vinegar.
12. Packages.—Workmanship and material.
13. Packages.—Wood, material and workmanship.
14. Comb.—Flavor, solidity or freeness from running.
15. Best fruit put up or preserved in honey.
16. Best honey cake.

At the Horticultural fair in Los Angeles, in October, there will be an apiary department in charge of the following committee: R. J. Bogly, J. E. Pleasants, Mrs. Dr. Landerner, Mrs. Levering and Mrs. Butler.

IMPLEMENTS FOR NEW ZEALAND.—The fame of the Spring Tooth Harrows has spread not only over the length of our own coast, but has reached out across the old Pacific, Messrs. Batchelor, Van Gelder & Co., having lately received orders to ship an invoice of their implements to a large agricultural house at Christ Church, New Zealand. This speaks well for California as a manufacturing State.

EGG FOOD.—Attention of poultry growers is directed to the advertisement of H. C. Swain, 202 Sansome St. in another column. The "imperial egg" food, which he offers has been before the public for some time and has been highly spoken of by those skilled in poultry matters. Mr. Swain has numerous recommendations from Pacific coast poultry keepers, to which the reader is referred.

"I THINK your paper is the best on the Pacific coast."—W. A. JORDAN, New Hope, San Joaquin Co.

FRUIT DEALERS.—In another column may be found the card of L. G. Shresovich & Co., importers, wholesale dealers and commission merchants in foreign and domestic fruits. Their store on Sansome St., near Clay, is one of the busiest fruit marts in this city. Their packing and drying establishment in San Jose does a large business, and they have a branch house in Honolulu. L. G. Shresovich & Co., are certainly among the most stirring and enterprising of those who are pushing our fruit into a world's market.

COMMISSION MERCHANTS.—Shoobert & Beale is the style of a firm recently formed in this city as commission merchants for the sale of wool, hides, pelts, sheep, and all kinds of live stock. Mr. I. E. Shoobert was with the well-known house of Christy & Wise, for seven years, and has had great experience in the trade in sheep and wool. Mr. Tristram Beale is a son of E. F. Beale, Esq., owner of the Tejon ranch, Kern Co., one of the largest sheep ranches of the State. The card of the new firm may be found in our advertising columns.

By Universal Accord,

AYER'S CATHARTIC PILLS are the best of all purgatives for family use. They are the product of long, laborious and successful chemical investigation, and their extensive use, by physicians in their practice, and by all civilized nations, proves them the best and most effectual purgative Pill that medical science can devise. Being purely vegetable, no harm can arise from their use. In intrinsic value and curative powers no other Pills can be compared with them, and every person, knowing their virtues, will employ them, when needed. They keep the system in perfect order, and maintain in healthy action the whole machinery of life. Mild, searching and effectual, they are specially adapted to the needs of the digestive apparatus, derangements of which they prevent and cure, if timely taken. They are the best and safest physic to employ for children and weakened constitutions, where a mild but effectual cathartic is required.

FOR SALE BY ALL DEALERS.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

Important additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Prop.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

J. G. COLMKNIL is requested to report to this office from Humboldt Co.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Sept. 15, 1880.

This week seems to have brought in rather more life in the Wheat trade. There has been, however, a farther decline in prices, and as ships are a little more abundant and prices shamefully low, the shippers are beginning to take hold a little. Abroad there is a firm feeling, and the disposition generally would be quite satisfactory were it not that the prices offered are not a fair equivalent for the Grain.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice	
	Cal. Wheat.	
Thursday.....	9s	3d@9s 8d
Friday.....	9s	3d@9s 8d
Saturday.....	9s	3d@9s 8d
Monday.....	9s	3d@9s 8d
Tuesday.....	9s	3d@9s 8d
Wednesday.....	9s	3d@9s 8d

To-day's dispatches to the Produce Exchange say that floating cargoes are firm; on passage and for shipment, steady. The Mark Lane market has taken a turn dearer, and Liverpool is firm at 9s 3d@9s 8d for average to choice California Wheat.

The Foreign Review.

LONDON, Sept. 13.—The Mark Lane Express, reviewing the British Grain trade for the past week, says: The harvest is nearly completed in most of the English counties and is quite finished in the south. Grain is mostly stacked, and in very excellent condition, and threshing has been proceeding freely. The Wheat crop is variable at best, and very generally disappointing, a considerable portion being blighted. The Wheat yield has been generally over-estimated, because insufficient allowance was made for the inevitable result of blight and mildew, fine weather

at the end of the summer being expected to remedy the shortcomings of an adverse season. Root crops have been in great need of rain, the ground being very dry and hard. Saturday's splendid rain, therefore, was generally welcome. The bulk of the Irish and Scotch crops have been secured under most favorable circumstances. Offerings of English Wheat in Mark Lane and the provinces have been moderate, and a very large proportion of the samples are in excellent condition. The contrast with last year's wretched product is most marked. Some samples of new Barley have also appeared. They are variable in weight and color. The miller's attention has been devoted almost exclusively to the home product, which was purchasable at such very moderate prices that for a time foreign was left out of account. The supply of imported having quite outstripped the demand, arrivals have gone into the warehouse. The week closed with a weakened feeling, and prices showed no quotable change. Sales of English Wheat during the week were 23,146 quarters, at 42s 2d, against 13,645 quarters, at 47s 11d, for the corresponding period last year. Imports into the Kingdom, during the week ending Sept. 4th, were 2,105,827 cwt of Wheat, and 249,738 cwt of Flour.

Freights and Charters.

The latest charters reported are: Ship M. P. Grace, 1,928 tons, Wheat to Liverpool direct at £3; ship W. R. Grace, 1,899 tons, Wheat to Liverpool direct, £3; British iron bark Dunnerdale, 1,038 tons, Wheat to Liverpool, £3 2s 6d; British iron ship Bedfordshire, 1,165 tons, Wheat to Cork, £3, prior to arrival; British iron ship Pizarro, 1,357 tons, Wheat to Cork, £3, prior to arrival; and British iron ship British Envy, 1,265 tons, Wheat to Liverpool at £2 17s 6d, prior to arrival.

New York Dried Fruit Markets.

NEW YORK, Sept. 11.—Raisins and Currants are holding off for new crop. Prunes are very dull. New crop offered freely, to arrive, at very low prices. Quotation, 4½¢.

Eastern Grain and Provision Markets.

NEW YORK, Sept. 11.—Business in the general market shows gradual increase, and prices, as a rule, remain steady and firm. Among the exceptions are Breadstuffs and some kinds of Provisions, which have shown weakness in sympathy with lower valuations from Europe. Manufacturers and general Merchandise are generally held with confidence. Wheat continues dull, the early harvest in Great Britain and France, and the superior quality of Wheat, together with a fairly average yield, have greatly checked dealings in options. Speculative feeling has subsided. Provisions are in little better demand.

CHICAGO, Sept. 11.—The Wheat market has been suffering during the past few days from what seems to have been a mixture between a corner and a scare. There seems no doubt but that a certain successful provision manipulator, whose name is P. D. Armour, has secured some shorts on the Wheat market, and that he intends to squeeze them a little. The magnitude of the corner is, however, greatly restricted by the very moderate amount of dealing that has been done of late in Wheat. The crop is moving very slowly, the farmers being very busy seeding their Winter Wheat ground, a crop which is growing rapidly in favor, and the stock of Spring Wheat in store is as near nothing as it gets to be in this market. There are less than three quarters of a million bushels of Spring Wheat now here, and the shipments daily exceed the receipts, the diminution for the past week being over 200,000 bushels. The Corn market remains pretty firm, and the week has seen an advance of 2¢ per bushel, but it was lost under increasing receipts and declining European markets. Corn is pretty high just at present in comparison with other cereals, and the farmers, recognizing this fact, are crowding it into market more rapidly than ever know before. Provisions have remained pretty steady, but there was a general stiffening in prices. Sales for the week were for the October option: Wheat, 8½¢@9½¢; Corn, 40¢@42¢; Oats, 28¢@30¢; Pork, 17½¢@17.70¢; Lard, 7½¢@8.17½¢. Closing October prices, were: Wheat, 92½¢@94¢; Corn, 40½¢; Oats, 28½¢; Pork, 17.65¢@17.70¢; Lard, 8¢@8.02½¢. Closing cash prices were: Wheat, 93½¢@93¢; Corn, 39½¢; Oats, 28½¢@29¢; Rice, 53¢; Barley, 77¢; Pork, 17½¢@17.70¢; Lard, 7.95¢.

NEW YORK, Sept. 14.—The markets are generally quiet. Wheat opened half higher, with fair export trade. Barley is nominal, but attracting more attention; 93¢@95¢ are prices talked for prime Canada, and 75¢ for two-rowed State, to arrive in October. Provisions, lower and dull.

Eastern Wool Markets.

NEW YORK, Sept. 11.—Wool continues very dull and basis valuation to large extent nominal. Sales include 60,000 lbs Spring California, 29¢@34¢.

BOSTON, Sept. 11.—There has been no improvement in Wool this week, the market being in a dull and unsatisfactory condition. It is difficult to place any kind of Wool unless at concessions, unless combing and delaines may be the exception, and even for this description buyers now hesitate to pay the prices asked. A large number of buyers have been in the market, but their views regarding prices are so low that it was impossible to make satisfactory sales. Transactions in washed fleeces were rather limited. California Wool is comparatively quiet. New Fall Wools are little inquired for. Pulled Wools are quiet but steady at unchanged prices. There is more inquiry for foreign Wool, and 100,000 lbs of Natal have been taken for one of our mills, and 100,000 lbs of Cape, principally for Canada, in bond. Sales include, Ohio fleece XXX and XX and above and No. 1, at 40¢@49¢; Michigan X, 39¢@40¢; Wisconsin X and No. 1, 39½¢@45¢; Vermont fleece, 36½¢@44¢; combing and delaine, 42¢@62½¢; unwashed combing and delaine, 25¢@40¢; Texas, 25¢@33¢; Oregon, 32¢@41¢; Territory, 21¢@32¢; unwashed and unmerchanted fleeces, 25¢@35¢; Spring California, 25¢@37¢; Super and X pulled, 33¢@35¢; super, 40¢@90¢; Cape in bond, 19¢; Natal, 42¢; Australia, 41¢@45¢; Mediterranean carpet, 16¢@30¢. The total sales of the week were: 1,491,800 lbs, of which 1,198,800 were do mestic.

PHILADELPHIA, Sept. 14.—The improved demand for Wool continues, and prices are steady. Oregon fine, 26¢@28¢; medium, 30¢@36¢; coarse, 29¢@31¢; New Mexican and Colorado fine, 16¢@28¢; medium, 25¢@28¢; coarse for carpets, 19¢@21¢; California Wool not quoted.

The London Wool Sales.

LONDON, Sept. 14.—There was a brisk Wool sale to-day, at extreme previous prices. The sales sold were chiefly New Zealand, Sydney, Port Phillip and Cape. The present series of sales will include the 25th inst.

BAGS.—Sales are considerable, but there has been a notable drop in prices. The Bags sold at 8½¢ are the make of the Oakland factory, lately released from quarantine.

BARLEY.—There are large quantities of Barley being sold at the prices which ruled last week. We note sales: 200 tons choice old Brewing, 92½¢; 1,000 sks fair do, 82½¢; 5,000, 700, 600, 500 and 300 sks choice Bay Feed, 80¢ ¾ ctl.

BEANS.—There is no change, except that Pea Beans have come down nearer to the common level.

CORN.—Corn is still quiet, and sales inconceivable; 300 sks Large Yellow sold at \$1 ¾ ctl. Large White is lower, ruling at \$1@1.02 ½ ctl.

DAIRY PRODUCE.—Fancy fresh roll Butter has recovered from the late depression, and now brings 32½¢ ¾ lb. Other dairy products are unchanged.

EGGS.—Fresh California Eggs are notably higher and exceedingly scarce. Lower grades are plenty and low. Duck Eggs have taken occasion to rise above 11¢ for the time being.

FEED.—There is no change in May or Ground Feeds.

FRESH MEAT.—Our price list shows a cheapening of the best Beef; also Mutton and Pork. This drop in Pork is strange, considering the fact that California Bacon and

Hams have advanced. The present situation is probably but temporary.

FRUIT—Fruit prices still are quite steady. Supplies this year bid fair to be about what is required, consequently the growers will get better returns than in years when the glut ruins the value. Canners are taking considerable, but they have no such harvest of cheap fruit as usual.

HOPS—There are comparatively few Hops arriving, and sales are inconsiderable. We note sales of 100 bales at from 18 to 22c. Fair average Shipping Hops bring 18@20c; choices for local trade, 20@22c. There is a fair demand for Shipping Hops.

OATS—There is a little more trade than usual this week. We note sales: 300 sks Humboldt Milling, \$1.50; 320 sks do, \$1.45, and 840 sks good Feed, \$1.35.

ONIONS—There is no change. A few small Onions for pickling sell at \$1.25 per cbl.

POTATOES—Early Rose Potatoes are unchanged, but new Chiles from Half Moon bay, and reds from the rivers are bringing as high as 80@90c per cbl. There are many of this river Potatoes being exported. The Chinese are sending them to China.

POULTRY AND GAME—The only change is in Turkey; young Gobblers, alive, now go as high as 21c in some cases.

PROVISIONS—There has been an advance of 1@2c @ lb on California Bacon, and considerable interest in the trade during the last week. California Smoked Beef is lower.

VEGETABLES—Prices have run along without much variation, except for Melons. Watermelons are corded around the stores, and moderate-sized ones can be bought at \$3 @ 100. The weather is so cool that the appetite for the cooling Melon is quite slack. Canteloupes share in the feeling, and are quotable as low as 25@50c @ crate. It would be well to get Dr. Tanner to come out and clear away this glut of Melons.

WHEAT—Prices are reduced, and shippers are at work. We note sales: 500 tons choice Milling, \$1.40; 40,000 sks choice Shipping, Port Costa delivery, said to be at \$1.35@1.37; 1,000 sks choice Milling, \$1.40; 125 sks do, \$1.37; 100 tons No. 1, \$1.36; 350 sks good Shipping, \$1.33; 1,300 and 400 sks do, \$1.32; and 2,000, 3,000, 800, 350 and 250 sks, and 150 tons fair Shipping at \$1.30.

WOOL—There have been considerable sales of the shor and hurry Southern Wools which have been held since spring. Something like 1,200 bales of these descriptions have sold from 17 to 20c per lb; 200,000 lbs choice Humboldt have sold at 28 to 30c. There has been some poor Southern Fall clip sold as low as 10 to 12c, but the price for good lots is put at 12 to 14c.

GENERAL MERCHANDISE.

(WHOLESALE.)
WEDNESDAY M., Sept. 15, 1880.

Crystalline Wax.....17 @ 17 1/2	Patent Sperm.....25 @ 30
CANNED GOODS.	
Assorted Pie Fruits.....2 1/2 @ 3	Table do.....3 50 @ 3
Jams and Jellies.....3 75 @ 3	Pickles, h' gal.....3 25 @ 3
Sardines, q' box.....1 67 @ 1 90	H'f Boxes.....2 50 @ 2 75
Merry, Faulk & Co's.	Preserved Beef.....2 1/2 @ 3
2 lb. doz.....3 75 @ 3 87 1/2	do Beef, 4 lb. doz.....5 00 @ 5
Preserved Mutton.....3 50 @ 3 52 1/2	Beef Tongue.....6 00 @ 6 25
Preserved Ham.....2 1/2 @ 3	do Ham, 4 lb. doz.....6 00 @ 6
Deviled Ham, 1 lb. doz.....4 00 @ 4	do Ham, 1/2 doz.....3 00 @ 3
Boneless Pigs Feet.....3 75 @ 3	2 lbs.....2 75 @ 2
Spiced Filets.....3 75 @ 3	Head Cabbage.....3 75 @ 3
COAL-Jobbing.	
Australian, ton.....— @ 5	Coos Bay.....— @ 5
Bellingham Bay.....— @ 5	Seattlo.....5 50 @ 6 00
Cumberland.....12 00 @ 13 00	Mt. Diablo.....7 50 @ 8 50
Lehigh.....11 50 @ 12 00	Liverpool.....6 00 @ 6 50
West Hartley.....— @ 8 00	Scotch.....— @ 8 00
Scranton.....— @ 8 00	Vancouver Id.....7 50 @ 8 00
Wellington.....7 50 @ 8 00	Charcoal, sack.....7 50 @ 8
Ooke, bush.....60 @ 65	Ground, in.....25 @ 25
COFFEE.	
Sandwich Id, lb.....— @ 15	Oosta Rica.....15 @ 16
Guatemala.....15 @ 16	Java.....24 @ 25
Manilla.....15 @ 16	Ground, in.....25 @ 25
FISH.	
Sac to Dry Cod.....44 @ 45	do in cases.....5 @ 5 1/2
Eastern Cod.....7 1/2 @ 7 1/2	Salmon, bbls.....7 00 @ 7 50
H'f bbls.....3 50 @ 4 00	1 lb cans.....1 @ 1 30
Phid Cod, bbls.....— @ 1	H'f bbls.....— @ 1
Mackerel, No. 1.....9 50 @ 10 00	H'f bbls.....1 55 @ 1 75
In Kits.....3 50 @ 4 00	Ex Mess.....3 50 @ 4 00
Phid Herring, bx 300 @ 3 50	Boston Smk'd H'g.....65 @ 70
LIME, ETC.	
Plaster, Golden.....3 00 @ 3 25	Gate Mills, tn 100 @ 12 50
Land Plaster, tn 100 @ 12 50	Lime, Sta Cruz.....— @ 1 25
Cement, Rosen-dale.....2 00 @ 2 25	Portland.....4 00 @ 4 50
NAILES.	
Ass'ted sizes, keg.....— @ 5 00	

BAGS AND BAGGING.

(JOBBER PRICES.)

Eng Standard Wheat, 9 @ 9 1/2	45 inch.....8 1/2 @ 9 1/2
California Manufacture.	Hand Sewed, 22x36.....8 1/2 @ 9
22x40.....12 @ 13	24x40.....13 @ 14
24x40.....13 @ 14	Machine Sewed.....24 @ 25
Machine Swd, 22x36, 9 @ 9 1/2	Standard Gunnies.....62 @ 71
Flour Sacks, halves.....8 @ 10	Twins, Detrick's A.....— @ 35
Quarters.....5 @ 6	Eighties.....34 @ 4
Hessian, 60 inch.....— @ 14	

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., Sept. 15, 1880.

BEANS & PEAS.	
Bayo, cbl.....90 @ 1 00	Butter.....10 @ 1 15
Castor.....25 @ 30	Psa.....10 @ 1 15
Red.....90 @ 1 00	Pink.....90 @ 1 00
Small White.....1 05 @ 1 15	Lima.....50 @ 7 00
Field Peas, b'k eye.....25 @ 50	do, green.....10 @ 25
BROOM CORN.	
Southern.....1 1/2 @ 2	Northern.....2 1/2 @ 3 1/2
CHICORY.	
California.....4 @ 4 1/2	German.....6 1/2 @ 7
DAIRY PRODUCE, ETC.	
Cal. Fresh Roll, lb.....27 1/2 @ 30	do Fancy Brands.....— @ 32 1/2
Pickles Roll.....25 @ 27 1/2	Firkin, new.....21 @ 25
Western.....— @ 25	New York.....— @ 25
CHEESE.	
Cheese, Cal. B.....13 @ 14	N. Y. State.....— @ 14
Cal. fresh, doz.....30 @ 35	Ducks.....— @ 35
Oregon.....25 @ 27 1/2	Eastern, by ex'p'as.....— @ 25
Pickled here.....— @ 25	Utah.....25 @ 27
FEED.	
Bran, ton.....— @ 12 00	Corn Meal.....25 @ 26 00
Hay.....9 00 @ 12 50	Middlings.....— @ 17 00
Oil Cake Meal.....30 00 @ 30	Straw, bale.....40 @ 50
FLOUR.	
Extra, City Mills.....4 87 1/2 @ 5 00	do, Country Mills.....4 50 @ 4 75
do, Oregon.....4 25 @ 4 50	do, Walla Walla.....4 25 @ 4 50
Superfine.....3 00 @ 3 75	
FRESH MEAT.	
Beef, 1st quality, lb.....5 @ 5 1/2	Second.....— @ 5
Third.....— @ 4 1/2	Mutton.....3 @ 3 1/2
Spring Lamb.....4 @ 4 1/2	Pork, un-dressed.....4 1/2 @ 4 1/2
Dressed.....5 1/2 @ 5 1/2	Veal.....5 @ 5 1/2
Milk Calves.....5 1/2 @ 5 1/2	do choice.....7 @ 7 1/2
GRAIN, ETC.	
Barley, food, cbl.....72 1/2 @ 80	do, Brewing.....82 1/2 @ 92 1/2
Chevalier.....1 35 @ 1 42 1/2	do, Coast.....1 00 @ 1 25
Buckwheat.....— @ 2 00	Corn, White.....1 00 @ 1 02 1/2
Yellow.....37 1/2 @ 40	Small Round.....1 02 1/2 @ 1 05
Oats.....20 @ 21 50	Milling.....1 55 @ 1 60
Rye.....1 25 @ 1 35	Wheat, No. 1.....1 35 @ 1 37 1/2
do, No. 2.....27 1/2 @ 32 1/2	do, No. 3.....10 @ 10 20
Choice Milling.....— @ 40	HIDES.
Hides, dry.....1 1/2 @ 20	Wet salted.....10 @ 10 1/2
HONEY, ETC.	
Beeswax, lb.....22 1/2 @ 25	Honey in comb.....12 @ 13 1/2
do, No. 2.....— @ 12	Dark.....— @ 12
Extracted.....7 @ 7 1/2	HOPS.
Oregon.....— @ 17	California, new.....17 @ 22
Wash. Ter.....— @ 10	Old Hops.....5 @ 10
NUIT-Jobbing.	
Walrus, Cal.....12 @ 15	do, Chile.....8 @ 10
Almonds, hd sh'l.....8 @ 10	Soft sh'l.....15 @ 18
Brazil.....14 @ 15	Peanuts.....15 @ 17
FRUITS AND VEGETABLES.	
FRUIT MARKET.	
Apples, basket.....40 @ 75	do, box.....37 1/2 @ 1 25
Apricots, bx.....— @ 1 00	Bananas, bunch.....2 50 @ 4 00
Blackberries, chat.....2 50 @ 5 00	Cherry Plums, bx.....30 @ 40
Citrons, Cal, 100.....— @ 1 00	Cocconuts 100.....7 00 @ 8 00
Crab Apples, bx.....50 @ 60	Figs, black, bx.....50 @ 1 00
Grapes.....— @ 50	Sweetwater.....50 @ 75
Muscats.....— @ 50	Rose Peru, bx.....60 @ 75
Bl'k Hamburg.....50 @ 65	Tokay.....1 00 @ 1 12 1/2
Limes, Mex.....1 00 @ 1 25	do, Cal, box.....1 75 @ 2 25
do, large, box.....5 00 @ 7 00	Lemons, Cal bx.....3 00 @ 3 50
Sicily, box.....8 00 @ 9 00	Australian.....4 50 @ 5 00
Nectarines, box.....1 00 @ 1 50	Oranges, Cal bx.....3 75 @ 4 75
do, Tex.....30 @ 35 00	do, Mexican.....— @ 1 50
Peaches, bx & bsk.....— @ 1 50	Pears, basket.....40 @ 60
do, Bartlett.....50 @ 75	Pineapples, doz.....6 00 @ 7 50
Plums, bx.....— @ 1 00	Prunes, German.....75 @ 75
Quinces.....1 00 @ 1 25	Raspberries, ch'l.....— @ 12 00
Strawberries, ch'l.....— @ 12 00	Sugar Cane, bdl.....2 50 @ 2 50
DRIED FRUIT.	
Apples, sliced, lb.....7 @ 8	do, quartered.....— @ 8
Apricots.....17 @ 20	Citron.....23 @ 24
Dates.....9 @ 10	Figs, pressed.....7 @ 8
do, loose.....4 @ 6	Peaches.....— @ 10

LUMBER.

WEDNESDAY M., Sept. 15, 1880.

CARGO PRICES OF REDWOOD.	
Rough, M.....14 @ 14	Surface.....24 @ 24
Rustic.....24 @ 24	do, No. 2.....24 @ 24
Flooring.....24 @ 24	do, No. 2.....24 @ 24
Beaded Flooring.....28 @ 28	Refuse.....20 @ 20
Half-inch Siding.....20 @ 20	do, No. 2.....20 @ 20
Half-inch Surfaced.....24 @ 24	Refuse.....20 @ 20
Half-inch Siding.....20 @ 20	do, No. 2.....20 @ 20
Pickets, Rough.....11 @ 11	Rough, Pointed.....12 @ 12
Fancy, Pointed.....18 @ 18	Laths.....18 @ 18
Shingles.....17 1/2 @ 17 1/2	

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,

WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.

CASH ADVANCES MADE ON CONSIGNMENTS

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

PAGE, MOORE & CO.,

WOOL AND GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; ED wanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA AND OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

(Established in 1863.)

BRYANT & COOK.

Commission Merchants,

DEALERS IN HAY, GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

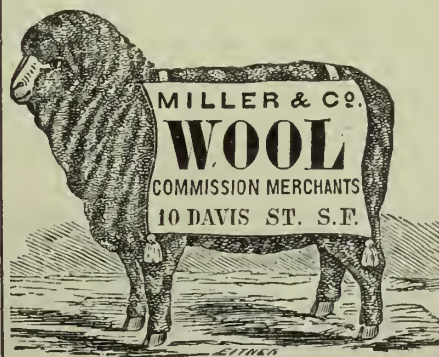
All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

505 & 507 Sansome St. (Niantic Building), S. F.

Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.

Branch House in Honolulu, H. I.



Liberal advances on consignments.

Wool Sacks, Twine, Shears, and Ranch Supplies furnished

Agents Wanted.

Liberal pay, steady and respectable employment offered. Address DEWEY & CO., publishers MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome St., S. F.

Fine Engraving.

The Engraving Bureau belonging to the office of this journal is prepared to design and engrave all kinds of Wood Cuts for illustrating newspapers, books, catalogues, cards, circulars, advertisements, labels, badges, seals, etc., in the best style of the art. Our portraits and illustrations of machinery, buildings and landscapes, are superior. Good engravings can be made from paintings, lithographs, steel and copper plate prints, photographs, models, patent office or other drawings. We have a photographic department and the best of machinery for producing accurate and perfect work at the lowest prices. Original maps, charts, and diagrams are made by our NEW PHOTO-RELIEF PROCESS at greatly reduced rates. By the same process copies can be cheaply and quickly produced of printed cuts, in fac simile, or they can be enlarged or reduced with equal facility.

Any hand writing in perfectly black ink on clear white paper for manuscript letters or circulars, will be accurately reproduced in metal plates suitable for common printing. Also, fac simile signatures, monograms, sheet music, etc. We excel in trade cuts and matched plates for combination color printing. With a large business, long established, and every facility for improvement, we can guarantee more than ordinary satisfaction to all of our patrons. All interested are invited to send for or call and see specimens and obtain prices.

Orders for electrotypes, stereotypes, steel and copper plates, lithographing, stamps and seal presses executed at low rates.

BUY LAND

Where you can get a crop every year; where you will make something every season; where you are sure of having a crop when prices are high; where you have a healthy place to live; where you can raise semi-tropical as well as other fruits; where you can raise a diversity of grain and vegetables and get a good price for them. Go and see the old Reading Grant (in the upper Sacramento Valley), and you will find such land for sale in sub-divisions to suit purchasers—at reasonable rates and on easy terms. Send stamp for map and circular to EDWARD FRISBIE, proprietor, (on the Grant), Anderson, Shasta Co., Cal.

L. P. DECEN.

MANUFACTURER OF



Also Water-Proof Leather Belting.

NO. 10 FREMONT ST., near Market, SAN FRANCISCO

TO POULTRY MEN.

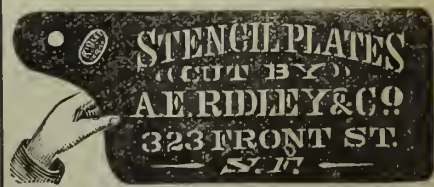
—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by this undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street, San Francisco.



Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

NEW MUSIC BOOKS!

The Anthem Harp. (\$1.25) By Dr. W. O. PERKINS. (Just out.)

A new book intended as a successor for "Perkins' Anthem Book," published some years since, and which was a decided success. The new book contains music perfectly within the reach of common choirs, and is destined to have a great sale.

DITSON & CO also call attention to their three books for SINGING CLASSES; recently published; already very popular, and worthy of universal adoption:

The Temple. (\$1.00.) By Dr. W. O. PERKINS.

The Voice of Worship. (\$1.00.) By L. O. EMERSON.

Johnson's Method for Singing Classes. (60 cents.) By A. N. JOHNSON.

The TEMPLE contains an excellent Singing School Course, and a large number of Glee, Songs, Sacred Tunes and Anthems for practice, and for use in classes. L. O. Emerson's VOICE OF WORSHIP has exactly the same end in view as the other, but has a different method, and entirely different music. JOHNSON'S METHOD is for those who wish a low-priced book; is admirably simple and clear, has plenty of music, and has a thorough course in Note Reading.

Any book mailed for retail price.

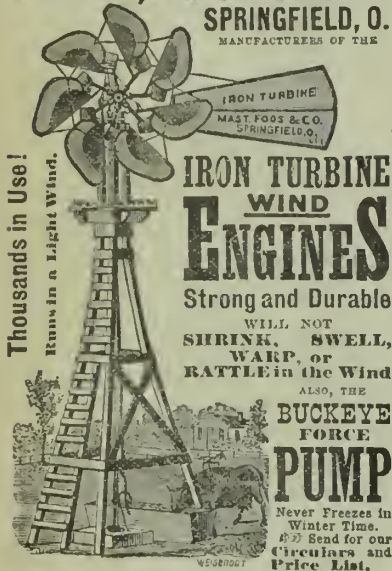
OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable
WILL NOT
SHRINK, SWELL,
WARP, or
RATTLE in the Wind

BUCKEYE FORCE PUMP

Never Freezes in
Winter Time.
Send for our
Circulars and
Price List.

To D. E. GOLDSMITH,
General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested. - Bulletin, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED

FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-will of all who have used or seen it operate.

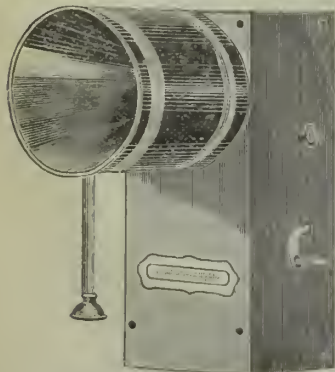
PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

Hoover Telephone.

PATENTED.



\$10.00 PER SET.

Put up and guaranteed for one year. Private lines a specialty. It will cost you nothing to try them. No work, no pay. All orders promptly attended to. Circulars free. Room 24, 328 Montgomery St., S. F.

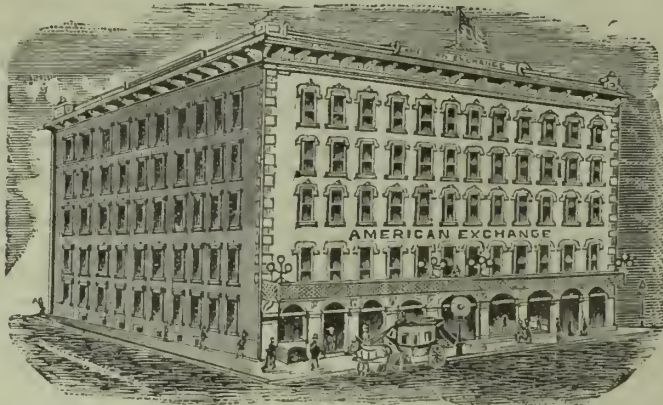
50 Perfumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Pictorial Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

50 Perfumed, gilt edge & chromo Cards, elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct.

M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

PACIFIC RURAL PRESS.

A first-class 16-page Illustrated Agricultural Weekly, filled with fresh, valuable and interesting reading. Every farmer and ruralist should take it. It is immensely popular. Send for a sample copy.

DEWEY & CO., Publishers, S. F.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag's. Samols 10c. Conn. Card Co. Northford, Ct.

M. W. DUNHAM

Just Imported 36 Head

FOR HIS OAKLAWN STUD OF

Percheron-Norman Horses.

ANOTHER IMPORTATION

Arrived April. 1, 1880.



Largest and Most Complete Establishment of the Kind in the World.

More than 200 Stallions and Mares

Imported from Best Stud Stables of France.

Winners of First Prizes in Europe and America, awarded First Prizes and Gold Medals at the Universal Exposition at Paris, 1878, over all. First Prizes and Grand Medals at Centennial Exhibition, 1876.

The public appreciation of its merits is indicated by the great demand for stock from every part of the country. During the past twelve months, the provinces of New Brunswick, Canada, and the States of New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Nebraska, Kansas, Texas, Louisiana, Colorado, Nevada, California and Oregon, and Utah, Washington and Idaho Territories have drawn supplies from its Stables.

100-page Catalogue—finest thing of the kind ever issued; 25 pictures of Stallions and Mares, sent free on application.

M. W. DUNHAM,

Wayne, DuPage County, Illinois.

N. B.—All Imported and Pure Native Bred Animals Recorded in Percheron-Norman Stud Book.

Mining & Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice, free.

Address,

DEWEY & CO.,

202 Sansome St., N. E. Cor. Pine, San Francisco.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

YOUR NAME PRINTED ON Forty Mixed Cards for Ten Cents. STEVENS BROS., Northford, Conn.

GENERAL Purchasing Agent, James B. Sheat, 416 and 418 Davis St., S. F.

Agricultural Articles.

W. H. CARSON.

JOHN D. WINTERS

WOODLAND

Agricultural Implement Manufactory,
Woodland, Yolo County, Cal.



The undersigned manufactures the WINTER'S DER-
RICK, the reputation of which is now established, having
been in constant use for the last four years.
Also WINTER'S HAY PRESS, the most economical
Press now in use. Ten tons of hay from this Press can be
put into a car. Price, \$200.
Also TOP DRAPER for Header Spout. This Draper pre-
vents the wind from blowing the straw away and wasting
wheat. No reaching down the Spout to assist elevation. It
will elevate down grain as well as standing grain. Price, \$30.
WINTERS & CARSON.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps
reliable and always give sat-
isfaction. Simple, strong and
durable in all parts. Solid
wrought iron crankshaft with
double bearings for the crank
to work in, all turned an
run in babbitted boxes.
Positively self regulating
with no coiling or springs of
any kind. No little rods,
joints, levers or balls to get
out of order, as such things
do. Mills in use six to nine years in good order now, that
have never cost one cent for repairs.
All sizes of Pumping and Power Mills. Thousands in
use. All warranted. Address for circulars and infor-
mation,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in
Stockton, in 1870.
This Plow is thoroughly made by practical men who have
been long in the business and know what is required in the
construction of Gang Plows. It is quickly adjusted. Suf-
ficient play is given so that the tongue will pass over cradle
knolls without changing the working position of the shares.
It is so constructed that the wheels themselves govern the
action of the Plow correctly. It has various points of supe-
riority, and can be relied upon as the best and most desira-
ble Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved
Agricultural Implements. General Jobbing and repairing
done in the best manner at most reasonable rates. Send for
circular to MATTESON & WILLIAMSON
Stockton, Cal.

Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



TRADE MARK.

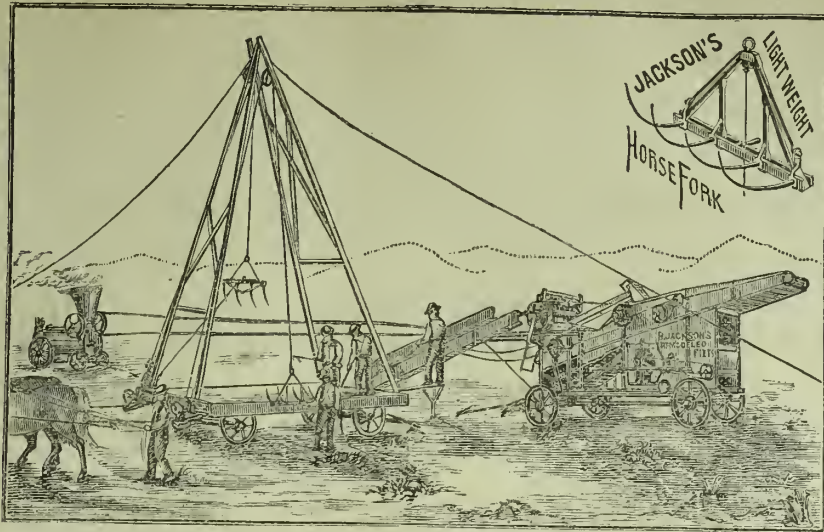
LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.
Price reduced to \$1.60 per gallon. For directions and tes-
timonials apply to FALKNER, BELL & CO.
Sole Agents, 430 California Street, S. F.

JACKSON'S AGRICULTURAL MACHINE WORKS,

Established at Woodland, 1872, moved to San Francisco, 1879.

HARVESTING MACHINERY A SPECIALTY.



BAILEY'S PATENT SPREADER, for Elevators or Feeders, spreads the grain more evenly than men will. Ab-
solutely preventing large bunches from going into the cylinder, thereby saving labor, grain, damage to the machinery and
increasing its capacity. Sold on trial. Price, \$60.
Manufacture **WINDMILLS** at popular prices. They are noiseless, anti-friction, SELF-REGULATING, durable an-
omental, have less number of parts and greater power than any other mill. Be sure and see it before purchasing else
where.
THE JACKSON LIGHT-WEIGHT FORK excels any Fork yet invented for either headings or hay. The
heavy Forks were thrown away in the field last season because of the superior strength and lightness of the Light-weight.
Orders solicited for Foundry Castings, Pattern Work and all kinds of Machinery. Special attention to the
Haydley straw Burner and Engine Governor.
Buy and sell second-hand Threshers and Engines. See them before purchasing new. Prices and terms to suit
the customer. Address BYRON JACKSON, 6th and Bluxome Sts., San Francisco.

DEWEY & CO'S

Scientific Press



Patent Agency.

(ESTABLISHED 1860.)

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old
experienced, first-class Agency. We have able and trustworthy associates and Agents in Wash-
ington and the capital cities of the principal nations of the world. In connection with our edi-
torial, scientific and Patent Law Library, and record of original cases in our office, we have
other advantages far beyond those which can be offered home inventors by other Agencies. The
information accumulated through long and careful practice before the Office, and the frequent
examination of Patents already granted, for the purpose of determining the patentability of
inventions brought before us, enables us often to give advice which will save inventors the
expense of applying for Patents upon inventions which are not new. Circulars of advice sent
ree on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. EWER.

GEO. H. STRONG.

RICHARDS & SNOW,

SUCCESSORS TO BARKER & SNOW,

IMPORTERS OF

IRON PIPE AND PLUMBERS' STOCK,

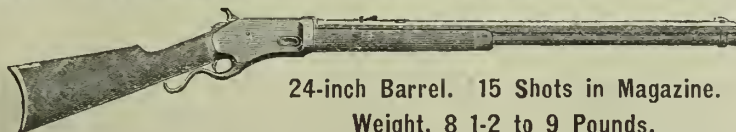
Sole Agents for the Yale Lock Mfg Co.,

AMERICAN TACK CO.,

AND FOR THE SALE OF AMOSKEAG AXES.

406 & 408 MARKET ST., S. F.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight. 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.
Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

The Excelsior Animal Trap

Is Guaranteed to be the Best

GOPHER TRAP

Ever invented. The Gopher
raises the light trigger with
his head or dirt without the
least alarm. Ask your dealer
for it. Agents wanted. Sent
by mail for \$1. By express,
C. O. D., for \$9 per doz. Ad-
dress, G. W. JOLLY, Paradise
Springs, Cal. Pat. apld for



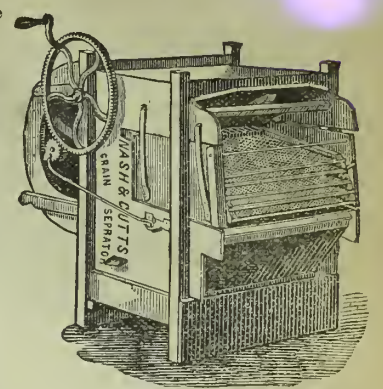
STRAWBERRIES

The two largest
productive—Mt. Vernon Seedling and Kirkwood,
each yielded in 1880 at the rate of 10,000 quarts per acre,
and averaged in market 18c per quart. 40 acres Straw-
berries and Raspberries. Kieffer's Hybrid Blight-
Proof Pear. "Forty Years' Experience in Pear Grow-
ing," telling how to avoid the Blight "Forty Years
Among Small Fruits," telling what and how to plant. Either
sent by mail for 15c, both for 25c. Catalogues of Fruits
and Flowers free. WM. PARRY, Cinnaminson, N. J.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name
in gold and jet, 15c. Clinton Bros., Clintonville, Ct

STILL AHEAD!

Trade
Mark.



"The Improved
Nash & Cutts Grain Cleaner."

Three sizes—warranted to clean from 60 to 150 bushels per
hour perfectly.
Has taken the First Premium at California State Fairs
from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats,
cracked wheat, etc., in a satisfactory manner, but is alike
successful in cleaning alfalfa and flaxseed, a feat performed
by no similar machine. Will also clean FASTER and BET-
TER, with less TROUBLE and WORK than any other
Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN
CLEANER is built solely for cleaning California-raised
Grain or Seed.
2d. Being located here we know what is wanted much
better than Eastern manufacturers.
3d. As the Factory is in Sacramento, extras can be or-
dered without delay, requiring only the Number and Date
of the Cleaner.
Farmers and Dealers are particularly cautioned against
spurious imitations. Be sure that the one you buy bears this
Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN
CLEANER." All others are frauds. See that it is manu-
factured by "H. D. NASH & CO. Sacramento, Cal."
We mention the above for the protection of our customers
who want the GENUINE. Every Cleaner fully warranted.
Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For
further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain
Cleaner" on the Pacific coast.

40 We also make a Cleaner to attach to Threshing Ma-
chines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and
Sacramento, Cal.

W. E. CHAMBERLAIN, JR.

THOS. A. ROBINSON



Life Scholarships, \$70.

SEND FOR CIRCULAR.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit
the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from
Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.



DO NOT FAIL to send
for our Price List for
1880. Free to any
address upon ap-
plication. Contains
descriptions of every-
thing required for
personal or family use,
with over 1,800 Illustrations. We sell all
goods at wholesale prices in quantities to suit
the purchaser. The only institution in America
who make this their special business. Address,
MONTGOMERY WARD & CO.,
227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive
Farms at fair rate of interest. Money also advanced on
Wheats. Apply to A. SCHULLER,

209 Sansome St., S. F.

SADDLES, HARNESS, WHIPS LEATHER,

W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer
in All Goods in this line.
Send for Catalogue

A KEY THAT
WILL WIND ANY WATCH
AND NOT
WEAR OUT.
SOLD by Watchmakers. By mail, 30 cts. Circulars
FREE. J. S. BIRCH & CO., 38 Dey St., N. Y.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc.
15c. Gift with each pack. H. M. SMITH, Clintonville, Ct

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokchore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES,** Wool, Bean, Ore and Salt and Seamless Cotton Bags.

Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

37 CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

C. D. Ladd,

821 Kearny Street, San Francisco, Cal.

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast
FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

RECORD OF SUPERIORITY.

1878 - AWARDED

J. H. STROBRIDGE,
First Premiums:

Pen 5 - Breeding Ewes.....	\$22.50
Pen 5 - Yearling Ewes.....	22.50
Pen 5 - Ewe Lambs.....	22.50
Pen 3 - Ram Lambs.....	22.50
Yearling Ram (1st and 2d).....	38.50
Two-year-old Ram.....	22.50
Ram and five of his Lambs.....	30.00

Sweepstakes:

For best Ram of any age or breed,
and five of his Lambs..... 75.00



1879 AWARDED

J. H. STROBRIDGE,
First Premiums:

Pen 5 - Breeding Ewes.....	\$22.50
Pen 5 - Yearling Ewes.....	22.50
Pen 5 - Ewe Lambs.....	22.50
Two-year-old Ram.....	22.50
Yearling Ram.....	22.50
Ram and five Lambs.....	30.00
Pen of 3 Ram Lambs.....	22.50

Sweepstakes:

For best Ram and five of his
Lambs, of any age or breed..... 75.00

THOROUGH-BRED SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. J. H. STROBRIDGE, Haywards, Alameda, Co., Cal. E. W. PEET, Agent.

SECURE PATENTS



Through
Dewey & Co.'s Scientific Press Patent Agency.

OUR U. S. AND FOREIGN PATENT AGENCY presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library containing official American and foreign reports, files of scientific and mechanical publications, etc. All worthy inventions patented through our Agency will have the benefit of an illustration or a description in the MINING AND SCIENTIFIC PRESS. We transact every branch of Patent business, and obtain Patents in all countries which grant protection to inventors. The large majority of U. S. and Foreign Patents issued to inventors on the Pacific Coast have been obtained through our Agency. We can give the best and most reliable advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and Circulars free. **DEWEY & CO., PATENT AGENTS.**

A. T. DEWEY. W. B. EWER. GEO. H. STRONG.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of serofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '73 we have given special attention to diseases of the brain and nervo-vital system, and for the past 23 years have had gentlemen constantly under treatment who have suffered from some form of muscular nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT
FOR VOLUNTEERING

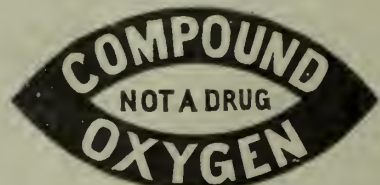
Ever used on this Coast. The stubble fields are made as fine and mellow as a summer fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,
Nos. 900 & 902 K Street, Sacramento.
AND THEIR AUTHORIZED AGENTS.

50 Elegant, All New, Chrome & Scroll Cards, no 2 alike. Name nicely printed, 10c. Card Mills, Northford, Ct.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION.

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address: **DRS STARKLEY & PALEN,** 109 and 111 Girard street, Philadelphia, Pa., or **H. E. MATHEWS,** 656 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

GUNS

Lowest prices ever known on Breech Loaders, Rifles, and Revolvers.

OUR \$15 SHOT-GUN

at greatly reduced price.

Send stamp for our New Illustrated Catalogue (B)

P. FOWELL & SON, 238 Main Street, CINCINNATI, O.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

507 Mechanical Movements.

Every mechanic Should have a copy of Brown's 507 Mechanical Movements, illustrated and described. Inventors, model makers and amateur mechanics and students, will find this work valuable far beyond its cost. Sold by **DEWEY & Co., Patent Agents and publishers of MINING AND SCIENTIFIC PRESS,** San Francisco. Price, \$1. (post paid).

Engraving done at this office.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, SEPTEMBER 25, 1880.

Number 13

Marketing California Honey.

Choice California honey, acknowledged to be the best in the world, is now accumulating in our city stores and is neglected. The abundance of fruit at this season of the year makes the call for honey quite feeble. The fact that in any season of fair production there must be a large surplus which cannot be consumed here, has led our producers to make many inquiries as to the best way to realize a fair reward for their labor and enterprise. The direct shipment of honey to England has been frequently urged, and some experiments have been made. One venture by the Ventura beekeepers in sending a cargo was not a success, but if we are rightly informed the failure was in incidentals, and did not demonstrate failure if these had been otherwise. Certainly there is every theoretical advantage to be found upon the side of direct shipments to England. The case is put very strongly by H. M. Hoge, writing from London to the *San Diego Union*. He says: "The development of a foreign demand for honey has established an outlet and has made the article more popular at home. Still California merchants stuff the Eastern market to a glut. I have often tried to show what a fallacious idea it is to ship honey, for instance from San Diego to San Francisco, at \$6 per ton, break bulk there, and reship to New York at two cents per lb. to be repacked there by dealers, who have their expenses and profit to make, into glass costing 40% more than the same ware costs here, or into tin which the United States Government taxes 30% duty on, and all this by labor costing 40% more than English labor, to be shipped across the Atlantic at \$30 to \$35 per ton for European shopkeepers to sell, when the same honey could be shipped direct from California to London at \$50 or \$60 per ton and packed after it reaches here. Steam and electricity have so annihilated space that is quite as much within the province of a San Diego or San Francisco merchant to do business direct with London as it is for him to do business with New York."

Mr. Hoge does not mention another consideration which must be of great importance, and that is the fact that in drawing honey supplies from New York merchants the English consumers stand in great danger of glucose; and they know it, for their authorities have had New York honey in chancery for adulteration. If honey were shipped in bulk to London and there packed for retail trade there would be a guaranty that the material was not glucose secreted by the New York drones.

Mr. Hoge in the communication to which we have alluded makes an interesting compilation of comparative honey prices in different centers as follows:

	12 to 13	7 to 7½
San Francisco.....	12 to 13	7 to 7½
Cincinnati.....	16	8 to 10
Chicago.....	14 to 16	8 to 10
St. Louis.....	10 to 13	8 to 9
New York.....	14 to 16	7½ to 8
Liverpool.....	—	9 to 10
Hamburg.....	—	9 to 10
Havre.....	—	9 to 10
London.....	20 to 23	12 to 13

These figures show that the English have an appreciation of good things, which should not be overlooked.

We acknowledge that it is not the easiest thing in the world to arrange a trade of this kind. It is easier to ship to San Francisco and be content with whatever the commission merchant can wring out of the exporter, but this has kept the producers on short commons heretofore and

it always will, for there are altogether too many profits and commissions intervening between the producer and the foreign consumer. The only way to escape this is to give the product a more direct route. This requires study, effort and money; for many bee-keepers must have means at once to live upon. It seems likely, however, that all these requirements could be met if the honey producers would join heads and hands and help each other until the trade was established, and then advances could be readily obtained when needed. There is to be a meeting of bee-keepers at the coming fair in Los Angeles. Why would not that be a good time to set in motion an effort to realize what seem to be certain benefits from direct trade? If the attendance at the Los Angeles meeting should be representative in its character, it seems that some initiatory steps could be taken and the subject then relegated for consideration to the county beekeepers societies for full discussion and the adherents to the idea ascertained. Certainly the



RAMS OF COTSWOLD BREED—THE FAMOUS ENGLISH MUTTON SHEEP.

subject is worth consideration, and if there are obstacles insurmountable let them be made known.

A WAGON-TONGUE SUPPORT.—We were interested during a visit to the Golden Gate fair, to examine the working of Haggard & Brown's wagon-tongue support, as shown by W. E. Livermore, of Los Gatos, Santa Clara county, who is the agent for this coast. The support consists in a strong, compact coil spring attached to the upper side of the tongue and the front axle by a very simple contrivance. Its operation is in lifting the weight of the tongue from the necks of the horses, and it has been found to be of great relief and enables them to travel better and longer. The support being elastic, the tongue and neck yoke move gently and cannot be thrown up violently against the horse's chin, nor the hounds nor coupling piece be strained. The elasticity is obtained by the direct compression of the spring and not by turning it. It can be unlocked and the tongue released by a touch. It seems to us a very valuable contrivance, and all should see it. It will doubtless be shown by Mr. Livermore at other fairs.

In the case of the Long Island collision between the *Narragansett* and *Stonington*, the steamboat inspectors recommend the revocation of the licenses of both captains and the imposition of a fine of \$2,000 on the Providence and Stonington line.

Cotswold Sheep.

The Cotswold is one of the largest English breeds of sheep, though the improved race is smaller than the originals, on account of the influence of the Leicester element in its amelioration. As a breed it is of great antiquity. It has gained in fleece and form, and comes to maturity earlier; is more prolific than the Leicester, and has greater strength of constitution; is often fattened at 14 months, yielding 15 to 20 lbs. per quarter, and 20 to 30 if kept till two years old. The fleece is 6 to 8 inches in length, and sometimes much longer; is strong, somewhat coarse, of good color, and yields a heavy fleece. The mutton is superior to that of the Leicester, with a smaller proportion of fat, and the sheep are also superior to that popular breed in weight of wool, size, hardiness and vitality.

Orchard Grass and Drouth.

Mr. Sneath, of Jersey farm, in San Mateo county, has been quite agreeably surprised this year in his experience with orchard grass. It has given him heavy growth of splendid feed, and he has made large quantities of hay—"regular hay," as the new comers say when they see our farmers curing early cut grain. The ability of orchard grass to stand a long period of dry weather is of course a great recommendation to growers in this State, and we trust that further experiments may be made with the grass to determine its behavior in different localities. Doubtless some of our readers already have experience which they can describe. It is of interest in this connection to see that orchard grass is coming into wider use in the dairy regions of central New York,

chiefly because of its staying qualities in seasons of summer drouth which are fatal to the timothy and blue grass, which have generally been considered the sheet anchors of pasturage in that district. A writer in the *Utica Herald* describes the growing popularity of orchard grass and assigns reasons therefor. It stands the drouth beyond all the good grasses, and is never killed by it, or seriously hurt. This excellent quality is accounted for by its long and many roots that penetrate the soil deeply, extending beyond the reach of the torrid fervors at the surface. Besides, it is an early grass, and will maintain itself late, in a growing season on good soil pushing forward very rapidly. It is also highly nutritious and relished by stock. Of all good cultivable grasses it maintains its hold best, lasting for many years. But it has one objection: It requires a rich soil; will grow on ordinarily rich land, but hardly profitably. It is a hardy, strong-growing plant, of great capacity, like a great machine performing much, and, like it, also requiring much to sustain it. Then it will be all the more profitable, surpassing in this respect all the other grasses. Nothing can approach it in

the hot, dry weather of midsummer. It is not liked on account of its form of growth, appearing in tussocks. But this gives it firmness, notwithstanding the trampling of the stock if the set is a close one.

Orchard grass is superseding timothy, blue grass, red top, and as these latter grasses do not succeed under our conditions without water, and in some parts of the State not with it, there is a chance that orchard grass may succeed here also. It is one of the grasses which could be tried to advantage at least. Certainly its growth in San Mateo county would seem to promise success in similarly situated regions.

THE United States Consul at Zurich, Switzerland, has informed the State Department that the government of Switzerland has offered him a memento of William Tell—a stone from the chapel erected on the spot from which Tell is said to have made his escape from the tyrant Gessler. The Consul wrote to ask if the stone would be accepted, and be placed in the Washington monument. Col. Casey, in charge of the monument, has written to the Secretary of State, accepting the offer, and the stone will have a suitable inscription cut on it, and be sent to Washington.

THE project of securing the *Great Eastern* to run between London, New Orleans and Galveston, to take our cotton and other products and bring back emigrants, is in a fair way of being fully established.

PROF. H. M. PAUL, who has been appointed by the Japanese government as Professor of Astronomy at the University of Tokio, arrived there on the 21st of August, and was entertained at a grand banquet by the members of the Japanese government on the 25th, when it was proposed that the government should construct a national observatory, to be placed under the supervision and control of Prof. Paul. His young wife, who is the daughter of Rev. Dr. E. H. Gray, late Chaplain of the U. S. Senate, is still in Washington, but expects to join her husband this fall. Prof. Paul was one of the most highly esteemed officers in the National Observatory at Washington, and it speaks well of his efficiency and skill when the Japanese government should delegate him to superintend the construction of a governmental institution on a scale of great magnitude.



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Tehama County Notes.

EDITORS PRESS:—Since my last I have driven over a large portion of our best farming country, and on every hand the welcome news of a good harvest met me. The heavy north winds in May and June had a detrimental effect on some large wheat fields, and also had a beneficial effect upon heavy grain in the low bottom lands, offsetting, to a certain degree, the injury inflicted by its presence on the exposed up-lands. One or two of our hard-working farmers whose land was light and whose crop, at an early stage of its growth was in a splendid condition, lost nearly one-third by the cruel weather. Had we not experienced the unwelcome visitor we should have gathered such a yield that our county would have claimed the prize for the heaviest yield of grain of any county in the State.

On Monday last, a trip west of Red Bluff to the fine farm of P. Crumbaugh, a pioneer citizen of this county, brought me to a section that I had not before traversed. The farm is some 5,000 acres in extent, and is of that rolling, undulating, peculiar cone formation. The soil is of a rich and fertile nature, easy to work and very prolific. Seven thousand sacks of wheat have been harvested from it this year, and only a small portion of the ranch was put to grain. Some 1,500 acres of well-plowed land now lies warming in the sultry summer sun awaiting the coming of the seeder. This peculiar land is as exhaustless as the finest bottom land, and just as tractable; the plowing being easy of accomplishment. It has no trees or stumps to retard the working of the land, and is a desirable property.

On Wednesday a visit to the fine ranch owned by C. B. Ashurst, a solid capitalist of Red Bluff, was well repaid by the interesting features to be contemplated (G. G. Kimball, of the mercantile firm of Cone & Kimball, was the writer's companion on this trip). Our attention was first called to a large shearing pen, where some 3,300 stock sheep (the property of C. B. Ashurst) were being shorn by eight skillful shearers. The sheep had just been driven down from the mountain meadows in the Sierra Nevada range and were very dusty, the shears cutting through a mass of sand and dirt, making the task of shearing laborious and dirty. The fleeces were about from three to four and a half lbs. a piece. Another band of over 3,000 were down on a piece of stubble awaiting their turn. A short ride down through the stubble brought us to the splendid threshing outfit of Andy Hammond, who is one of the firm of Hammond & Stufelbeam, renters of this splendid ranch. The fine pieces of mechanism which were turning out the golden stream of plump Club are a marvel of modern ingenuity, and consist of a powerful Enright straw-burning engine, under the care of a qualified engineer in the person of S. Berriuger. The motive power was under full headway at our visit, driving a Gold Medal separator, which has a 36-inch cylinder and a 44-inch shoe; it is also replete with all of the latest modern improvements, such as Jackson's elevator and self-feeder, Bayles' patent spreaders, etc. Andy Hammond, the owner, is in charge of the separator. The yield on this 1,500 acres will be over 10,000 sacks. The ranch was never seeded until this season, and was summer-fallowed, mostly G. W. Grayson, of San Francisco, owned this fine body of land at one time.

On Thursday a trip to the fine farm of S. Chard on Elder creek was enjoyed. The threshing rig, belonging to L. Gemmill and P. Sherman, was found at work among some fine stacks of Club wheat. This outfit is not so powerful as that of A. Hammond's, but it is a very good working rig, and consists of a J. I. Case engine of 10 horse-power, is a wood burner and was in charge of D. W. Hicks, who is a careful and competent engineer. It drives a Russell separator, 36-inch cylinder and a 40-inch shoe (end shake), and turns out about 850 sacks per day. R. C. Montgomery tends this fine separator. A splendid

Dining Car

Travels with this outfit and is worthy of mention, as it is the finest in the county. The car is well built, roofed in, has canvas curtains, is 10x24 ft. over all, has a cook-room 10x12, in which a Brunswick range was noticeable, and the smell of "roast beef" emanated from it. A cellar for vegetables and meats was a prominent feature, a table the length of the car sufficient to set 20 men covered with a neat pattern oil-cloth, and if any thing was wanted to make it complete, it was only a "white cook," but they are scarce, so a "Mongolian" held full sway as cook.

Another noticeable feature was the traveling stable. It is a rack and mangers on wheels, is stoutly built and is 8x18, capable of accommodating 22 animals. Messrs. Chard & Jennings, for whom this outfit was threshing, were perfectly satisfied and were profuse with their praises of the work being turned out.

A visit to the Fennell & Sons ranch was enjoyed, threshing is very nearly over, and will all be through ere this reaches you. On one piece rented by Mr. Dulhig, formerly of Napa, we found the splendid threshing outfit of R. H.

Blossom. It is similar to that of A. Hammond's and is as complete in its details, and turns out splendid work; at our visit they were threshing some Club wheat which the north wind had damaged a little, the stubble on this 1,200 acres being the finest I have seen this year.

At the farm of T. A. Van, another old Napa county farmer, but now a renter from Fennell & Sons, we found his machinery, consisting of Ames' engine, a straw and wood burner, driving a Buffalo Pitts separator, 32-inch cylinder and 36-inch shoe, working smoothly and quietly. A. L. Seymour, the engineer, said the machine was not so large as some, perhaps, but it could turn out just as many sacks of wheat during the season as the large ones. John Hall tends the separator skillfully and carefully. T. A. Van had 1,000 acres in to wheat this year, and seemed satisfied with his yield.

At Tehama I met Jos. Fennell the owner of this splendid "Grant" (the Thomas Grant), and in conversation with him I was pleased to learn that he is perfectly satisfied with the result of the crops on the Grant, and he thought the scare about the injury inflicted by the north wind in the spring quite uncalled for, as he thinks it benefited more grain than it spoiled. Piles of wheat were noticeable on every hand in the two days' journey, more grain being seen by the writer than he ever saw before.

J. L. Bolos, a fine specimen of our foothill farmers, came in from his clearing on "Buck's flat," which is situated where the black oak and pine mingle—a pretty mountain home, where he has a thriving young orchard of 400 or 500 trees of choice and common fruit, with blackberry vines, from which he picked a bountiful harvest from last season. His vineyard is just now laden with very choice grapes. His small fruits sold this year for 8 to 10 cents per pound. He has enormous squashes, melons and cucumbers; of sweet corn he has three varieties—Illinois, Evergreen and Black Mexican. Potatoes are a prolific crop with him; he has a new kind known as the "Beauty of Hebron," which resembles somewhat the Early Rose, being of a pretty shape, smooth skin, and of a mealy nature. They are from two to three weeks earlier than the Early Rose, therefore command a better price. The region in which the farm is situated is rough, but very picturesque. About 30 acres of his 160 is all he has under cultivation, all of which can be irrigated without trouble. Hogs, cattle, fruit and vegetables are the source of his revenue.

Maize is plentiful in some parts of our county, while other sections have no crop. Cattle pass through daily from their summer ranges to markets below.

FELIX.

Red Bluff, Cal.

HORTICULTURE.

Making and Preserving Cider.

As the cider season is at hand, the following suggestions taken from an article in the *Scientific American* may be of use to some readers: A pure, sweet cider is only obtainable from clean, sound fruit, and the fruit should therefore be carefully examined and wiped before grinding.

In the press, use hair cloth or gunny in place of straw. As the cider runs from the press let it pass through a hair sieve into a large open vessel that will hold as much juice as can be expressed in one day. In one day, or sometimes less, the pomace will rise to the top, and in a short time grow very thick. When little white bubbles break through it, draw off the liquid through a very small spigot placed about three inches from the bottom, so that the lees may be left behind. The cider must be drawn off into very clean, sweet casks, preferably fresh liquor casks, and closely watched. The moment the white bubbles, before mentioned, are perceived rising at the bung-hole, rack it again. It is usually necessary to repeat this three times. Then fill up the cask with cider in every respect like that originally contained in it, add a tumbler of warm sweet-oil, and bung up tight. For very fine cider it is customary to add at this stage of the process about half a pound of glucose (starch sugar) or a smaller portion of white sugar. The cask should then be allowed to remain in a cool place until the cider has acquired the desired flavor.

In the meantime clean barrels for its reception should be prepared, as follows: Some clean strips of rags are dipped in melted sulphur, lighted and burned in the bung-hole, and the bung laid loosely on the end of the rag, so as to retain the sulphur vapor within the barrel. Then tie up half a pound of mustard seed in a coarse muslin bag, and put it in the barrel, fill the barrel with cider, and add about a quarter of a pound of isinglass or fine gelatine dissolved in hot water. This is the old-fashioned way, and will keep cider in the same condition as when it went into the barrel, if kept in a cool place, for a year.

Professional cider makers are now using calcium sulphite (sulphite of lime), instead of mustard and sulphur vapor. It is much more convenient and effectual. To use it, it is simply requisite to add one-eighth to one-quarter of an ounce of the sulphite to each gallon of cider in the cask, first mixing the powder in about a quart of the cider, then pouring it back into the cask and giving the latter a thorough shaking or rolling. After standing bunged several days to allow the sulphite to exert its full action it may be bottled off. The sulphite of lime (which

should not be mistaken for the sulphate of lime) is a commercial article, costing about 40 cents a pound by the barrel. It will preserve the sweetness of the cider perfectly, but unless care is taken not to add too much of it, it will impart a slight sulphurous taste to the cider. The bottles and corks used should be perfectly clean, and the corks wired down.

A little cinnamon, wintergreen, or sassafras, etc., is often added to sweet cider in the bottle, together with a dram or so of bicarbonate of soda at the moment of driving the stopper. This helps to neutralize free acids, and renders the liquid effervescent when unstopped; but if used in excess, it may prejudicially affect the taste.

Fruit Growing.—No. 3.

EDITORS PRESS:—In discussing this subject we want to consider it as growing fruit for market, simply for profit, and when we get that part well settled, we will look to the "family interests." This time we propose looking after the peach as a market fruit, and as such, we must grow what will sell the best with the least expense and loss in growing and marketing. We must consider productiveness and hardiness. The principal difficulty existing here, in growing good peaches, seems to be the "curl leaf." I have read discussions in the *PRESS* and *Horticulturist* on this subject with much interest and profit, but I think there are some conditions connected with it that have not been noticed, others passed over slightly, and some conclusions reached that are not fully established. Now the quickest way to get at the soundness of any doctrine, is to take "issue" with its learned advocates, and have them prove it.

Most of the learned orchardists that I have read on the subject of curl-leaf, agree that it is caused by excessive moisture in cool weather. I beg leave to dissent. But hold a bit! if this doctrine is true, Jeanne C. Carr in her very interesting letter, in the *PRESS* of Aug. 21st, incidentally gives us an easy remedy in this wise: "for a few little cuts, quite through the bark, possibly arrested the flow of the sap, at the right time." Now I will not take issue with Mrs. Carr on this, for I have not had any experience in that way, but the excessive moisture theory will not hold out all around. In my investigations of this subject in the last two months, in Santa Cruz, Santa Clara, San Benito and Monterey counties I have discovered the following facts:

First, that in many places there are trees in the same orchard, and same row, and in the same kind of soil, that were badly curled, with others of the same variety that were almost free, and bearing a pretty fair crop; and I find but little difference in this respect on the different soils that exist in different parts of this region of country. Neither do I find any difference in altitude, for the curl is just as bad on top of the mountains as in the valley, and just as bad on dry, gravelly land, as on clay soil; no, I don't mean that exactly, for I think there is a little difference in favor of a warm soil to keep free from "curl-leaf." But the curl certainly is not caused by excessive moisture in the ground, or the trees would show a greater difference than they do in different soil.

I will note some facts concerning the "curl" that I have not seen mentioned before. All the varieties that I am growing have curled more or less every year, except the "Briggs May" and "Hale's Early" (and this year Hale's Early has curled and spoiled the crop). I have noticed that the trees which curl the worst are invariably those that bore the heaviest the year before, without regard to soil or situation. I have Early Crawford's this year that are bearing well, that curled so badly last year that the fruit all perished on them; and, *vice versa*, trees that were full last year have no fruit this year—and all on the same soil and in the same row. All the young trees set last winter, that did not leaf out till the weather warmed a little, escaped the "curl," without regard to soil.

With these facts before us, I conclude that the cause of the curl is cold weather, and the remedy is to cultivate such varieties as will stand the cold. Do you ask what they are? Well, the only peach that I have found in this section, that is named, that is curl-proof, is the "Briggs May," and that will mildew in some places a little. But there are several "seedlings" about San Jose that do not curl, and are very good peaches. The next best here are the Hale's Early, Alexander and Amden's June—all much like the Briggs May, but more or less subject to curl. Then, probably, the Early Crawford is next best, as a good many trees are bearing pretty fair crops this year—in fact they are doing so well with one orchardist near San Jose that he came to the conclusion that they were the most free from curl of all the varieties cultivated here. But he was in error, because he had not taken pains to investigate the matter—and he is intelligent and progressive, too. But then these peaches are all very early, except the Crawford, and we will have to look up some seedlings for late peaches that don't curl, and I shall see what I can find, and report. But don't be too hasty in setting out orchards of new kinds. Let us try a few first.

M. P. OWEN.

Soquel, Sept. 18, 1880.

THE FIELD.

The Old and the New in Farm Economy

He was a thrifty young farmer with a good wife, some capital, a healthy constitution and plenty of good Dutch courage. They hailed from Mercer county, Pennsylvania, and, for obvious reasons, we will call them Mercers. They came to Santa Clara county seeking a home and such prosperity as is almost always the reward of honest industry when directed by tact and judgment. Their experience is described as follows in the *San Jose Mercury*:

They bought a farm of 160 acres of gravelly land near the foothills. We say they, from the fact that in accordance with the old Dutch custom the man and frau counseled with each other before taking an important step. Richer land would have suited them better, but the richest land in our valley they learned was not the surest for crops, while the gravelly land, with good farming, is absolutely sure. The land they bought had been farmed for many years according to the old California system, which means shallow plowing and cropping with grain every year, year in and year out, and annually burning the stubble after the crop is harvested. The former owners had practiced this plan thoroughly, it being about the only thing they were thorough in, and the system had so nearly ruined them that they were compelled to sell out and seek other and newer lands. The neighbors smiled when they learned that the Mercers had bought this farm, as though they thought a good joke had been perpetrated upon the new comers. Still, in the kindness of their hearts, they resolved to assist them with what they considered good advice. So when Mercer attacked the huge manure pile which had lain for years behind the stable, and growed larger by constant additions from it, and began to spread it around upon a good sized piece of land, they went over and asked him what he intended to do.

"Why," said he, "I am going to make a garden. You all have gardens, don't you?"

"Oh, no," said they, "peddlers bring us our vegetables and sell 'em cheap. This land won't grow vegetables, it's too dry." "Well," said Mercer, "I am going to plow this manure in deep and see what it will do."

"Do," said his neighbor, "it won't do nothin', you'll get your labor for your pains. You musn't plow deep; you see moisture comes up to the top of the hard ground, and there it stops, and if you plow deep, the roots of your crop won't reach the moisture, for all the moisture, will dry out from the loose ground."

"Mine gracious, it will!" said Mercer.

"You say, don't spread manure and don't plow deep. In my country this is the principal part of farming, and I don't know any other way. I thank you. You mean to do me good, I know you do, and I thank you. I must try my way a while and if it don't work well, then I will try yours."

The Mercers have now been practicing the good old plan of farming they were brought up to for the last seven years, and a prettier farm, or more thrifty family it would be hard to find. He first tried summer-fallowing, but says that pasturing is more profitable, and now has his main farm divided in four fields, with passages leading from each to the barn yard which is also the watering place. In one of these fields each year he pastures all his stock (about 25 head); the next year he plows it, putting the stock in another field. He plows deep all the time, and gets all the manure he can, even buying and hauling it for some distance.

A CHEAP HAMMOCK.—Take a piece of Manila matting from two or three yards long and a yard and a half wide, bind or benn the ends firmly, then fasten each end to a piece of timber. These pieces should be 5 ft. long, 2 inches thick, and should have holes bored about three inches apart the whole length. The matting is fastened by passing heavy twine from matting to hole, back and forth, really sewing the matting to the wood. For each end of the pieces of wood larger holes are bored, through which pass ropes to hang the hammock between two trees. This makes a cheap, comfortable and safe hammock. Being hung from four corners there is no danger of rolling out, and half a dozen children can swing in it at pleasure. —*Journal of Chemistry*.

It is a curious fact, writes a missionary from China, that tobacco, sweet potatoes and Indian corn have all been introduced from America, and are now thoroughly domesticated here. As to the first, so cordially has it been welcomed that 9 out of 10 adult Chinese males smoke it. They do not chew. Within the last five years the artichoke, which in my boyhood was found with horse-radish in every farmer's garden in central New York, is being introduced in this region. It is pickled and eaten as a relish. Oddly enough, it is called foreign ginger. Sometimes we are asked how it happens that foreign ginger is not pungent.

AN ABSURDITY.—To purchase wood by measure. Its heat-producing qualities are in proportion to its weight, if seasoned. When in Paris, our wood was furnished by the pound.

THE STABLE.

The Percheron Horse.

Mr. A. B. Allen, founder, and for many years editor of the *American Agriculturist*, says in a recent number of the *Rural New Yorker*: For heavy farm and road work, the city dray and truck, no horses ever imported to America have equaled the larger class of this distinguished race; while those of medium size are equally admirable for the express wagon, the omnibus, and tram railroad.

There is a reason for this great superiority over other large breeds; as tradition affirms, it originated early in the eighth century by a cross on the large native Percheron and Norman mares, of the high-bred, powerful Barb stallions, captured in great numbers from the Moors then invading France. This improvement thus judiciously begun, has been continued down to the present day, by selections for breeding purposes of their progeny, and by taking fresh crosses, now and then, from stout Arabian war horses—cognates of the Barb—brought home from Palestine on the return of the French crusaders. Another thing which has also contributed to the superiority of this class of horses is, that the climate and soil of the Department of La Perche are admirably adapted for the production of choice stock.

Mr. Harris, of New Jersey, was the first person within my knowledge to import horses of this breed. Traveling in France in the year 1839, and observing the superior qualities of the large, powerful farm and road horses in the departments of Perche and Normandy, he determined on an importation of one stallion and two mares. These being greatly liked in his native State, and seen by several horse breeders in Pennsylvania, Maryland and Ohio, they followed Mr. Harris's good example by the importation of a few each. From the last State, they spread into Illinois and Indiana, where, being found so much superior to all other large farm stock, a quick demand at extra prices sprang up for colts bred from the males out of the common mares of the country, and rapid importations from France soon followed. Mr. M. W. Dunham, of Wayne, Du Page Co., Illinois, has been by far the largest importer, having brought over from France upwards of 300 horses within the past few years. The Percheron and Norman grades are now spreading rapidly over the country, from Canada on the north, to Virginia on the south; and from the Eastern States, to those of the farthest west.

These horses stand from 15 to 18 hands high, and weigh from 1,300 to 1,800 lbs. Their superiority over other large European breeds consists in their ivory-like bones; firm, tough muscles; handsome, powerful knit, blocky forms; extra-strong joints and limbs; and clear, tough hoofs, well set up at the heels. This last good point enables them to endure stony roads and city pavements better than most of the other larger class of horses. Added to the above, even those of the biggest size are very active, with a fast walk, and reasonable quick trot. They are of great endurance, high spirit, and indomitable courage; yet gentle and docile of disposition, little predisposed to diseases of any kind, and especially those of the legs and feet, to which other larger breeds are so liable.

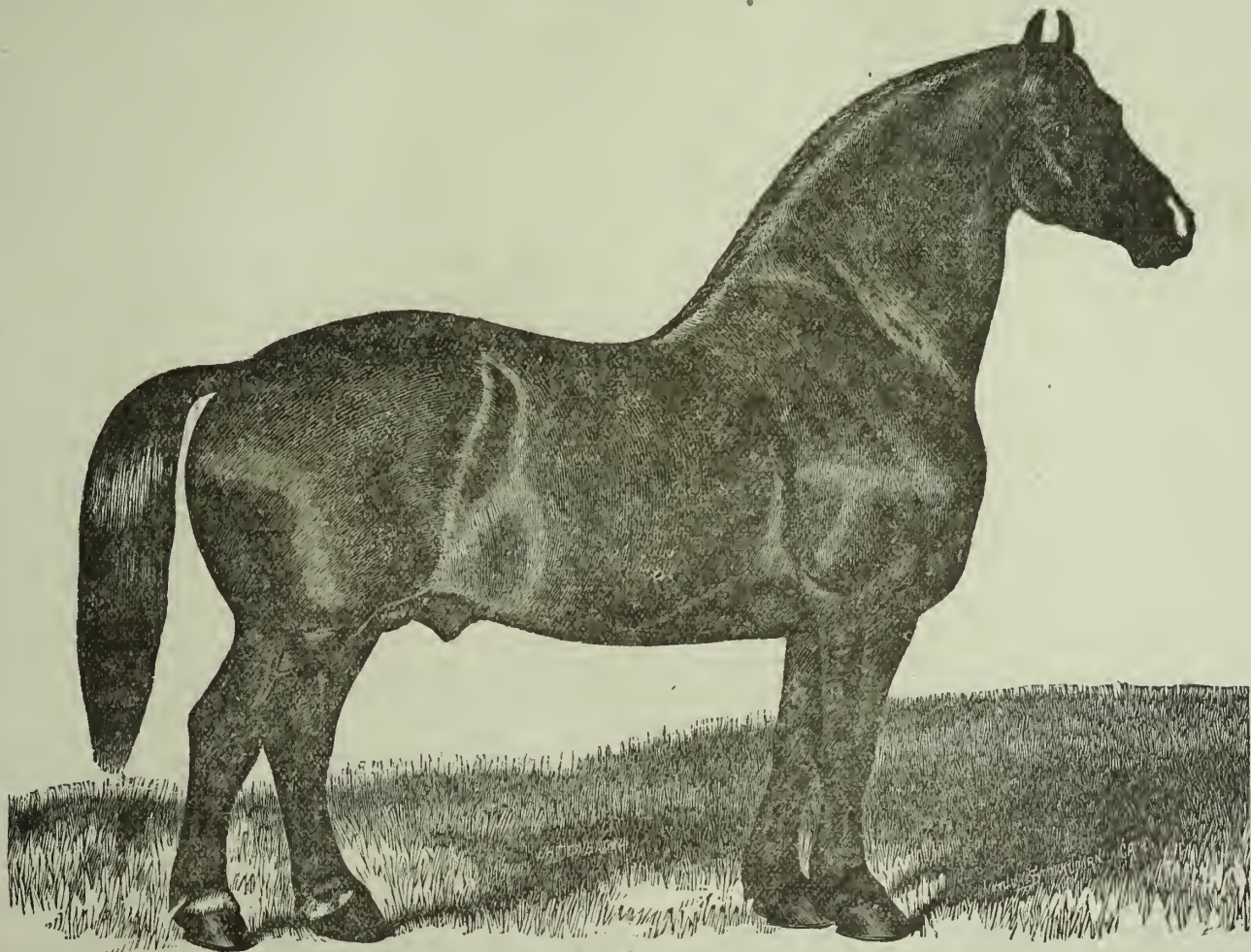
Of the economy of the use of an extra powerful horse, all will be convinced when they see that one of these can do the work of two of the common kind, and a pair that of four. This saves considerably in stable room, feed, harness, shoeing, and wages of grooms and drivers, and makes them much more handy as a single team on the farm, and in the crowded streets of the city. If a single horse—as it is well-known these can—will turn as deep a furrow and draw as large a load as a pair of smaller ones, it is certainly much more convenient and economical to use such.

The first volume of the Percheron-Norman Stud Book, edited by Mr. J. H. Sanders, was published at Chicago in 1878. This is a handsome work of 212 pages, illustrated with numerous portraits. It was got up for the purpose of recording the pedigrees of all full-bred horses of this class, thus to prevent the public from being

imposed upon by unprincipled dealers by substituting grades for pure-bred.

I understand that a second volume of this work is in preparation, and will soon be issued from the press. Half and three-fourths-bred Percheron and Norman horses not only fetch an extra high price for home use, but also for exportation. The demand exceeds the supply and is likely to do so for years to come. They are undoubtedly the most profitable stock the farmer can raise, as colts got by these stallions out of good, common mares, are large and strong enough at two years old to be put to light work on the farm. By the time they are four to five years old, and ready for sale for harder work, they have earned the cost of their production, and whatever price is then obtained for them will be a clear gain to the breeder. Is there anything more promising or profitable than this in the business of stock raising.

HORSE LEATHER.—By a recent Cabinet order, horse leather has been adopted as the material of which the boots issued to sailors of the German navy are in future to be made. Experiments with horse-leather boots have, it appears, been carried on for the past 18 months, and with such satisfactory results that the use of calf skin is to be altogether abandoned in making naval boots and shoes. The leather used is



PERCHERON STALLION "BEAUX NOIR." IMPORTED FROM FRANCE, WITH 77 OTHERS, AUGUST, 1880, BY M. W. DUNHAM, WAYNE DUPAGE CO., ILL.

to be made of the skin of the quarters of the horse, the flesh being carefully scraped off, so as to render the leather soft and pliable, while still remaining, to a large extent, waterproof.

RAPID FOREST DESTRUCTION.—An intelligent correspondent of the *Cincinnati Gazette*, after an investigation in the pine regions of Michigan, reports the judgment that the mills in the Alpena district have only 15 years' supply left, and adds: These figures agree very closely with those given me a few weeks ago by the president of the largest logging company on the Mississippi river, operating in the Wisconsin pineries, a region that has been worked much less extensively than the Michigan pineries. They would last, he said, 30 or 40 years. The Minnesota pineries are not so large as either of the others, and will probably not survive them. In from 25 to 40 years the last tree will be cut, and the entire country from Maine to the Rocky mountains must learn to live with meager quantities of pine lumber brought at great expense from distant countries. The pineries cannot be replaced. A full grown tree represents hundreds and hundreds of years of growth. I saw small pines, no larger round than a man's arm, bearing the scars made by the axes of the United States engineers 35 years ago. What ages, then, must be required to produce a tree three or four ft. in diameter? When these forests reach the condition of the pineries of Maine and New York, and become extinct, no new ones will take their places. The American of the near future must learn to hew and build without pine, and marvel at the thoughtless recklessness of his ancestors.

RINDERPEST has appeared in the principal cattle district of Russia.

PISCICULTURE.

A Long Island Trout Farm.

We are interested to learn from Eastern papers of the success of a fish-farming enterprise on Long Island, which has been developed by Geo. W. Thompson, who is an old Californian, and during the latter part of his stay in this State was a resident of Brooklyn township in Alameda county. What Mr. Thompson has done at the East may serve as a hint for similar enterprise to some of his old friends who still remain here, for California has many sites well adapted for such work. We shall take from the accounts at hand some interesting paragraphs:

Long Island is noted for its trout farms, and many of them have attained a just celebrity. Most of these trout preserves are situated near the center of the island or at its western end, the only one on the east end being the Noyac trout farm. This farm is owned by Mr. Geo. W. Thompson, who came to Noyac from San Francisco about six years ago. Before Mr. Thompson's purchase of the tract of land now comprising the trout farm it was a perfect

were dug, and thus in the driest times of summer there is no fear of dearth of water.

After clearing his land and making the necessary reservoirs for his fish, Mr. Thompson commenced raising trout for market. It requires great familiarity with the habits of trout to be able to tell exactly at what time the female trout is ready to spawn, and it requires equal skill and judgment to treat the fish in such a way that they will experience no ill effects after the spawn is taken from them.

Gathering the Spawn.

When the spawning season arrives the experienced eye can easily detect when the eggs of the female trout have reached maturity. The fish are caught in a light net and put into tubs of clear water. Pans purposely made for the reception of eggs are then placed in readiness, and the female trout are relieved of the spawn in the following manner: The fish is held near the head with the left hand, and the right is clasped around the body just above the abdomen. Then with a gentle downward movement of the right hand the eggs are forced from the trout into the pan. The male trout is then treated in the same manner, contributing a milky fluid, which is dropped into the same pan with the spawn and causes fecundation. The fish, both male and female, are much exhausted after this operation and unless placed where they cannot be molested they are apt to become sickly and die. They are usually put in a separate pond until fully recovered, when they are allowed to mingle with other fish of their own size.

Hatching the Eggs.

The hatching trough is a long narrow box divided into compartments, into which the eggs are placed according to their different stages of maturity. The sides of the trough are charred to prevent the growth of fungi, as any impurity is deadly to the life germ of the eggs. Water from a large reservoir is kept continually running through the hatching trough, and so great is the need of keeping it clear of all impurity or any kind of sediment that before entering the hatching boxes it is forced through seven filters of finest flannel. The time of incubation varies from a few days to much longer terms, according to the character of the season and the various stages of maturity of the eggs.

When the fish are hatched they are minute creatures, with a curious little transparent sac attached to the stomach. The sac disappears as the fish increases in size, some theorists attributing their disappearance to the fact that they furnish sustenance to the young fish, and are gradually absorbed until they are capable of feeding themselves. When the young trout reach this stage they are taken from the hatching trough and placed in what are called

nurseries, which are simply a series of large wooden compartments with latticed covers to protect the young trout from their enemies of the air and field. These compartments are separated by wire screens, and through them all flows a shallow stream from the reservoir up the brook. The nurseries are constantly filled with young trout, the various sizes being kept in different compartments. This is a very necessary precaution, for trout are cannibals, and unless great care is taken to keep the larger fish from the smaller the latter would soon be destroyed.

As the trout grow they are removed to larger nurseries, where they are kept until they attain a size of two and a half or three inches, when they are again sorted and placed in the larger ponds.

Sorting and Feeding the Trout.

The process of sorting the trout is, it may be said, of almost continual duration. As soon as a trout outgrows his companions he is caught in a net and placed in more suitable company; for if left among the smaller and weaker fish, he would soon display his cannibalistic propensities. This, of course, applies only to the younger fish, for a three-pound trout would probably find it discouraging work to try and dispatch a two pound brother. Brook trout rarely attain a weight over three pounds, though Mr. Thompson has some beautiful specimens which will weigh nearly four pounds; but they are exceptional cases.

The trout are fed at stated times every day, the food in summer consisting of minnows and other small fish caught in the neighboring coves and bays, and in winter, of beef chopped fine in a machine made for the especial purpose of preparing trout food. The price the trout fetch in the New York markets varies from \$1 to \$1.50 per pound according to the season.

wilderness of underbrush and trees. There are now 40 springs upon the place from which the various ponds are supplied, but when the present proprietor entered upon the land a small brook, leading into a pond that supplied the motive power to an old grist mill, was the only water course.

Preparing the Ponds.

The first thing the new proprietor set about doing was to clear the land of underbrush, thin out the trees and convert the brook into a series of ponds suitable for trout propagation. The ponds were dug by hand in such a manner as to give a pleasing variety of outlines, and graded in such a way as to allow the stream an easy fall from one reservoir to the other. There are 30 of these ponds altogether, ranging in size from 15 to 20 ft. in length to an extent of three or four acres. They are separated by wide screens in order to keep the different growths of trout apart. The water takes its course through the most sequestered nooks upon the place, over rocks and pebbly bottoms, and in the shadow of trees and bushes; thus making the preserve as much like the natural haunts of the fish as possible.

In the autumn when the leaves are falling they would soon cover up and sully the water were it not for an ingenious contrivance which Mr. Thompson invented to remedy such a state of affairs. From one pond to the other there is a slight fall of, perhaps, a foot or more, and the flow of the water causes the leaves to cluster about the dividing screens. Where the leaves gather thickest a large wire fly-wheel is placed, turned by the stream itself, which sucks in all the light debris and throws it up on the bank on each side. In this way a perfectly clear water course is always insured. To obtain a larger supply of water for hatching, nursery and other purposes, the 40 springs, previously mentioned,

PATRONS OF HUSBANDRY.

The Insurance Company Matter.

EDITORS PRESS:—As suit is now brought against the policy-holders in the California Farmers' Mutual Fire Insurance Association, to collect a certain call for a deposit, it is my purpose in sending this letter to you for publication to argue the equities of the case. This communication was written a long time since in reply to a letter that appeared in the *RURAL PRESS* and *California Patron* of the last week of July, signed I. G. Gardner, with a voluminous titular attachment thereto. I have withheld this from publication until now, as I deem this an opportune moment for its insertion in your valuable paper, knowing that through its medium it will be perused by those I wish to stimulate in their laudable efforts to resist what the policy holders of this section consider (to quote their expressed opinion) a "blackmail."

Having read in the *California Patron*, of the 24th of July issue, Mr. I. G. Gardner's view of the conduct of the California Farmers' Insurance Co., please insert this, the policy holders' view. Mr. Gardner writes "that the truth may be seen." Believing this to be the only motive that actuates the gentleman in going to press, i. e., his love for truth, we implore the gentleman that if he makes another effort for the love of truth he will not only give us the truth but the whole truth.

The peculiar management of this company is chargeable to some one, and as Mr. Gardner asserts that the character of the stockholders is above reproach, we must conclude that whatever animosity the policy-holders of this vicinity harbor against it, or whatever epithets have been or are to be hurled at it, that if they do not apply to the stockholders they must apply to the party or parties who managed it. Therefore I hold this mythical manager responsible for things I shall represent. I say mythical, because it cannot mean Mr. Gardner, for in the beginning of his article in question he publicly publishes himself as a worshiper of truth.

Mr. Gardner says that "dirty linen should be washed at home"—i. e., he admits to having impaired the purity of his linen—and we also advise that it "be washed at home;" but if Mr. Gardner has disregarded his own advice, and hired this cleansing done, we object to the expense thereof being charged against us as "expenses of the mutual plan."

Mr. Gardner states in substance that up to the time of the assessment the policy-holders were loud in the praise of the company, its stockholders, directors, etc., but when called upon to pay their assessments and notes they exhausted their vocabulary of vile terms in reproach of its officers and managers. That means in substance that the policy-holders, as a body, are dishonorable knaves, who seek to evade their agreements, and who repay indulgence and kindness with calumny and reproach. I will not attempt, as does Mr. Gardner, to prove these men incapable of sinning because of the social position which they occupy, because respectable scoundrels are usually respected, and perhaps esteemed, until their villainies are exposed, but will show in a different manner why the California Farmers' Mutual Fire Insurance Association was praised and supported by its policy-holders for four years, and then became a target for their indignant anathemas.

This association was, in its incipency, a Grange institution, i. e., an anti-monopoly affair. It was popular because the system was popular; the management was popular until we began to understand how the thing was managed, and I will ask an explanation upon the following circumstances:

1. Previous to the assessment, and at the time when I. G. Gardner and others were making a tour of the subordinate Granges for the purpose of "whooping up" this institution, how is it that you had joined the Board of Insurance, and that your agents adopted Board rates upon both the cost and plan?

2. How is it that upon these occasions Mr. Gardner assured the Patrons of the success of the insurance company, and avowed his fidelity to Grange principles, notwithstanding this little "board business?" Was it that you had forgotten about this "board business," or that something had been done that you did not like to tell of? Just previous to the assessment, when you were upon your "rounds" telling us that "all things were lovely," were you purposely deceiving us, or were you in ignorance of the state of affairs you were managing?

3. After the assessment how about the statement of the affairs as represented in an advertisement over your signature as manager, and published in a prominent paper, which showed a promising state of affairs and a large surplus and paid-up capital. If that statement was true, who got away with the "swag;" if it was false, who is responsible for the lie? Not the stockholders, you say.

4. Mr. Gardner says in his letter that there is no profit to the association in the mutual plan, only in the flat plan. After they formed the flat plan, who instructed the agents of the association to offer insurance upon both plans at the same (board) rates, but advised the

policy-taker to insure on the flat plan which resulted in writing flat-plan policies almost exclusively to the manifest injury of the other plans; and I will ask "the manager," that while his agents were thus injuring the mutual policy holders, what part of their expenses was charged to the mutual plan?

5. How was it, Mr. Gardner, that it cost the mutual plan 3% (with the assessment) for four years when flat policies were, I think, written at that rate for five years, or rather at the same ratio of premium for three years, especially when flat policies cover city risks, while mutual policies are located solely upon detached country risks?

And how is it that long before these policies expire that your last call for "deposit money" would amount to at least 5%, or 1% per year, a rate far in excess of the monopoly rates (board rates).

6. How is it that precedent has been reversed in this case, and that the country has suffered greater conflagrations than the city? How is it that a cost plan costs more than the profit plan, including the profits?

7. To what extent have the stockholders suffered in the "flat" plan? If they have not suffered when their risks are greater and premiums have been less, how is it?

I have before me a statement of the association dated Jan. 29, 1879, which shows an indebtedness of \$28,169.93, and amongst these losses are uncollected notes, \$26,750.50. According to information received, a greater portion of these notes have been collected, which should nearly offset the indebtedness, and to include the payments of such policy-holders whose fear has induced them to unloose their purse-strings, would make a sum sufficient to fully offset this claim, if we were to admit it a claim *de jure*. The first assessment of 1%, according to newspaper estimates, would have created a sum of about \$50,000. Now that has been multiplied by three in the call for "deposit," making the snug little sum of about \$150,000.

When the assessment was levied the losses of the association, according to their own figures, were \$59,537.50. This is their statement of losses for about four years. Then the association stops its business, and in one and one-half years we are called to pay the little trifle of \$150,000, and I think that there's not a policyholder in Santa Clara county who has considered himself insured since receiving notice of the suspension of this concern, nor has there been a fire-loss paid in this county since the assessment was first levied.

We must conclude from this reckoning that, although times are somewhat dull, that there is really a bonanza in mutual insurance companies. That Mr. Gardner will not dispute these figures I have no doubt whatever. It would be a sad mistake for him to admit them to be correct. There has been a mathematical difference between Mr. Gardner and the policy-holders for one and one half years, and a very bright prospect ahead of its continuing so; and when Mr. Gardner figures we do not want his results, but his facts. We would like to know about this \$59,000 of actual loss, and especially this \$150,000 calculation. If it's to cover the loss of fires, where were the fires? If this little item is charged as expense of litigation, be kind enough to give us an itemized account of money paid out upon that score. We will not be astonished if the item of "atty. calculations" are large, for we know that their chances of success are very small.

I will favor you with a little figuring upon this matter. I have shown that with the collections of notes and with the payments of the assessments of scared policy-holders should have offset the former indebtedness, excepting, perhaps, a small amount, we will say, \$1,000. Now, if you levy a \$50,000 assessment to collect \$1,000, and then a \$100,000 call for deposit to collect the \$50,000, how much will you levy against us to collect this \$150,000?

Also, to whom did you owe that first \$28,169.93? And after you were that much in debt, who ventured the little item sufficient to carry you along while you were failing in collecting this little \$50,000? And as a call for deposit cannot be made until there is a debt, who is that creditor in this instance? Whoever it may be, I venture that his confidence in the mutual business exceeds that of the average policy holder of this vicinity.

If Mr. Gardner will reply to this summing up, he will show how very good and indulgent he has been, and how very wicked and bad we have been, and how foolish we are to "fight ourselves." But we do not ask the gentleman for his opinion of himself, in order that we may modify our opinion of him. We do not accept his conclusion that everything is surely all right because he thinks that the stockholders are good men; nor do we consider that because Mr. Carter paid his \$11 or so, that that should change our opinion upon any subject excepting the subject of Mr. Carter. Nor do we ask the stockholders to attempt their vindication by employing Mr. Gardner to boast in public print of their general reputation as prominent men. We want them to instruct their secretary to give us an itemized account of fire losses, salary expenses, office expenses, premiums received, etc. We want them to figure out exactly what this huge assessment of 5% for carrying a detached country policy for five years means; and lastly, we wish to know why, while it has been our constant effort to obtain this knowledge, they have prevented our doing it by many and various impediments.

N. J. HAINES.

San Jose, Cal.

Coming Meeting of the State Grange.

Preparations for the coming meeting of the State Grange are being made, and it is expected that the meeting will be a notable one. One of our esteemed contributors has sent us an article alluding to the meeting, and urging all good Patrons to attend and share in its enjoyments and benefits. Our space will not permit the insertion of the article this week, but next week let all Grange readers prepare to be persuaded. We can now but refer to the arrangements being made for the accommodation of those attending the Grange. The Patron of this week will publish the following:

Temescal Grange met in special session in Oakland, on the 18th instant, to hear and consider the final report of the committee on hall and accommodations for the State Grange, and visiting friends, brothers and sisters. The committee reported that they had secured Odd Fellows' hall, at the corner of Eleventh and Franklin streets, in which to hold the session of the State Grange. In the matter of hotel accommodations for the members, the committee reported that they had made arrangements with the proprietors of the following houses—terms and possible number of accommodations, as indicated below:

Windsor House, 915 Washington St., can accommodate from 15 to 20, at \$1.50 per day, for board and lodging, first-class house. C. C. Wheeler, proprietor.

Blake House, 1059 Washington St., can accommodate from 15 to 20, at \$1.50 per day for board and lodging, pleasantly situated, good accommodations. Mrs. T. G. Hensyland, proprietress.

Eureka Hotel, corner Seventh and Washington Sts., will provide board and lodging for a number, at the rate of \$1.25 per day.

Occidental House, 955 Washington St., will accommodate a few persons with board and lodgings at \$1.25 per day. Mrs. M. E. Teas, proprietress.

Alta House, N. W. corner Eleventh and Washington Sts., can accommodate several with double beds, at \$1 per night, and 50 cents for single rooms, with restaurant at 25 cts. per meal.

Mr. Jurgan, 1,116 Broadway, corner Thirteenth St., will furnish lodgings from 25 cts. to 50 cts., and meals at 25 cts. in the boarding house adjoining.

Besides the places mentioned, there are numerous others, so there need be no apprehension of a stint in accommodations.

The Feast of Pomona.

It will be necessary to have quite a considerable quantity of fruit for the feast of our beloved patroness "Pomona." This may be furnished without any hardship to any one. The plan of supply usually adopted has been by volunteer contributions. Now, if every brother engaged in fruit-raising will send to the Patron office what amount and kind of fruit it will be most convenient for him to furnish, we will, if desired, publish a list of the names of the donors, and the kind of fruit they propose to furnish, which will reveal any discrepancies in kind or quality, which will enable others to fill. The fruit should be forwarded to care of Amos Adams, Grangers' Business Association, No. 106, Davis street, San Francisco, and should reach its destination between the first and seventh of October. Send along your names, brothers, and what of fruits and nuts you can most conveniently furnish for the occasion.

California Farmers' Mutual Insurance Co.

EDITORS PRESS:—Many of your readers will, no doubt, be interested in the news I have to communicate; you will confer a favor by publishing the same: The injunction suit brought by G. W. T. Carter against this association to restrain it from collecting the 1% assessment levied January 15, 1879, was this day dismissed at the request of the prosecuting attorney.

I. G. GARDNER,

Vice-President and Manager.

San Francisco, Sept. 22d.

THE FASTEST TROTTER ON RECORD.—The flying trotters are still whittling down the seconds which remain above two minutes, as the time for trotting a mile. The record is now reduced to 2:10 $\frac{1}{2}$, made September 18th at Chicago, by "Maud S." This is, of course, a great event in equine history, and we give the brief description of the feat which has been transmitted by telegraph. It will be understood that the mare trotted against time and so had the track to herself. It was nearly six o'clock and growing dark when "Maud S." was brought on the track. The sky was cloudy and a strong south wind was blowing. At the first send off "Maud" soon left her feet. Her driver, Barin, turned her back for a fresh start. She then trotted to the starting point square and level, and as her driver nodded for the word, quickly lengthened out her stride and got to the quarter in 34 seconds. It was then believed impossible for her to do better than 2:16 or 2:18, but when she got down to the second quarter at a 2:03 gait, the fastest record, there was a breathless interest and expectancy. It was feared, however, that the strong head wind, when she turned, would slacken her speed materially and render it still impossible to win. She kept straight forward, however, without a break or a skip, and marked the three-quarter mile pole in 1:36. Barin urged her gently with voice and whip and she responded quickly, and the multitude was breathless as she went the final quarter and thundered down the home stretch in 2:10 $\frac{1}{2}$. The time by quarters was, first, 0:34; second, 0:30 $\frac{1}{2}$; third, 0:31 $\frac{1}{2}$; fourth, 0:34 $\frac{1}{2}$. Loud cheers greeted the mare, her driver and manager as they went to her stable.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

THE LADY RIDERS AT THE GOLDEN GATE FAIR.—Oakland Times: At 2 o'clock the bell from the Judges' stand called the ladies to the front, where they were paraded for inspection. The fair women who took part in the exhibition of equestrian skill were: Miss Ida Watson, Miss Manie Woods, Mrs. W. L. Reed, Mrs. Lizzie Herring, of Oakland; Miss Isabel Walker, Petaluma; Miss Mary Mokler, Contra Costa; Miss Penniman, San Jose; Miss Chisholm, West Berkeley; Miss Ella Sessions, Oakland; Miss Cross, Woodland. The exhibition consisted of riding singly, in pairs, and in company, before the Judges who were to award the various prizes. The ease and grace with which the ladies rode was the admiration of the immense crowd of spectators, who cheered and applauded repeatedly. At the close of the exhibition, which lasted for nearly an hour and a half, announcement was made that the prizes were awarded as follows: Miss Ida Watson, first prize; Miss Kate Cross, second; Miss Penniman, third; Mrs. W. S. Reed, fourth; Miss Mamie Wood, fifth; Miss Chisholm, sixth; Miss Lizzie Herring, seventh; Mrs. Mary Mokler, eighth; Miss Ella Sessions, ninth; and Miss Isabel Walker, tenth.

CALAVERAS.

EDITORS PRESS:—In this part of Calaveras county, we farmers have made average crops of grain and hay; or perhaps a little better than an average, from 15 to 20 bushels of grain to the acre, and about one and a quarter tons of hay to the acre. Potato crops planted before the April storm have been a failure, but those planted directly after the heavy rains have succeeded well. The grass for stock has been better this year than usual. The fruit crop is quite abundant, with the exception of peaches, which have failed more generally this year than ever before. Out of 100 trees I have three that are tolerably full of peaches, and about a dozen other trees that have a few scattering peaches on them. And from what I have heard and seen of the other orchards, mine is about an average in respect of fruit. Much of the apple crop in this section is injured by a worm which penetrates through the blossom end of the apple to the core, and then goes out through the side of the apple. The worm has, within the last few days, disappeared, after having destroyed a third or fourth in some orchards. Can any of your readers tell the history of this worm, and how we can guard against it? We are having warm weather and dusty roads, but we are generally healthy and moderately prosperous. About half of the population are engaged in quartz mining.—FARMER, Fourth Crossing, Sept. 13th. [The worm is the larva of the codling moth, which is fully described in the *RURAL* of Jan. 18, 1879 and Nov. 15, 1879.—EDS. PRESS.]

FRESNO.

FRESNO PEARS.—Messrs. Porter and Bros., of San Jose, fruit dealers and shippers, have bought 900 boxes of pears from James McNeil, the Fresno orchardist, and will ship them direct to Chicago. One carload has been sent during the past week, and the balance are being rapidly gathered. Mr. Porter says he has bought pears during the past 10 years in the Sacramento valley, Napa valley, Suisun, Santa Clara, San Jose and elsewhere, and that these Fresno pears are the finest he has ever bought in the State. Mr. McNeil's trees are young and not in heavy bearing, but he has proved that he can produce as choice pears, peaches, prunes, apricots, nectarines, figs and grapes right here on the plains as can be raised on the Pacific coast. The entire crop of plums on the McNeil ranch found a ready sale at three to four cents per pound, many of the trees yielding from 200 to 300 lbs. each.

LOS ANGELES.

PEACHES TRUE TO SEED.—Commercial: Mr. James F. Crank sent to the State of New York two and a half years ago for some peach pits from a rich, round, yellow peach known as the "Merrifield Seedling." His friends laughed at the idea that he entertained of obtaining the genuine Merrifield from the pits of that fruit. But the result of that seed planting is a row of trees all laden with the genuine "Merrifield Seedling." We submitted the fruit to the most critical judges, among others, Lieut. Gov. Mansfield, Dr. J. P. Greves, of Riverside, Dr. Granville Malcom, of Washington, D. C., and all unite in pronouncing it equal to the best peaches ever met with in their experience. The fruit is large, with a thick, firm pulp and small pit, and sweeter and richer than the Crawford. A knowledge of the fact that this peach can be produced from the seed will carry it all over the country.

GRAPE CUTTINGS.—Dr. Conger of Pasadena: They are doing exceedingly well here. Less than five per cent. have so far failed to start promptly and grow vigorously out of ten thousand put out in March last. The process was with an iron bar to make the hole with, and set from fifteen to twenty inches deep; then the soil, free from lumps and stones, was carefully washed into the hole by a small jet of water through a hose attached to a barrel, or sprinkling pot, until full. This last process well done, two days after the cutting will be found as firm as a post; and if said cutting was good at the first, it will not fail to come in due time, and

also make a strong vine. Don't use suckers for cuttings, which are usually long-jointed, straight and fine looking. Take the more scrubby-looking, short between the buds, and especially fruit-producing cuttings, if you can get them. The few that have so far failed to start this season with me, are of the objectionable class above mentioned.

MERCED.

FLOWING GAS WELL.—*Valley Argus*, Sept. 18: Mull Bros. last week finished boring an artesian well for Lawrence Riley, whose farm is situated about four miles southwesterly of this place, striking a large stream of water which flows over the top of the pipe in a strong bold current from a depth of nearly seven hundred ft., the water being pleasant to the taste and considered good for all domestic purposes. One peculiarity about it is, that with the flow of water is also a sufficiency of illuminating gas to keep up a constant blaze, which was demonstrated by the Messrs. Mull Bros. and Mr. Riley, as they ignited the gas with a match and it continued burning until they were satisfied that the experiment was a success.

NAPA.

HOWELL MOUNTAIN FOR GRAPES.—Prof. Hilgard to Chas. Krug: Yours of 24th, and sample of subsoil from Howell mountain, received. I should not be afraid of that subsoil, lying, as it does, naturally well drained. There is a good deal of vineyard soil in Sonoma valley worse than this, right at the surface, and grows fine grapes, if it does not make good wine, being low down in the valley. The very fact that this soil is so red, proves that it is well drained; and vine roots will find their way through material a great deal worse, provided it is fertile—which is undoubtedly the case here.

COMMENCEMENT OF THE WINE SEASON.—*Register*, Sept. 18: The first grapes crushed this season at any cellar in this neighborhood, were those brought to the Uncle Sam wine cellar, last Wednesday. These came from Green valley, Solano county, and were shipped from Bridgeport to Napa per rail. A few grapes from a vineyard a few miles north of town are the only ones received to date from this vicinity. The varieties thus far crushed are Reislings, Chasselas, Muscat and Malvesic. Since wine making commenced, 200 boxes of grapes have been crushed on an average daily. The season opens about one week later than usual and will probably be later in closing, owing to the above fact and also because of the immense crop of grapes in every part of the valley. Yet it is thought that grape-raisers will rush the crop in as fast as possible fearing early rains.

SUMMER PRUNING AND SUCKERING.—H. A. Pellet and J. C. Weinberger at St. Helena Viticultural Club: Your committee heretofore appointed to investigate the subject of summer pruning and suckering, beg leave to make the following report: We made a careful investigation of a number of vineyards where no top suckering had been done, and found the shoots or canes grown together in a thick, tangled manner, with the grapes in almost inextricable confusion; the canes long, spindling, and affording but poor and indifferent spurs for next year's crop. Had the shoots been thinned out at the proper time, the remaining ones would have grown larger, the fruit more perfect, the weight fully as great if not greater, and the vines in much better condition for the next year's fruiting. We also considered the matter of summer pruning or topping and feel satisfied from close investigation that when vines are allowed to run without shortening in, they first shoot up; then as they become heavy and nothing to support them, they fall to the ground and trail along in some cases through other vines, not unfrequently to a distance of from 15 to 20 ft., leaving the main stock, where the best grapes are closely packed, exposed to the burning rays of the sun, to be scorched and more or less injured every year; whereas, had the vines been shortened in, early in the spring, lateral shoots would have sprung from the cane; strong healthy foliage in the shape of a dome would have sheltered the grapes and the result a full and superior crop. We therefore recommend: 1. Suckering or thinning out extra shoots when the growth attains from 12 to 15 inches, especially among "Black Malvesic" and "Chasselas Fontainebleau." 2. Summer pruning (topping) when the new shoots attain about 30 inches, being careful to cut as little as possible, one bud being sufficient to stop canes from running. As all the shoots do not grow uniformly, it will be found necessary to renew the operation one week later, when backward shoots will have attained the requisite length to be topped. This last operation being performed, no more pruning should be done during the summer, except in cases of unusual growth. The above report was thought to be an excellent one, and was received by the meeting. Lewelling added as an additional safeguard in topping: "to cut off the branch five leaves from the last bunch and no less." This followed, there is no danger of cutting too much.

SAN BERNARDINO.

FAIR.—*Index*, Sept. 18: The first annual exhibition of the San Bernardino Agricultural and Horticultural Association opened yesterday, under the most favorable auspices. Jackson's Hall, which was used for the horticultural department, fine arts, etc., had been transformed into a most attractive place by the beautiful decorations and tasty arrangements. The committee who had this in charge, Messrs. T. J. Wilson, W. G. Morse, Miss M. H. Bennett and Mrs. R. A. Hopkins, are certainly entitled to great credit for their good taste and

efficient labors in this department. The interest manifested by the citizens of the county in this, their first fair, as exhibited by the large number of entries, is truly encouraging to those who have undertaken this landable enterprise.

SAN JOAQUIN.

WOODPECKERS AND ALMONDS.—*Herald*, Sept. 16: A family of woodpeckers are doing E. R. Stockwell quite a favor, for which, he says, he is not particularly thankful, as he does not approve of such doings. These woodpeckers were discovered a few days ago to be hoarding almonds in the upper part of his windmill. Supposing that the thieving birds were stealing his almonds, Mr. Stockwell gathered them himself and also ascended to the woodpeckers' storehouse and appropriated three or four quarts that had been stored away. The woodpeckers were found to be not without employment, but kept busily at work storing almonds. For two days subsequently he went every day and found about two quarts gathered each time. This morning he concluded not to aid and abet the petty larcenists any longer by removing their stolen goods. Those who have almond trees in bearing and whose almonds have been disappearing, will do well to act on the information herewith conveyed.

FATAL BOILER EXPLOSION.—*Stockton Independent*, Sept. 14: The boiler of a threshing engine, belonging to Fred. Copsey, and operating on the farm of Mr. Deady, near "The Snug," about four miles west of Woodbridge, exploded yesterday, instantly killing Alfred Bailey, who had been employed as engineer, but had resigned his position and was about leaving. From some cause or other Mr. Bailey considered the boiler unsafe, and although he had run it quite a long time, he suddenly entertained a fear that it would explode. William McGuffick, a boiler maker of this city, was sent for two days ago to examine the tubes in the boiler, the engineer believing that some of them leaked. An examination failed to reveal anything wrong with the tubes, but the pump was discovered to be out of order. While Mr. McGuffick was examining the engine, the water rose up "in a lump" in the boiler, and so sure was he at the time that an explosion would follow that to save himself from injury he ran some distance and laid down in the stubble. The water simmered down and he returned to the boiler. At the inquest held in the evening James McCoppin testified that the name of the deceased was Alfred Bailey. Witness was standing close at hand to take the engine in place of the deceased when the boiler exploded. The boiler was defective and injured from running with low water. Before the explosion the lower gauge gave water and the next one steam and water. The boiler was strained from running with low water. The glass water gauge was broken. J. R. Myers, the fireman, was not on duty at the time of the explosion. Witness was not acquainted with the engine.

SONOMA.

THE FALL CLIP.—*Sonoma Democrat*, Sept. 18: John D. Hasset informs us that he is preparing to shear his sheep, and that the fall clip will be very short, owing to the lateness of the spring shearing. He considers it better to shear early in the fall, as it gives the sheep a better chance to survive the winter by rendering them less liable to cold. Owners of sheep through this county generally act upon this idea.

SUTTER.

WHAT A LITTLE DEBRIS WILL DO.—*Sutter Banner*: As a sample of the excellent fertilizing qualities of mining debris, S. D. Wood has contributed his testimony, by exhibiting in the Wheatland News office a sample of barley grown upon his bottom land. Off of fourteen acres of original black soil, he obtained 1,100 bushels, or at the rate of 77½ bushels to the acre. Off of ten acres of "slickens" soil, he obtained 217 bushels, or at the rate of 21½ bushels to the acre. The former has thus produced 400 per cent. more than the slickens soil. These ten acres were covered in 1862, when the debris first appeared out of the canyon, and only the slightest sand and sediment reached the valley. In 1870 it was first worked. Since then it has been persistently cultivated and manured yearly, yet at the utmost, and in a good year, its yield does not exceed that of red land. The yields of these two plots illustrate the method by which land is enriched by clay and sediment. This land now cultivated, must not be confused with the 43,000 acres buried by coarse sand and utterly worthless. It was covered at the time when hydraulic mining was confined more to the surface and was in its infancy; and when only the advanced matter reached us, which now goes to the Feather and Sacramento regions.

VENTURA.

FRUIT DRYING.—*Free Press*: Messrs. J. A. Day, J. Hobart, C. G. Finney and, perhaps, other gentlemen have fully demonstrated, this season, that there is lots of money to be made in drying fruit in this section. These gentlemen raise only the choicest varieties of peaches, nectarines, prunes, pears, apples, apricots, figs, etc., and by careful manipulation put up fruit which commands the top price in the San Francisco market. As an illustration, it may be stated that Mr. Day on Tuesday sold, in this town, the product of six acres of apricots (the trees being only five years old) for \$1,000. Of course the fruit was splendidly dried, and the price received nets him equal to 26 cents per pound in San Francisco. This gentleman is also largely engaged in putting up dehydrated potatoes, in which process 5½ lbs. of that useful vegetable is reduced in weight to one lb.

Live Stock Premiums at Golden Gate Fair.

There was a splendid show of live stock at the Golden Gate fair in Oakland last week. The following awards were made:

Horses.

Thoroughbred Horses—First, Lexington, E. J. Baldwin; second, Jack Douglass, E. A. Cardinal. Stallion, 1 yr, Judge McKinstry, Jas. Mee. Mares, 3 yrs, first, Lady Amanda, C. Simpson; second, Electro, J. B. Chase. Mares, 2 yrs, first, Minnie, James Mee. Mares under 1 yr, first, Lady Viva, C. Simpson; second, Minnie C., J. B. Chase. Mares with two colts, first, Katie Pease, James Mee. Thoroughbred stallions with 5 colts, first, Henry Williamson, Sr., W. W. Camron; second, Conductor, D. F. Major. Not thoroughbred, mare with 2 colts, first, Fan, W. W. Camron; second, Julia, B. Boorman.

Horses of all work, 3 yrs—First, Gen. Grant, Jr., A. Bellina; second, Eureka, Pfan Bros. Stallions, 2 yrs, first, Margins, N. Jones; second, Tomboy, C. B. Foote; 1 yr, first, Hunter, W. W. Camron; second, Setting Sun, Henry Pierce; under 1 yr, first, Butt Cut, B. E. Harris; second, D. E. Camron. Mares, 3 yrs, first, Lady Silva, B. E. Harris; second, Poscoro Maid, Z. B. Horn; 2 yrs, first, Joan, W. W. Camron; under 1 yr, first, Flighty Haywood, J. B. Horn; second, Agnes, B. E. Harris.

Roadster stallions, 4 yrs—First, Boccaccio, Geo. Sewell; second, Billy Hayward, A. H. Mayhew; 3 yrs, first, Jackson Temple, Daniel Brown; second, Claremont, G. W. Congdon; 2 yrs, first, Mohawk Belmont, Gen. J. F. Houghton; second, Roscoe, J. B. Chase; 1 yr, first, Grenadier, B. E. Harris; second, Hero, W. W. Camron; under 1 yr, first, May Day, W. W. Camron. Span of roadsters, first, Pete and Johnny, Wm. Nichols; second, Joe McCarthy and Harry, D. McCarthy. Mares and geldings, 4 yrs, first, Fawn, M. W. Hicks; second, Sunbeam, J. McMillan; 3 yrs, first, Fred M., E. W. Marston; second, Carrie F., D. McCarthy; 2 yrs, first, Flight, M. W. Hicks; second, Empress, M. W. Hicks; 1 yr, first, Katie Thorne, M. Salsbury; second, Emma Boom, B. E. Harris; under 1 yr, first, Gracie T., Hiram Tubbs; second, Bessie, W. W. Camron.

Saddle horses, either sex—First, Gray Dick, B. E. Harris; second, Sabin Harris, W. W. Camron. Draft stallions, 3 yrs—First, Gambetta, J. K. Porter, and French Spy, A. Sackrider (divided); 2 yrs, first, Billy, W. A. Watts; 1 yr, first, Gladiator, B. Boorman; under 1 yr, first, Charlie, B. W. R. Prose; second, Prince, B. W. R. Prose. Draft mares, 3 yrs, first, Beck, W. W. Camron; second, Julia, B. Boorman; 2 yrs, first, Amanda, W. W. Camron; under 1 yr, first, Claribel, B. Boorman; second, Nellie, J. L. Alexander. Span draft horses in harness, first, Marshal and Rocky, A. Sackrider. Span carriage horses, first, Hayward Chief and Ben Franklin, A. C. Dietz; second, Dan and Coaly, W. W. Camron.

Sweepstakes, stallions—First, Judge McKinstry, James Mee; second, Buccancer, M. W. Hicks. Mares, first, Katie Pease, James Mee; second, Lady Amanda, J. C. Simpson. Jacks—First, John Henry, W. A. Munson; 2d, Compound, James Boyd; Jennettes—First, Topsy, James Boyd.

Mules—First, Pet and Kate, James Boyd.

Cattle.

Durhams—Three yrs, 1st, Red Thorndale, Coleman Younger; 2d, Grand Prince of Lightburne, Robert Ashburner; 2 yrs, 1st, Gwinn Prince, Charles Clarke; 2d, Baden Duke, R. Ashburner; 1 yr, 1st, Seventh Red Thorndale, Coleman Younger; 2d, Tenth Red Thorndale, same owner; bull calf, 1st, Twenty-Eighth Duke of Gabilan, Jesse D. Carr; cows, 3 yrs, 1st, Third Maid of Monterey, Jesse D. Carr; 2d, Red Dolly the Second, Coleman Younger; 2 yrs, 1st, Fairy Queen the Fourth, Jesse D. Carr; 2d, Red Dolly the Fifth, Coleman Younger; 1 yr, 1st, Sixth Rose Forest Home, Coleman Younger; heifer calf, 1st, Twentieth Maid of Monterey, Jesse D. Carr.

Ayrshires—Bulls, 3 yrs, 1st, Melancton Callahan, G. Bement; 2d, Scotland, Col. Saxe; 1 yr, Archie, G. Bement; bull calf, 1st, Eclipse, G. Bement; cows, 3 yrs, 1st, Maggie, G. Bement; 2d, Lady Chapin, G. Bement; 2 yrs, 1st, Stollene, G. Bement; 1 yr, 1st, Highland Maid, G. Bement; heifer calf, 1st, Marietta, G. Bement.

Jerseys—Bulls, 3 yrs, 1st, Hugo of Yerba Buena, Henry Pierce; 2d, Walton, W. S. McClane; 1 yr, 1st, Deer Foot, Henry Pierce; 2d, Prince, W. W. Camron; bull calf, 1st, Duke, W. W. Camron; cows, 3 yrs, 1st, Eva of Yerba Buena, Henry Pierce; 2d, Young Bloomer, W. W. Camron (the committee recommend a diploma to Pearl Second); 2 yrs, 1st, Mignonette of Yerba Buena, Henry Pierce; 2d, Duchess No. 2, Jesse Wall; 1 yr, 1st, Annie Cary of Yerba Buena, Henry Pierce; heifer calf, 1st, Bettie, J. W. Coteman.

Alderneys—Bulls, 2 yrs, 1st, Prince Henry, Mr. Snyder, Jr.; 2d, Surprise, J. McMillan.

Graded—Cows, 3 yrs, 1st, Lady Fragrant, Page Bros.; 2 yrs, 1st, Mamie, Page Bros.

Herd of Cattle—First, Coleman Younger; herd of cattle under 2½ yrs, Jerseys, 1st, Henry Pierce.

Sweepstakes—Bull, 1st, Red Thorndale, Coleman Younger.

Sheep.

Sheep—Spanish Merino rams, 2 yrs, 1st, Columella, E. W. Woolsey; 2d, Silk Stocking, J. H. Strobridge; 1 yr, 1st, Sprightly, J. H. Strobridge; 2d, Longwool, Jr., E. W. Woolsey; pen of 5 ewes, 2 yrs, 1st, J. H. Strobridge; 2d, E. W. Woolsey; pen of 5 ewes, 1 yr, 1st, J. H. Strobridge; 5 lambs, 1st, E. W. Woolsey; 2d, J. H. Strobridge.

For French Merinos 7 premiums were awarded to Mrs. R. Blacow.

Sweepstakes—First, Columella, E. W. Woolsey; 2d, Sprightly, J. H. Strobridge.

Goats.

Three premiums for Angora goats awarded to W. M. Mendenhall.

Swine.

Swine—Berkshire boar, 1st, Black Prince, Francis Valentine; Essex and Berkshire sow, 1st, Oakland Queen, P. L. Larnhart; Berkshire sow and pigs, 1st, Charles Mokler.

Poultry.

T. D. Morris, of Sonoma, exhibited a fine show of pure-bred geese, turkeys, chickens and ducks, and was the only exhibitor taking premiums.

ADAMS' PATENT SHAM HOLDER.—This useful invention has proved to be the greatest possible blessing to housekeepers, as it saves trouble and washing, and can be adjusted to any ordinary sized bed. Thousands of these holders are now in use, and no one who has ever tried them would be without them. There are many reasons why they should be used. With this invention the shams are always in their place. It saves the trouble of using false pillows. It saves all the time and trouble of taking off and putting on the shams each day, besides lessening the danger of soiling them. The shams will last much longer, without washing, therefore will wear longer, and by the washing they save, will pay for the holders in a short time. They will never get out of order when used properly, and will last for years. These holders have received the first premium at the following fairs: At State fair, Sacramento; Golden Gate fair, Oakland; and Santa Clara Valley fair, San Jose; and have been pronounced by all who have seen them as invaluable to those who use shams. They are in price so low as to place them within reach of all. G. W. Waggoner, 408 Tenth street, Oakland, Cal., general agent for Pacific coast. Orders by mail promptly filled.

News in Brief.

The crop prospects in India are improving. The N. Y. Manhattan Market will not be rebuilt.

SEVENTH-DAY adventists are in camp at Alameda.

The Kurds have devastated 13 Armenian villages.

The State fair is now in progress at Sacramento.

Two thousand cabinet-makers in Paris have struck.

The Canadian bush fires have been extinguished.

MOODY & SANKEY are shortly to visit San Francisco.

TALMAGE eulogizes the Chinese since his return home.

EDISON will soon have another test of his electric light.

GEN. TODLEBEN has resigned the governorship of Wilna.

PRESIDENT HAYES visited Mare Island Navy yard this week.

New channel has been opened through the Columbia River bar.

HORSES at Boston have a distemper similar to the epizootic of 1872.

MAUD S. has been withdrawn from the turf by Vanderbilt, her owner.

HENRY FAUCETT, British Postmaster-General, will visit the United States.

STEAMER *Aurora* from Oporto to Southampton, foundered; 50 lives lost.

The famous trotter, Maud S., has made the fastest time on record—2:10½.

The band of moonshiners in West Virginia is to be attacked and broken up.

The "Authors' Carnival and Fete of Nations" is now in progress in this city.

In Calcutta it seems clear that the Government has resolved to abandon Kyber Pass.

MRS. HAZARD, of Monticello, Ill., gave birth to five babies on Sunday, two of whom lived.

EAST LAS VEGAS, N. M., was nearly destroyed by fire on the 18th. Loss, \$100,000.

STEAMER *Gussie Telfair* from Coos bay for San Francisco has been wrecked; loss, \$75,000.

The corn crop of Illinois will not fall below the average, despite the drouth and early frosts.

The race for the Lancaster cup was won by Dresden China, Middelweiss second, Schoolboy third.

ALBANIANS have driven out the Turkish troops; and occupied the town and fortress of Dulcigno.

For eight days after the battle of Kushk-i-Nakud the Afghans were employed in interring their dead.

MICHAEL DAVITT, missionary to the United States of the Irish National Land League, is in San Francisco.

For the week which ended on Friday there were in Havana 19 deaths from yellow fever and 9 from smallpox.

The National government has suppressed, by force of arms, the Provincial Chamber of Deputies at Buenos Ayres.

The yacht *Tidal Wave*, owned by David Cook, of San Francisco, was the winner of the Bennett cup at New York.

The Porte is using its utmost endeavors to avoid a naval demonstration, as it fears a general insurrection should it take place.

DURING the quarter ending June 30, 1880, 5,007 emigrants left Hongkong for the United States, of which 7 were females and 44 children.

The health of Gen. Roberts is quite restored. His forces leave Candahar shortly, and will be replaced by Gen. Pbyre's troops, numbering 13,000.

The formal opening of the International exhibition of sheep and wool products at the main exhibition building, Philadelphia, took place on the 21st.

The contract for the extension of the Denver & Rio Grande railway to the Gunnison country was let on the 21st. It is to be finished within seven months.

The naval demonstration has been postponed until the Christians can leave Dulcigno, as a massacre is feared. The vessels will be unable to keep this station as soon as the autumn storms begin, which will be in a fortnight.

The Patcham (Eng.) weavers have unanimously resolved to support the Accrington operators to the extent of two pence a loom if the mills run three days a week, and three pence if they run full time, should the operators strike.

A BAND of 300 Serbian brigands has crossed to the Hungarian side of the Danube. A battalion of troops has been ordered to bar their way toward the interior. Much alarm is felt among the traders of western Serbia because of the recent large increase of bands of robbers.

The famine in Azerbaejan and the adjoining districts of Asiatic Turkey, in spite of various assurances to the contrary, has not abated. Letters from Uroomeh, Tauris and other places speak in harrowing terms of the sufferings of the people. Cases of cannibalism have occurred in the neighborhood of Van, where the famine seems to be most severe.

ANOTHER boom in San Diego real estate is threatened. An official of the Atchison, Topeka and Santa Fe railroad states that an arrangement has been entered into by which \$250,000 is to be expended by his company, between the present time and January 1st next, in building a road eastward from San Diego. According to the same authority, the embryo metropolis is to be made the western terminus of the Atchison, Topeka and Santa Fe broad-gauge road.



The Home Concert.

Well, Tom, my boy, I must say good-bye,
I've had a wonderful visit here;
Enjoyed it, too, as well as I could
Away from all that my heart holds dear.
Maybe I've been a trifle rough—
A little awkward, your wife would say—
And very likely I've missed the hint
Of your city polish day by day.

But somehow, Tom, though the same old roof
Sheltered us both when we were boys,
And the same dear mother-love watched us both,
Sharing our childish griefs and joys,
Yet you are almost a stranger now;
Your ways and mine are as far apart
As though we never had thrown an arm
About each other with loving heart.

Your city home is a palace, Tom;
Your wife and children are fair to see;
You couldn't breathe in the little cot,
The little home, that belongs to me.
And I am lost in your grand large house,
And dazed with the wealth on every side,
And I hardly know my brother, Tom,
In the midst of so much stately pride.

Yes, the concert was grand, last night,
The singing splendid; but, do you know,
My heart kept longing, the evening through,
For another concert, sweet and low
That maybe it wouldn't please the ear
Of one so cultured and grand as you;
But to its music—laugh if you will—
My heart and thoughts must ever be true.

I shut my eyes in the hall last night
(For the clash of the music wearied me),
And close to my heart this vision came—
The same sweet picture I always see:
In the vine-clad porch of a cottage home,
Half in shadow and half in the sun,
A mother chanting her lullaby,
Rocking to rest her little one.

And soft and sweet the music fell
From the mother's lips, I heard the coo
Of my baby girl, as with drowsy tongue
She echoed the song with "Goo-a-goo,"
Together they sang, the mother and babe,
My wife and child, by the cottage door,
Ah! that is a concert, brother Tom,
My ears are aching to hear once more.

So now good-bye. Ah! I wish you well,
And many a year of wealth and gain;
You were born to be rich and gay,
I am content to be poor and plain.
And I go back to my country home
With a love that absence has strengthened, too—
Back to the concert that's all my own—
Mother's singing and baby's coo.
—Harper's Monthly.

Ole Bull.

Born at Bergen, Norway, 1810—Died at Bergen, August, 1880.

[Written for RURAL PRESS by JEANNE C. CARR.]

There is silence in the Northland woods, and the waterfalls have ceased their summer song. Soft as feathers of down drop the foamy floods of the Gotha and the Rjukan-Foss; and whiter than the crest of Sneehattan are the veils with which the aurora hides the splendors of the northern night. For the soul of their souls, their interpreter, their lover, is passing beyond the realm of visible existence, to the throne which Odin has prepared among the heavenly Esir.

Majestic among the sons of men he moved, and the bards of other days came to him in dreams, with voices mournful and low. To him they gave the mysterious shell and magic bow, and the sword of his forefathers. When he touched the marvelous instrument, the "quails of the cornland would each leave its mate to fly after the player;" the aged walked once more in the meadows of youth; the youth became a hero; the heart of the pure maiden received from Balder, the beautiful god of the Northern mythology, the baptism of a holy love.

Other gifts were laid upon his cradle; dimly discerned by parental eyes, the cross of suffering, the crown of victory. The life which has just closed its three score and ten years, was filled with strange experiences and vicissitudes, but neither disappointments, betrayals, or the severest test of popular adulation, could obscure the brightness of a spirit so clear and just, so sympathetic and free.

The father of Ole Bull was a chemist of considerable eminence, and one of the solid citizens of Bergen; his highest ambition was to see his three sons distinguish themselves in the sciences. Two of them fulfilled his hopes; one entering his father's profession, and the younger the Polytechnic school at Hanover, where he took the highest honors of a class of 800 students. But Ole, the favorite of his parents from his sunny disposition, gay humor and personal beauty, promised to be "only a fiddler." Happily his genius was recognized as not wholly erratic, for one of his uncles was a passionate lover of music, and an accomplished performer; yet nevertheless a citizen of mark, who edited the first newspaper published in that part of the kingdom.

Bergen is the most picturesque town in the

north of Europe, and was the ancient royal residence. It enjoyed great commercial prosperity while belonging to the Hanseatic league, and the ships of all nations still crowd the harbors whence Hakon Hakonson sailed with the first Norwegian cargo, early in the 13th century. The red-roofed houses which line the spacious streets are bright with many windows, and frequently command noble views in every direction; the lofty mountain chain of the Hardanger-Fjeld enclosing the city on the land side, while its elevated situation also enables the eye to reach far seaward and enjoy the beauty of the lovely groups of wooded islands, which are the favorite residence of the wealthier citizens. Three great elements of natural sublimity, fjeld, forest and fiord, are the birthright of the Bergene.

The city, and the whole of Bergenhus, is rich in patriotic reminders of earlier times; the remains of Olaf Kyrre's palace, built in 1070, are still to be seen, and citadels and cathedrals keep the memory of warriors and saints fresh in the minds of the people.

The American who desires rightly to appreciate the race characteristics we have derived from Scandinavian ancestors, should seek them in their original sources. The restless energy which made the Northern masters of the Northern seas, softened by infusions of gentler quality, has still been strong enough to carry the principles of civil and religious liberty to the remotest parts of the earth. The intense patriotism which distinguishes the Norwegian peasant of to-day comes fresh from nature's fountains; the Jotum-Fjelds, Eke and Foss, are producing in the present century the same warlike and hardy race renowned in the Sagas. The tourist may find in the heart of the Hardanger-Fjeld a wide district where the people still preserve their ancient simplicity. The "house father" still occupies the *høi-soede*, high chair, or place of honor, never yielded, except to one of greater age or higher rank. The wealthier are not known by luxury of living, but by larger hospitality; the *gjæste-stuer*, or strangers' chamber, is seldom empty, nor is other payment than a hand shake to be offered without offense.

There, too, the ancient ideas of chastity and pure morals prevail; girls of spotless fame go bareheaded, while those of doubtful reputation wear a head-dress unlike that of the matrons, and there the family name is cherished as the highest title of nobility.

Ole Bull was truly a representative man, and in him the spirit of his people was incarnated. The individual genius descends through a long line of ancestry, its originally pure fountains have often been filled with weeds and choked with rubbish, but this genius was of chaste extraction, and the current of spiritual forces flowed through an organism free from weakness or disease.

Child Ole, looking one day from the bright windows of the Bergen home toward those distant forests of birch and pine, was seized with an irrepressible longing, so taking his beloved fiddle, and not forgetting to fill his pockets with bread, he wandered on and on, many a mile from the town, until at last he found himself in the woods which surround a ruined kloster or monastery. In the Hulder (Norsk fairies), who dwell in forests and mountain fastnesses, Ole devoutly believed, so he lay down to sleep on the fir leaves in a pure content, and woke with the birds, who shared his morning meal. They thanked him in a song, and he thanked them with a solo on his violin; and at vesper time, at the end of the short Northern day, the Hulder gathered around the sleeping child, and in dreams he heard the music which 50 years later he reproduced in a composition entitled the "Voice of the Summer Night." The neighboring peasants discovered the little pilgrim in his retreat, and restored him to his distracted family.

Boy Ole grew up equally at home in the Alpine regions, where the reindeer spring from their pastures of moss, and on the transparent waters of profound depth which penetrate the mountains for great distances, receiving the tributary glaciers and waterfalls, yet preserving unbroken their own mirrored surfaces, like a noble character in a selfish world. He was equally at home with fishermen and peasants, to whom the voice of the violin was ample payment for shelter or service.

This errant education did not accord with family discipline or ambition, and Ole's affectionate heart grieved over the growing coldness with which his enthusiasm was met, and which he strove to overcome by diligence at the academy. He finally reached the university, having chosen the profession of the law, but an untoward circumstance prevented his graduation.

The manager of the Christiania theater, who was also the leader of the orchestra, was taken suddenly ill, and the student Bull, whose playing had already attracted great attention, was implored to lead the orchestra for a single night. Ole consented, and having previously given offense by his devotion to music, his theatrical triumph cost him the diploma. He thenceforth abandoned the study of the law, and resolutely made choice of freedom and the violin. As if to reward his consecration, Paganini, the weird and wonderful player, now crossed the path of the Norwegian youth. Ole would gladly have followed this master around the world. His own inimitable rendering of national music "For Norge, Kjempers Føde-land," and other pieces, which roused the wildest enthusiasm of his countrymen, now seemed but the piping of the shepherd to his sheep. Heaven and hell were opened by the hand of the Paganini,

and with trembling hands Ole questioned the instrument.

"Is it the moved air or the moving sound
That is life's self and draws my life from me,
And by instincts ineffable decree
Holds my breath quailing in the bitter bound."

He followed Paganini to Paris, and there, quite unknown, had the misfortune to lose the trunk which contained his violin, money and clothing. For three days he wandered about the streets vainly trying to find work, and then grown desperate from hunger he threw himself into the Seine. He was not 20 years old, and the end of the world would have come to him had not a mother from whom death had taken a fair son, observed the rash act and saved him by calling a boatman to his rescue. She had him taken to her own home and upon his recovery from a long illness, which followed this exposure, formally adopted him. His marriage with the daughter of his benefactress, though a short-lived happiness, brought repose of mind and the conditions favorable to success in his still beloved art; his first Parisian concert brought him 1,200 francs. He was in fact winning his place among the musical celebrities of the day, when the revolution of 1832 suddenly commenced, and Ole laid down the violin to take up the sword. He was severely wounded, and again his superb constitution suffered a shock. But in the long confinement which followed, his violin was always on the pillow, and his fancies were fixed into harmonic forms of exceeding beauty.

Then followed a career of almost unexampled brilliancy and success. Fame and fortune showered their gifts, nor did he escape the arrows of envy and detraction. Especially in Germany where the study of music had elevated the popular taste and created a demand for "art in obedience to laws," was the claim of this meteor to a place among the fixed stars denied and disputed.

But the people knew their own soul language, they listened entranced to

"The rumor of the forest trees,
The plunge of the implacable seas,
The tumult of the wind at night,
Voices of old, like trumpets blowing,
Old ballads and wild melodies,
Like Elivagar's river, flowing
Out of the glaciers of the north."

—Longfellow's Wayside Inn.

And the people loved the player. The genial kindness of his manner, the fascination of his wild improvisations, his noble and majestic form created a furore of enthusiastic admiration wherever he went. And, as if nothing should be wanting to give efficacy to his spells, the most exquisite instrument of Joseph Guarnerius, who in the year 1742 had built a violin for music to dwell in forever—a violin that had an imprisoned soul shut in its hollow chamber, this wonderful cremona marked with the sacred "I. H. S." came into Ole Bull's possession. Do we not all remember how tenderly, caressingly the master held that cherished instrument upon his arm, how gently he evoked the spirit, and the rapt expression of his noble face as he listened with the audience to the speech of the blessed?

There was a dnet with an unseen performer, earth and heaven meeting in tones which "left the ground to lose themselves in the sky."

Ole Bull had yet another violin of marvelous power and beauty of tone built by Gaspar de Salo at Brescia, and cunningly carved by Benvenuto Cellini, who died in 1540. What other hand had forced from this excellent minion of sound the cry of a soul in rapture or in pain we do not care to know; it was Ole's companion in the years of his prime, in court and tent, in the mountains of Africa, whither he accompanied his friend, Gen. Yusef, in a military expedition against the Kabyles, and at the Court of Spain, where he gave concerts in honor of Queen Isabella's marriage, and received from the royal lady the gift of a "verbena flower" set with precious stones.

But Ole Bull found no instrument that would adequately convey his own profounder musical inspirations. He labored, as one who is dumb, for the means of expressing his own conception of the infinite in art. Ole thought, with Abt Vogler:

Sorrow is hard to bear, and doubt is slow to clear,
Each sufferer has his say, his scheme of the weak and woe;
But God has a few of us whom he whispers in the ear,
The rest may reason and welcome, 'tis we musicians know."

It was this divine whisper which Ole Bull was striving to communicate through his own compositions and by improvements upon stringed instruments which consumed some of his best years and no small part of his fortune. There are several pianos in New York which are the results of a series of experiments, the object sought being to make a powerful instrument of wide adaptability, which, like the violin, should ripen with age and improve with use. In these pianos wood of the most resonant quality only is used. They did not satisfy their inventor, who looked upon them merely as initial steps to a consummate instrument to be wrought out with knowledge, patience and skill by other hands.

Many years before this invention a Norwegian peasant, named Andemson, had made an eight-stringed violin upon which he performed the wild music of the mountains with great effect. He was a rare genius, and Ole Bull invited him to Bergen, made him happy and famous, and at his death the "peasant's violin" was added to a unique collection of musical instruments which were gathered into Ole's home on the island of Andoe.

There a lofty hall, enriched with carving, contained the rarest and most varied contrivances

of mankind for the expression of emotion, and there too were gathered the imperishable creations of the great tone masters.

Elsewhere in this favorite abode were a thousand charming mementoes of the master's career; the humble offerings of the lowly and royal gifts of prince; the jeweled circlet with which Ole Bull was crowned king of the violin by Californians in 1870, side by side with a costlier trophy bestowed in Italy in 1878, during his last and most triumphant European tour.

Nature had already laid the silver crown upon him who was the friend of all nature.

Aside from his exquisite handling of the bow, the Italians honored him as a patriot, as an ardent promoter of popular liberty and of popular institutions. They even compared him to Leonardo da Vinci, whose genius shone in so many directions. Allowing for the difference in time and in environment, there is a spiritual and moral likeness between these representatives of the Scandinavian and Roman races. Leonardo, in the 15th century, might have planted a colony in the far West, or embodied his conception of Christ in a grand oratorio; and had Ole Bull's star of nativity been cast in the southern sky and an age of oppression, he would have served mankind in frescoes, or perchance in the fires of martyrdom.

Ole Bull was at home on both continents. In response to a toast given on a festive occasion "to the gifted Norwegian," Ole replied, "when I am in America I am a Norwegian; in Norway I am always an American." He was as truly grand in the liberality of his political and religious views as he was tolerant of the opinions of others.

It was the writer's good fortune to witness the welcome given to Ole Bull by the Norwegians of Wisconsin in 1868. Many of the participants in this scene were of the Pennsylvania colony, which Ole had founded some 20 years before and whose homes had been swept away in consequence of a fraudulent title to the lands. As Ole had been the agent to whom the purchase and location was entrusted, he felt overwhelmed by this calamity. His own pretty cottage in the Oleana village was emptied with the others; but while his bread was secure by his art, they were cast helpless upon the world. The proceeds of his concerts were shared with the sufferers as far as possible, until they were happily settled in a State which owes much of its prosperity to the Norwegian population. And now, after long separation, whole families came up from homes 20 and even 50 miles distant to take their friend once more by the hand. The capital city was alive with the Scandinavians. In the large hall used as a reception room, he responded to their greeting in the Norsk language, and then, as if to lead them back to the fatherland, he took the violin and stepped upon the platform. Time and sorrow had changed the "aspect blithe," which Longfellow made famous, but a loftier, more chastened soul moved over the sensitive strings and touched every heart with its blessing. Tears rained from unaccustomed eyes; women sobbed in an ecstasy of delight; they heard again the wild laughter of the mountain streams or the plaintive minors of the wind and wave.

Few foreigners have awakened the personal interest and affection which have followed Ole Bull during 40 years. In his frequent journeys across the Atlantic he was often accompanied by parties of American friends, who found the Norwegian summer all too short for the varied enjoyments provided by this genial host. Among his guests in 1870, was a young American girl of great artistic promise, whose intellectual sympathy made her a welcome addition to a company of maturer years. What wonder that in the improvisations which filled the twilight hours, that the perfect chord was struck, and two souls were made one through music? So Ole Bull, 60 years young, gathered the Edelweiss for one worthy to wear it in her bosom, one of whom the Norsk people are proud, as capable of representing their genius and social life in excellent and faithful translations of their literature.

Beside the children of the first marriage, there is a little daughter to inherit the genius of these two rare and beautiful persons. I seem to see this mother and child standing before the silent instrument, which will vibrate no more to the "Mother's Prayer." But soft! there is a tremor in the strings, which, faintly sliding by semitones through the sad minors of bereavement, loneliness, widowhood, become sustained and full as it rises into a triumphal strain. That which strove for the perfect has reached the Perfect, and for us silence resumes her reign.

Pasadena, Los Angeles Co., Aug. 21, 1880.

TO WHOM HONOR IS DUE.—Dr. Chapin, of New York, says: "I can not honor too highly the industrious mechanic, patiently using his hammer or his wheel. If he only sews a welt or planes a knot, he helps to build up the solid pyramid of the world's welfare. There is no doubt of his nobility over those who compose the feathery foam of fashion that sweeps along Broadway, who consider the insignia of honor to consist in wealth and idleness, and who ignore the family history by painting a coat of arms to cover up the leathern aprons of their grandfathers."

LADIES who do their own work will find that, in addition to a long apron a pair of calico sleeves with a rubber cord in the top is a dispenser of happiness. One can slip them on over cuffs and nice dress sleeves, get tea and even wash the tea dishes without injuring the dress.

Chaff.

THAT is two kind of men that i don't care to meet when i am in a grate hurry; men that i owe and men that want to owe me.

"JANE," said he, "I think if you lifted your feet away from the fire, we might have some heat in the room." And they hadn't been married two years either.

A YOUNG lady, while out walking, heard for the first time of her mother's intention to marry again, and she was obliged to sit down and cry about it. She could not go a step-father.

"Tom," said a girl to her sweetheart, "you have been paying your distresses to me long enough. It is time you made known your contentions, so as not to keep me in expense any longer.

A LITTLE Sunday-school miss was asked by her teacher: "What must people do in order to go to heaven?" "Die, I suppose," replied the little one. The teacher didn't question her any further.

MISTRESS (horried)—Good gracious, Bridget, have you been using one of my stockings to strain the coffee through? Bridget (apologetically)—Yis, mum; but shure I didn't take a clane one.

A PARISHIONER of a Berkshire pastor was asked what the color of the parson's eyes was. He didn't really know, "for," he said, "when he prays his eyes are shut, and when he preaches I generally shut mine."

A PATRIOTIC HIBERNIAN, after listening some time to a recitation of Irish bulls amid general laughter, cried indignantly: "Faith, Mr. A., an' do ye know what I think?" "Why, indeed, what do you think, Mr. D.?" "Shure, sir, an' do ye know that I think, indade, that not more than one-half of these lies that they tell 'bout the Irish are true." This was unanimously pronounced the best bull of the lot.

A FIVE-YEAR-OLD son of a family the other day stood watching his baby brother, who was making a great noise over having his face washed. The little fellow at length lost his patience, and stamping his foot, said: "You think you have lots of trouble, but you don't know anything about it. Wait till you're big enough to get a lickin' and then you'll see—won't he, mamma?"

What Seven Women Did.

These women lived in the country, were housekeepers with large families and small means; each one did her own work, and was full of care. To brighten up their monotonous lives a little during the dull, hard winter, they proposed to meet once in two weeks at each others' houses, with their knitting or sewing, but to go home before tea, that it should not interfere with their regular duties.

One of them proposed that they should read some book together and talk about it afterward, thus affording them pleasant and useful subjects for thought during the intervals of visiting. One lady suggested that they read Shakespeare. She had once seen the play of Hamlet, and she wanted to know more of this wonderful book. This at first seemed to these women of limited education, and at the ages of from 40 to 60, as an idea too ambitious for them to carry out; but at last they determined to attempt it, although for fear of the ridicule of others who might hear of it, they resolved to keep their own counsel.

By dint of economizing and contriving, they purchased a copy of Shakespeare, and with the aid of a pronouncing dictionary to test all doubtful words, they began with the play of Julius Caesar. From reading the plays, they were led to desire a knowledge of Shakespeare himself, his surroundings and his friends. A kind and congenial friend, to whom they confided their secret, obtained for them the needful books. Notwithstanding the preparatory reading and the necessary study for these meetings had to be done here and there in odd moments, these women felt uplifted and refreshed by the thoughts which thus came to them, and they were delighted with the new outlook which opened over and above their weary lives. By their careful and strict attention to their studies, the range of their knowledge was greatly enlarged, and they were able to write creditable and thoughtful essays on subjects which grew out of their research.

HONORING MRS. HAYES.—Now that Mrs. Hayes is on this coast, and many of our people are making her acquaintance, they will be interested in knowing what they are proposing to do for her at the East. The *Utica Herald* says: Miss Esther Pugh, "the staunch Quaker Treasurer of the Hayes Fund Commission," at 54 Bible House, New York city, will receive contributions for a "temperance testimonial to Mrs. President Hayes for the noble stand she has taken for total abstinence while hostess of the White House." This testimonial is to take the shape of "a life-size portrait of Mrs. Hayes, to be painted by one of our best artists," and when finished to be placed in the White House. Every \$5 subscriber will have an engraving of the portrait, and it is expected that the subscription will be so large that enough will be left over to serve as the nucleus of a fund named "the Hayes fund," to be employed in circulating total abstinence literature. Miss Frances E. Willard is President of the commission, and Felix R. Brunot, Mrs. Joseph Cook, Bishop Simpson, Bishop Jagger, Mrs. Gov. Fairbanks, Neal Dow and Gov. St. John, of Kansas, are among the members of the Hayes Fund Commission.

Young Folks' Column.

The Diver's Fun with the Fishes.

Our young readers must ask their parents to explain to them how men go down to the bottom of the sea in diving-bells or with divers' costume and stay there for hours without coming to the surface. When our young friends understand this they will appreciate the following which we find in an Eastern newspaper: Fishes are as playful as birds, and some species may be tamed as readily as any other pets. Divers in diving-hells have had some curious experiences with them. A prolonged stay in one place gave a diver an opportunity to test this intelligence further, and to observe the trustful familiarity of this variety of marine life. He was continually surrounded at his work by a school of grofers, averaging a ft. in length. An accident having identified one of them, he noticed that it was a daily visitor.

After the first curiosity, the grofers apparently settled into the belief that the novel monster was harmless and clumsy, but useful in assisting them to their food. The species feed on crustacea and marine worms, which shelter under rocks, mosses and sunken objects at the sea bottom.

In raising anything out of the ooze a dozen of these fish would thrust their heads into the hollow for their food before the diver's hand was removed. They would follow him about, eyeing his motions, dashing in advance or around in sport, and evidently with a liking for their new-found friend. Pleased with such an unexpected familiarity, the man would bring them food and feed them from his hand as one feeds a flock of chickens. The resemblance in their familiarity and some of their ways to poultry was, in fact, very striking. As a little chick will sometimes seize a large crumb and scurry off, followed by the flock, so a fish would sometimes snatch a morsel and fly, followed by the school. If he dropped it or stopped to enjoy his tidbit, his mates would be upon him.

Sometimes two would get the same morsel and there would be a trial of strength, accompanied with much flash and glitter and shining scales. But no matter how called off, their interest and curiosity remained with the diver. They would return, pushing their noses about him caressingly in appearance if not intent, and hob into the treasures of worm and shell-fish his labor exposed.

How a Little Girl Won a Prize.

The *Salinas Index* tells how a bright little lady won a prize: Supt. Shearer recently propounded the following question to Jennie Barbree, the bright 14-year-old daughter of Mr. J. M. Barbree, residing near Salinas: "If 10 oxen eat 5 acres of grass in 3 months, how many sheep will 15 acres of grass pasture for 5 months, if 7 sheep eat as much as 1 ox?" Miss Jennie promptly solved the question by reasoning from cause to effect, giving the following lucid analysis: "Since 10 oxen eat 5 acres of grass in 3 months, and 7 sheep eat as much as 1 ox, 10 oxen, which are 10 times 1, will be equal to 10 times 7, which is 70; and since 70 sheep will eat 5 acres in 3 months, it will last 1 sheep 70 times 3 months, which is 210 months; and since 5 acres will last 1 sheep 210 months, 1 acre, which is one-fifth of 5, will last him one-fifth of 210, which is 42 months, and if 1 acre will last 1 sheep 42 months, it will take as many sheep to eat 15 acres in 5 months as 5 (the number of months) is contained times in the product of 15 multiplied by 42; 15 times 42 is equal to 630, and 5 is contained in 630 126 times; therefore, since 10 oxen can eat 5 acres of grass in 3 months, and 7 sheep can eat as much grass as 1 ox, it will take 126 sheep to eat 15 acres of grass in 5 months." Mr. Shearer was so well pleased with the manner in which Miss Jennie handled the problem that he presented her with a handsome and valuable book.

THE YOUNG HOUSEKEEPER.—One of the first things she learns is that system is absolutely necessary—not the relentless system which decrees that Friday shall be sweeping day though the heavens should fall, but which considers calmly the whole business to be dispatched, portions out the work as wisely as possible, and then adheres to the plan as closely as may be. Of course, at first mistakes will be made. Keep this comforting assurance in mind, that housekeeping does not come by instinct to anybody. However easily some may seem to get along with it, they have acquired that ease by hard and varied experience. If one is in dead earnest about becoming a good housekeeper, occasional failures will help on the work; an ordinarily bright young woman will only once steam brown-bread in an ungreased tin, or build a hot fire with a new oilcloth under the stove. It is a positive fact that in time one who has an actual distaste for housework may come to regard her kitchen as a laboratory, in which careful manipulations will produce exact results.—*New York Evening Post.*

EVEN if a boy is always whistling "I Want to be an Angel," it is just as well to keep the preserved pears on the top shelf of the pantry.

Good Health.

How We Starve by Overeating.

EDITORS PRESS:—Dr. Tanner's fast has given us new light on the important question, how long a robust man may starve himself without permanent injury, and, perhaps, with positive benefit. But the very common case of starving oneself by overeating is to most people (though few know or think it) of much greater personal interest. It is because the statement that we can, and too often do, starve ourselves by overeating seems so paradoxical, that I hope every reader of the PRESS will do himself and friends the justice of seeing if it is true. How often do kind friends persuade the tired mother to eat a little more; or the worried man of business to take an extra lunch or supper, when already the body is at its utmost strain and can no more digest an extra meal than it can undertake extra labor. No man in these busy days can afford to neglect the stern fact that digestion is labor, and in weak persons often just about all the labor they are capable of. This fact is daily recognized in hospitals, especially by the surgeon, who, dealing most with the accident cases, has comparatively healthy stomachs to deal with. Yet here, when all the strength has to be husbanded to meet the strain of a surgical operation, a surgeon dislikes to operate before he has put his patient through a course of simple diet, with rest. Generally too he gives him such medicines as will excite the bowels, kidneys, etc., to carry off those waste matters from his system which too often are simply due to gross feeding.

It would take too long, and probably also convey less of the real truth, were I to go into detail and show the nature and magnitude of the digestive processes. A glimpse of it may be gathered from the fact that our best authorities agree that the internal muscular labor of the body consumes about four-fifths of our daily strength and food; that is, that the churning, straining and pumping of the food and digestive fluids uses up most of our food to make the remaining fifth available for use in our daily labor. This is a big thing I hear some one exclaim. Yes, and the following may, perhaps, seem bigger: Thirty lbs., or nearly twice the weight of the whole blood in our bodies, is poured out daily from the blood vessels (and of course absorbed again when its work is done) into the alimentary canal for digesting purposes. Our two best authorities—Playfair and Letheby—differ but very slightly in their estimates. The average of both states that daily the blood secretes $3\frac{1}{2}$ lbs. of saliva, 14 of gastric juice, $8\frac{1}{2}$ of pancreatic fluid, $3\frac{1}{2}$ of bile and $\frac{1}{2}$ lb (I believe much more) of intestinal fluid. By measure this comes to 21½ English pints, or more than three American gallons; and all this has to pass through miles of little tubes too small for the naked eye to see. Evidently the 17 lbs. of blood with which physiology credits the average man has to be active all the day long. The blood much resembles a restaurant waiter, who is constantly passing from the kitchen (the stomach, etc.) to the dining hall (visceral veins—lymphatics) with viands of all kinds, and as constantly returning again with the dishes, the spoons and whatever the guests refuse.

These various digestive fluids are besides of different chemical composition. Each one, too, contains a special organized ferment, powerful to the digestion of some special part of our food. Now these ferments are in a sense like the seed of a plant, and their production must exhaust the organ producing them much as the seeding of a flower exhausts the plant producing it. No wonder then that indigestion is the rule and not the exception in this bustling busy age.

If a man must, then, overwork, let him beware of overeating. Many ignorantly overeat, deluded by the temporary pause that each meal gives to that feeling of continuous exhaustion, which is quite as often caused by excess of food as by excess of work. This temporary strength is probably due to the stimulation of that great epigastric nervous flexus which is close to the stomach. It has charge of the digestive process, and by food it is excited, and receives an extra supply of blood, just as the eye is excited to action by light, or the ear by sound. This great flexus is the focus of sensation for the abdomen, and its exhaustion we call hunger; but I guess Americans oftener exhaust it by too big than by too little meals, and either cause, it is evident, may give a feeling of hunger. Most of us could easily pick out from among our acquaintances many more examples of weak people who eat much than of weak ones who eat little. The big eaters probably are weak because they habitually eat up to their fullest vital capacity, and are, in fact, like so many hogs—living to eat, instead of eating to live.

But overeating does not merely use up all the working strength in digestion. Unless limited very strictly to the point of complete digestion, much of the food may pass through only the first stages of digestion. It may be acidified in the stomach, but fail to get neutralized in the bowel, where fermentation of an unnatural kind will cause flatulence, and give rise to impure fluids. These absorbed into the blood give feebleness of constitution and liability to disease, and at the same time overload and overwork the liver, kidneys, lungs, skin, and all purifying organs. This habit is the commonest cause of many of our complaints.

To the man or woman who overeats and will not work I have nothing to say. He or she is a hog. But to the wearied mother who wants strength to get through her work I would say: Aim first at eating those foods which need least digestion—roast or broiled mutton, toasted bread (buttered when cold), boiled rice and milk, oatmeal mush, milk diet of all kinds. And here let me remark that milk will, as a rule, agree with any one, if well boiled, and then diluted one-half with weak tea or coffee, or any other fluid, to taste. Many people find that milk does not agree with them, but, boiled and diluted, it seems quite to lose its hilly nature. Eggs, too, are good; also simple soups, and ripe fruit, raw, or cooked with a little sugar. Apples, well washed and baked in the oven, no stomach will feel—it is the sugar of cooked fruit that so often disagrees. Do not attempt too many meals, or have them too near each other. New food introduced into a stomach just finished with and about to pass the last meal into the bowel, may disturb the process, and spoil both the new and the old. Yet something may be taken between meals, if it be nearly all fluid—say a little beef tea, made with cold water slowly heated up just to a boiling point, or a little gruel, made with rice, oatmeal, graham flour, etc. Stir up a tablespoonful of one of these with as much cold water as will thin them to the consistency of cream. Then pour on a pint of boiling water, stir well, and salt it to taste. This has the advantage of being quickly made. A baked apple, a pear, an egg beaten up with a little sugar and water, or any of these simple things, will not only give strength, with almost no labor in digestion, but, taken an hour before food, often give an appetite, and ensure the better digestion of the following meal. SANTARIAN, M. D.

Domestic Economy.

Canning Corn.

EDITORS PRESS:—Please give a recipe for canning corn. —READER.

We find the following directions in the *Country Gentleman*. If any reader knows a better way we hope she will send it for publication: 1. Boil the corn on the ears for a few minutes; then cut the corn off the ears while as hot as you can; put the corn at once into the cans; have the can almost full, say within three-fourths of an inch of the top; then fill the can up with boiling water, and have the can soldered, and put into a kettle of boiling water, and let it boil in the water for six hours.

2. To every six quarts of corn, take one ounce of tartaric acid, dissolved in boiling water. Cut the corn from the cob and put in sufficient quantity of water to cook. When the corn is cooking, put the acid in. When done, seal air-tight, in tin cans or glass jars. To prepare for the table, pour off the sour water and save it; put in enough fresh water to cook it; for every quart of corn, add one small teaspoonful of soda; let it stand a few moments before cooking; while cooking, put in a teaspoonful of sugar. If the corn turns yellow, there is too much soda; pour back some of the sour water until it turns white again. When nearly done, season with salt, cream and butter, same as fresh corn.

3. Dissolve one and a quarter ounces of tartaric acid in one-half pint of water; cut the corn from the cob and cook it properly; when cooked, add two tablespoonfuls of the acid solution to every quart of corn; can and seal securely, and set in a cool, dry place. When wanted for use, stir half a teaspoonful of soda into two quarts of corn, and let it stand three hours before cooking. This removes all acid from the corn.

HOME MADE BAKING POWDER.—A correspondent of the *Germantown Telegraph* writes: Careful chemical analysis of the different powders showed alum or some other deleterious substance as a constituent of all those which we tried; so after reasoning thoroughly upon the matter, we made a "batch of powder" for ourselves, after this wise: Three-fourths of a pound of pure bicarbonate of soda was procured from the spice mill, a half pound of tartaric acid from the same place, and a paper of cornstarch from the grocery store. From the last I weighed three-fourths of a pound. These three ingredients I pulverized thoroughly, first drying them in the stove oven when the heat was very gentle indeed; then after mixing them to more completely mingle the particles; another drying in the oven and then put in empty bottles and sealed. You should see our biscuits, light and flaky; no more dark glances or deep sighs betokening indigestion on the part of the consumers, because this could but be a wholesome compound when we consider its ingredients. We would like to advise all similarly afflicted housekeepers to try this—that is those afflicted with biscuit-relishing dyspepsias—and just let me whisper, that it is marvelously cheap compared with that we have rejected.

GRAPE JAM.—Separate the pulps from the skins. Put the pulp in a kettle with a small quantity of water, and boil until the seeds can be easily separated. Then put through a sieve. Boil the skins, with just water enough to cover them, until quite soft; put the pulp and skins together, add half a pound of sugar to one pint of fruit, and boil slowly until quite thick. Seal up in fruit jars or cans. This jam is not as rich as preserves, and will be found very palatable.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week 1 month 3 mos. 12 mos.

Per line..... .80 \$2.00 \$5.00

Half inch (1 square)..... \$1.00 \$3.00 7.50 24.00

One inch..... 2.00 5.00 14.00 40.00

Our latest forms go to press on Wednesday evening

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STROM

SAN FRANCISCO:

Saturday, September 25, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Marketing California Honey; Cots-wold Sheep; Orchard Drouth, 193. The Week; The Pail and Scale Test of Dairy Cows; Activity in Ships, 200. Railroad Rights and Wrongs; Live Stock at the Golden Gate Fair; Gen. Albert J. Meyer, 201.

ILLUSTRATIONS.—Rams of Cotswold Breed—The Famous English Mutton Sheep, 193. Percheron Stallion "Beaux Noir," Imported from France by W. M. Dunham, Wayne, DuPage County, Illinois, 195. The Late Gen. Albert J. Meyer, of the Signal Service Bureau, 201.

QUERIES AND REPLIES.—Black-leg in New Mexico, 200.

CORRESPONDENCE.—Tehama County Notes, 194.

HORTICULTURE.—Making and Preserving Cider; Fruit Growing.—No. 3, 194.

THE FIELD.—The Old and the New in Farm Economy, 194.

THE STABLE.—The Percheron Horse; Horse Leather, 195.

PATRONS OF HUSBANDRY.—The Fire Insurance Company Matter; Coming Meeting of the State Grange; California Farmers' Mutual Insurance Co., 196.

PISCICULTURE.—A Long Island Trout Farm, 195.

AGRICULTURAL NOTES from the various counties of California, 193-97.

NEWS IN BRIEF, on page 197 and other pages.

HOME CIRCLE.—The Home Concert (poetry); Ole Bull; To Whom Honor is Due, 198. Chaff; What Seven Women Did; Honoring Mrs. Hayes, 199.

YOUNG FOLKS' COLUMN.—The Diver's Fun With the Fishes; How a Little Girl Won a Prize; The Young Housekeeper, 199.

GOOD HEALTH.—How we Starve by Overeating, 199.

DOMESTIC ECONOMY.—Canning Corn, 199.

MISCELLANEOUS.—Rapid Forest Destruction, 195. The Moon's Force; Liability for Injuries to Railway Employees; Outbursts of Heat in the Sun; Silylic Acid as a Preservative; Files and Filing; Steam Dredging for Oysters; Glucose; Waves of Cold; A Trans-Neptunian Planet; The Origin of the Diamond; To Test Milk for Water; The Earth as a Conductor; Hight of the Aurora Borealis; Improved Electric Battery; Make Your Own Barometer, 202.

Business Announcements.

La Dows Jointed Pulverizing Flour—G. A. Davis, S. F. Percheron Horses—W. M. Dunham, Wayne, Illinois. Removal—H. N. Cook, S. F. Chromo and Lithograph Cards. Music Books for Schools—Oliver Ditson & Co., Boston. Full Blooded Berkshire—Grant I. Taggart, Oakland, Cal. Strawberries—J. T. Lovett, Little Silver, N. J. Side Hill Healer Wagon—Taynton & Derickson. Wagon Tongue Support—W. E. Livermore, Los Gatos, Cal. New Champion Shot Gun—E. T. Allen, Agent, S. F. Carriage Horses—W. W. Camron, Oakland, Cal. Short-Horn Cattle—A. Clark, Milpitas, Cal.

The Week.

We are on the other side of the autumnal equinox now, and the weather wise are beginning to talk of an early winter. The "sage brush prophets," as they call them in Nevada, go even farther and assure us that the winter is going to be unusually severe. So the winter will be hard, and there will be plenty of it. We had rather relied on the doctrine of probabilities to give us a mild Italian-like season after the arctic character of the last two. And we are not yet sure that our method of prophesying is not quite as good as the others. Since the old proclamations of drouth, made early last year and the preceding, we have grown suspicious of the weather wise.

The days are shortening fast, and still work presses. The vintage and the raisin curing are now in full flush of the opening weeks, and the season is late as was expected. In some districts the grapes are hardly yet ready, and the earnest desire of the vineyardist will be for continued clear skies. The grain grower is also late with his labor, and some of the smaller counties are calling upon the threshers to come to their rescue, but they are detained longer than usual in the great valleys.

The State fair at Sacramento is now in the midst of its progress. Telegrams yesterday described the display in the different departments as unusually complete, and that the pavilion was far too small for the exhibitors who were applying for space. The attendance of the President will add to the quantity and appetite of the usual State fair concourse, and therefore delight the hearts of the Sacramento victuallers and tradesmen. Thus the affair has its large and little aspects, and the people are all pleased.

The Pail and Scale Test of Dairy Cows.

It was a subject of much interesting gossip among the live-stock men at the Golden Gate fair last week that two leading breeders of Jersey cattle had engaged in debate about the comparative value of two of their cows as butter producers, and had at last agreed to decide their differences by a prolonged and systematic test of the deeds of the two animals. Rumor says that the conditions of the test are to be something like these: The two cows are to be placed in charge of one disinterested man; they are to have the same food and care, and the weights of the food furnished to each are to be accurately recorded. They are to be milked for one year, and the milk is to be weighed carefully. The butter from the milk is also to be weighed. At the end of the year the owner of the cow which makes the best record in all respects, is to have both cows, and \$1,000 in addition is to be given him by the owner of the losing cow. These may not be the exact conditions, but we believe they are in the main correct. At all events there is to be an accurate measure of the dairy value of each cow, and this we mention as of general importance. We shall be glad to know just what two representative California Jersey cows can do. There is now a lamentable ignorance in many minds on the subject of milk and butter yields. Not long since one of our leading city papers gave an article on Jerseys, in which it was stated that five lbs. of Jersey milk had been known to produce a pound of butter, and from this as a starting point it argued the superior results which would be reached if all cows were of this kind. It would indeed be an advantage almost inestimable, but a pound of butter from five lbs. of milk, from any cow whatever, is a claim which no one who has handled cows would for a moment entertain. We mention the case only to show how inaccurate are the views which are held by some people upon the subject of cows and their product.

It is not to be supposed that any dairyman or breeder would make an estimate so wide of the truth as that we have mentioned, and yet it must be acknowledged that many keepers of cows have but very indefinite ideas of what individual cows in their herds do for them, taking the season as a whole. In any scheme for the improvement of common dairy cows there should be far greater care than is usually employed in ascertaining the exact and comparative milk production of all the cows in the herd. Impressions which come from daily milking a few cows may be pretty trustworthy; but even here there is quite a chance for error, because it is a fact that some of the cows which do best at the pail when fresh soon fall away in amount, and thus do not yield the owner as much as other animals which begin more moderately and give a good mess during a longer period. And as this error is apt to creep in on one's idea of the small hand of cows which he daily milks, what can be said of the real ignorance a dairyman has of the comparative value of a large herd, milked by half a dozen milkers? It is quite certain that most dairymen are quite in the dark on this subject, and are continually feeding cows which pay them very little profit or none at all. The only way to arrive at correct ideas on this subject, either to determine the comparative value of cows as dairy machines or to select mothers for the renewal of the herd, is to institute a regular system of weighings of day's milk, and record the same where they can be summarized for a milking season and the results compared. If small platform scales are at hand, and they are well nigh indispensable on dairy farms, it is not very hard to put each cow's mess on the scale night and morning, one day each week, and record the weights in a book opposite each cow's number, which number is fixed upon the animal either by a brand or a little metallic ear-tag, such as are used by breeders generally. This method of judging cows by milk weights for the season is in operation in some of our best dairies, both at the East and in this State, and its value is inestimable both for determining what cows shall no longer cumber the ground because they are eating as much as better ones, and to select with accuracy the best milkers to furnish calves for the recruiting of the herd.

To show the need of forming an accurate judgment of the qualities of the cows which you may be milking, we cannot do better than allude to some statistics which we collected with great care a few years ago when studying the dairy interest of New York State. We would rather use California figures, but there are none compiled which cover so wide a range of dairy animals. The cheese factorymen of New York keep accurate account of the milk furnished them by the different dairy farmers, together with the number of cows each man has in his herd. Upwards of 90 factorymen furnished us their annual reports, and these included the yields of more than 36,000 cows. The average yield per cow at these factories was milk worth \$39.54. The highest average per cow in a single herd was \$90.59, and the lowest average per cow in another single herd was \$14.50. See the immense difference in the productive value of the animals in these two dairies. One man by using every means for improvement of his herd received \$90 from the factory for every cow he milked during the year; another man by neglecting every means of improvement secured only \$14.50 for each cow he milked. When it is seen that such extremes prevail in the quality of dairy cows, it is

not strange that one man can be successful and another a failure in dairying. It is not strange that one dairyman's home can be furnished with every comfort and his ranch show every sign of prosperity, when another lives in discomfort and is soon forced by accumulating debts to relinquish the business. One of the most important things in dairying is to guard against poor cows. A poor cow is as unsatisfactory a tool to work with as can be imagined. One might as well try to sink an artesian well with a post-hole auger as to succeed in dairy production with some cows which still hold a place in many dairy herds. A good cow is at the foundation of every dairy success.

Activity in Ships.

The few ships which are now available for wheat have been taken with considerable avidity during the past week, and charters drawn a short time ago have been redrawn at a round profit to the first charterer. The British iron ship *Pizarro* is a case of this kind, the re-charter holding the rate £3 12s 6d, which is a sharp advance and exhibits the present feeling. Such advances, of course, have to come out of the price of wheat, and, as the matter now stands, the ship owner, not the grain grower, is getting the profit on the season's labor of the latter. This has been brought about, not by any corner in ships as has been contended in former years, but it is the result of various causes which have reduced the numbers of ships available for this fall's trade in wheat.

In order to show how this advanced rate for ocean freights on wheat compares with that of the same date of previous years we have prepared the following table. The rates below are to Liverpool direct. The *Pizarro* goes to Cork for orders, which makes a difference of 2s 6d generally; the higher rate being to Cork:

FREIGHT RATES	VALU OF WHEAT IN S. F.
£ S D	Average Cal. per cbl.
1867 3 2 6	\$2.23
1868 3 4 0	1.92
1869 3 11 6	1.70
1870 2 10 0	1.87
1871 2 0 0	1.53
1872 3 18 6	2.26
1873 3 2 6	1.52
1874 3 5 6	2.07
1875 2 10 0	1.52
1876 3 2 6	2.31
1877 2 0 0	1.72
1878 2 0 0	1.75
1879 2 7 6	1.35
1880 3 12 6	

Placing the rate of ocean freights for the third week in September opposite the average price of wheat in this market, at the same date in each year, it clearly appears how miserable a market our grain-growers are invited to participate in. It does not appear from the above data that there has been a year for the last 14 years, when price and cost of transportation were so unsatisfactory as at present. No wonder there is indisposition to sell wheat among all those who can afford to hold it. The price is so low that there seems little chance of reduction, and the freight rate is so high that it should not rise much, unless wheat rises, for it is hardly possible to see how wheat at present prices can stand any higher transportation rate.

Some of the city statisticians place the capacity of the ships now known to be on the way to this port at about 200,000 tons as available for wheat, but this is quite inadequate to carry the amount of wheat we can spare this year if the price warrants sale. How much the list of hither bound ships can be increased before another harvest cannot now be said, but it is possible that the fleet may be considerably enlarged. The tendency to ship from New York to this port by sea instead of by rail, which we noted last week, is still in active progress, and the indication is a pleasant one. A dispatch from New York, Sept. 20th, says: "The freight market via Cape Horn remains as noted for the past two weeks, and will probably continue so until orders, of which there have been a number, are filled, which will be in the course of 20 or 30 days, and by which time it is thought the market will have resumed something of its old activity. The movement in agricultural goods will also be under full way, and, taken all together, the prospects of the clipper trade are brighter than for a long time past. Rates are now firmer, and since the upward movement, have advanced \$1 and \$1.50 per ton, with probably a further advance. Tonnage is still in light supply, and available vessels are held above the market rate. However, the amount on berth is sufficient for immediate wants, and by the time it is required there will be more vessels in port."

The *Bulletin* introduces rather an interesting phase into the discussion of the present situation, and that is the possibility of shipping wheat by rail to New York, as an escape from the greed of ship owners. It says: "We apprehend that freight could be secured by rail hence to New York at 1c per lb. if any considerable number of car-loads were guaranteed. There is more or less heavy freight now going forward at 1½c to 1½c. The railroad will hereafter serve as a check on extreme rates by ship." We suppose the *Bulletin* is pretty well assured that this service could probably be had for 1c per lb. else it would hardly make the statement. But it would be a terrible ship rate indeed which even this charge would be a relief from. Suppose that if charters should go to £4, and grain be shipped at an equivalent

QUERIES AND REPLIES.

Black-leg in New Mexico.

EDITORS PRESS:—Will you please give, through the columns of the PRESS, a remedy for the disease called "black-leg" in cattle? I learn that it is quite prevalent on the Gila river, where I have a ranch, but do not think that it has yet appeared in my herd; still, "forewarned is forearmed," and I shall be pleased to learn of a remedy for what appears to be rather a formidable disease in cattle.—W. H. NEWCOMB, Silver City, N. M.

EDITORS PRESS:—Hematosepsis, charbon (black-leg), is a disease the pathology of which does not seem to be very well understood. Looking over notes that I took from Prof. Simond's lectures, I find that he says the canes are very difficult to find out; we must look to the feed and then to the atmosphere; activity of certain organs may have something to do with it. It seems to be more prevalent in spring and autumn, and is seldom seen in summer or winter. Animals placed on luxuriant grass in damp, warm weather are sometimes attacked. It is not traceable to miasma in spring, but it may be due to it in autumn, but not entirely dependent upon it. It may also be due to inordinate feeding, producing plethora. He says also heifers are most susceptible. Young bulls seldom have the disease; they being more active, keep their organs in a state of health, thus their comparative insensibility.

In this disease the blood ferments and undergoes decomposition, produced by grass wanting in flesh-making materials, and in the salts necessary to keep the blood in a healthy condition. French veterinarians claim this disease to be due to an infection, to an active agent, which appears to be of cryptogamic (fungoid) nature, acting on the blood in the form of a septic ferment. This agent is a miasma that the animal finds about him; that is to say, an organic substance, a debris of vegetable matter suspended in the air and retained there by watery vapor. Sometimes this miasma is found in the waters, more rarely with the solid bodies, serving as food. The disease may proceed from infected animals; the infecting agent is multiplied then often after the fashion of a virus, and is communicated by fixed and volatile contagion. This disease is now being investigated both by the English and French leading lights of the veterinary profession, and I think, before very long, the pathology of the disease will be better understood.

The symptoms are as follows: It appears suddenly; the animal is dull and has no appetite; difficult respiration; great difficulty in moving; cold body; head poked out; grinding teeth; lameness in one limb (generally a hind one). By manipulation a swelling will be found in the upper part of the limb, but sometimes it appears on the body, over the loins or the side of the neck. The swelling is irregular in form, and spreads with remarkable rapidity. At first it is very painful, but gradually loses its sensibility and feels like a bladder filled with air. By making incisions, it will be found to contain a black, pulpy, frothy substance. The respiration becomes more painful and hurried. The patient becomes feeble and staggers in his gait. The loss of power increases until the animal falls. The skin gets deathly cold, convulsions set in, and the case terminates in death, generally in from 24 to 48 hours after the first appearance of the symptoms.

Treatment in this disease can only be considered experimental, the disease runs its course so rapidly. If discovered in the first stage of the disease, give sulphate of magnesia, one lb.; nitrate of potassa, two ounces. If the pulse is strong, bleed freely. If the animal lives 24 hours, give hyposulphite of soda in two-ounce doses, with vegetable tonics, such as tincture of gentian, ginger, etc., in ounce doses, twice or three times in 24 hours, gradually reducing the dose as the patient improves. Make several incisions into the diseased part and separate the skin from the flesh between the incisions (the incisions should be made around the margin of the swelling). Then rub in a strong solution of nitrate of potassa. Afterwards dress with: Lined oil, four parts; turpentine, four parts; carbolic acid, one part.

Prevention.—Insert a seton in the dewlap, impregnated with turpentine and croton oil. Bleed to the extent of about two quarts. Give to each animal two drams of sulphate of iron, one ounce nitrate of potassa, and one ounce sublimed sulphur once a week. Divide the animals into several lots and change the pasture to higher ground, if possible.—JNO. CASEWELL, M. R. C. V. S., Petaluma, Cal.

MARIN COUNTY.—Newell Burnham will soon visit Marin county in the interest of our publications. We expect ere long to publish some statistics and other interesting information concerning the progress of the county, both in its rural and suburban districts.

Railroad Rights and Wrongs.

The meeting of the Railroad Commissioners at Bakersfield, Kern county, on Friday, Sept. 10th, was somewhat of a change in the style of sessions which that august body has been holding. There has been, until the Bakersfield meeting, much embarrassment to the Commissioners to determine what on earth they were appointed for. They heard general complaints from this and that district, but when they sat in any town of the district, and erected their ears for evidence of railroad wrongs, they caught but few and feeble sounds. In fact in some towns, it would seem, they had to beat the bushes to scare up complaints enough to relieve the monotony of waiting for adjournment. This is not right. There are wrongs enough in many parts of the State, and they should be made known. It is quite possible that some think a more aggressive Commission would be better, and fear that their complaints will secure no remedy, but this is not the right way to reason about the matter. The Commission must receive evidence, and, even if the Commission itself does little, the wrongs will be brought to popular attention, and this will have a corrective influence upon those who inflict them. The evidence, too, will be of use in the Legislature when the question of railroad management is under discussion.

We have said that the Bakersfield meeting was a new departure. There seems to have been no lack of evidence brought forward, and it was properly prepared and attested, so that the commission had nothing to do but take it in. The *Kern County Californian* has four and a half columns filled with the report of the testimony adduced, and then regrets that it cannot present more. In order that our readers in other parts of the State may learn the nature of the grievances of the Kern county farmers, we propose to outline the points made by the complainants in their affidavits.

First there was a broadside complaint which must have been comprehensive in its backing, for the account says it was "signed by all the business men, producers, etc., of Bakersfield and vicinity." It alleges excessive rates of freights; excessive fares; discrimination against Bakersfield, charging "state toll" not warranted by the law; insufficient facilities for transportation and accommodation for passengers. There followed this general arraignment nine special complaints, and from them we shall take certain points, because of their direct bearing upon agricultural production in the county. Mr. J. A. Clark, a farmer, related his experience in the matter of shipping mules. Being, in the latter part of June last, about to ship from Sumner to Modesto four mules, he was charged for freight on each of said animals the sum of twenty dollars, but he refused to pay it because he considered it excessive. But, on further inquiry, he was informed that he could send a car-load for \$44, and this being so much cheaper, he took an entire car and sent them in it; and on further inquiries, he learned that he could have sent a car-load, to wit: sixteen mules, for the same money, and even this is a great deal more than it would have cost him to have driven his mules to Modesto; that further inquiries developed the fact that he could ship one mule for \$20, two mules for \$30, three for \$36, and four for \$48. He complains of this mode of rating the freight and these charges, because they are unfair and unjust, and while burdensome and oppressive to himself, exert an unfair and wrongful discrimination toward others in the same business as himself, and for the especial reason that it operates constantly in favor of the rich, and against the poor stock-raisers or farmers, for it is evident that, under such a system, the more mules a shipper had, the cheaper he could ship them, which is against good policy and tends to the oppression of the poor and the impoverishment of the county; for where all do not have an equal chance few can thrive.

Dr. J. D. Stockton complained of the high rates of freight charged on alfalfa seed. Finding it impossible to ship any ordinary product over the road, in consequence of the prohibitory rates of freight, he engaged in the cultivation of alfalfa seed, which, as an article of comparatively high price in the market, he thought might pay the rate charged on wheat and leave a margin of profit. When his seed was ready to ship he found, to his surprise, the charge upon it was three times as high as that upon wheat, or \$180 per car-load. It was well sacked and involved no more risk or trouble in the handling than did wheat. As no abatement would be granted, he shipped one car-load of seed. When sold, a careful estimate of his outlay on the operation, from beginning to end, showed that he had met with a large percentage of loss.

Michael Purcell, a wool-grower, complained generally of the oppressive charges of the monopoly, and that, having occasion to ship a quantity of wool from Poso Creek, a point 20 miles north of Bakersfield, he was charged the same price per car-load that was paid on wool from Los Angeles, nearly 200 miles further from San Francisco.

George C. Doherty, proprietor of a bee ranch and engaged in the production of honey, complained that the extortionate freight charges on comb and extracted honey were such as to diminish his profits on those products to such an

extent that he was forced to discontinue their further export. All the materials used in his business, such as honey-frames, shipping-cases, etc., for comb honey; and tins, barrels, etc., for extracted honey, were brought from San Francisco, tins paying freight both ways; rate \$1.20 on all packages and frames, said frames being detached and packed in compact form. The rate on comb honey was twice as much as on the extracted, that on comb honey being \$1.20 per 100 lbs., and on extracted 55 cents.

Richard Hudnut made a general statement of the policy of the railroad and its effects upon the agriculture of the county. He said that, in anticipation of the extension of the road to Kern county, a considerable number of industrious, enterprising farmers located in Kern valley. Shortly before it reached this point they engaged in wheat-growing to the limit of their means, which were supplemented in many cases by the advances of an enterprising merchant, supposing of course that the road would enable them to move it to market. But the event did not justify this reasonable expectation. The rates of freight proved to be prohibitory. The merchant was ruined, as were most of the rest. The farmers never recovered from the financial embarrassment and discouragement thus entailed upon them. Most of them, as fast as they could do so, sold their land claims to large capitalists for what they could get—men who could afford

Live Stock at the Golden Gate Fair.

The Golden Gate District Fair Association, although its pavilion show pertained far more to merchandise than farm products, succeeded in gathering at the park one of the best exhibits of fine stock ever made in the State. Our space will not allow us to enter into the description of individual exhibits as we could wish, and in the notes we shall make we shall aim to introduce to our readers herds of which they have heard but little through our columns. The splendid Short Horns of Jesse D. Carr, of Monterey, and Col. Younger, of San Jose, and the famous rent-paying Short Horns of milking families, of our contributor Robert Ashburner, of Badeu farm, are all well known to our readers through frequent allusions. Another fine herd, that of Page Bros., of Cotate ranch, Sonoma county (of which the bull Sonoma, whose portrait we gave in 1876, was then the head), is still being maintained and improved by a wise system of care and breeding. All these herds were well represented at the Golden Gate fair and received much praise for the splendid animals presented. How well each breeder suc-



THE LATE GEN. ALBERT J. MEYER, CHIEF OF THE SIGNAL SERVICE BUREAU.

to carry large bodies of land in the hope of better things—and disappeared, not a few of them, he presumed, now aiding to swell the tramplement of the State. He was one of those men himself, but he owed his exemption from the misfortune that overtook the rest principally to the fact that his information as to the policy the road would adopt was earlier, and that he had since held to a course that he characterized as lazy and idle, anything like industry and enterprise, as he believed, under present circumstances, being altogether likely to lead to disaster.

HILLSIDE HEADER WAGON.—In our issue of July 31st, we gave an item about an adjustable header wagon which was being used by the inventors, Messrs. Taynton & Derrickson, of Contra Costa county. We had the opportunity of seeing the wagon at the Golden Gate fair, and we are not surprised to hear that it has been found a great aid in hillside harvesting. It is quite simple in construction and design. The wagon bed moves upon four firmly-fixed friction rollers, two at each end, working upon arched bolsters, the driver governing the level of the bed by a crank rod operating a worm pinion acting simultaneously at the bolster bearings, giving the bed any desired set to bring the load level on any side-hill angle, and equalize the weight upon the wheels. The plan works so well that the shortest direct turn may be made upon a side-hill and the load kept all the while upon a level as relates its bearing upon the wheels and axles. This improved wagon was patented and manufactured by Messrs. Taynton & Derrickson, of Clayton, and it can hardly fail to make its way among the practical farmers of the county and State who have side-hill harvesting to do. The wagon is being shown this week at the State fair, and it will also be exhibited at the Contra Costa County fair.

ceeded in the contest for premiums can be seen by the list of awards which we print in another column.

Another praiseworthy herd of Southdowns, representatives of which we saw for the first time at the Golden Gate fair, is that of C. Clarke, of Milpitas, Santa Clara county. Mr. Clarke's herd consists of 14 head, among which are a Gwyne-Princess bull, by imported Grand Prince of Lightburne, and cows of the Duchess of York family, the cows and heifers being by the imported bulls, Sheriff, a Seraphina bull, and Kerklevington Duke Second, a pure Bates bull, selected and imported from England by Robert Ashburner. Mr. Clarke's cattle were taken from stubble, and brought to the fair without special preparation, and certainly they showed exceedingly well for stock thus conditioned. Mr. Clarke has a nice lot of young bulls.

Another display of cattle too seldom seen in this State is found in the representatives from the herd of thoroughbred Ayrshires of George Bement, of Redwood City. Mr. Bement has a life-long acquaintance with this breed of cattle, and was not satisfied until he had imported fine specimens and bred them. He secured a start by importing animals from the best Eastern herds. He breeds them for milk, and upholds their dairy value firmly. From 8 head of Ayrshire cows he has obtained 59 pounds of butter per week during the best of the feeding season, in March, April and May. Besides the butter making, there was milk and cream used in a family of 8 persons. He has 1 cow whose milk for three days made six and one-half pounds of butter. He finds that the cross of Ayrshire bulls on the common cows to improve their milking in a marked degree. Mr. Bement believes the Ayrshires are not appreciated in this State, and not being recognized as a distinctive breed by some of the agricultural societies certainly does them wrong. The Ayrshire cattle are, without doubt, one of the leading dairy breeds of the world.

The show of Jersey cattle was very fine and comprehensive. There is a host of Jerseys bred as family cows in and around the city of Oakland and, these were naturally largely represented at the fair. Besides there were exhibits from the herds of outside breeders, as may be seen by reference to the premium list. The Jerseys and Guernseys brought from his ranch in Santa Clara county by Henry Pierce, of this city, afforded all a chance to see what these breeds are at their best. Some of our readers will doubtless remember that Mr. Pierce made an importation of Guernseys direct from Great Britain last year, as was described by the PRESS at that time. Of these animals, both with reference to their fame abroad and the experiment with them here, we hope to speak more at length at another time. Mr. Pierce's Jerseys were complimented by all. They are indeed choice specimens, being of the straightest pedigree and the most approved points. Mr. Pierce is a constant student of points of excellence in Jerseys and he is breeding animals which are an honor to him and to the State.

Turning from cattle to horses, the visitor at the Golden Gate fair could not fail to be attracted to the large show of W. W. Camron, of Oakland. He exhibited 27 animals; every one was excellent, and some exceptionally perfect in outline and action. Mr. Camron's horses won something like 15 premiums. He is doing a good thing for himself and for the horse-breeding interest in turning out a class of animals especially adapted for carriage horses; for it is indisputable that the more perfect the horse the greater the attraction to possess him, and the greater will be the demand for a class of stock which our best breeding farms can well supply. Mr. Camron is certainly doing much to advance the interests of the State in this direction. We have chiefly spoken of Mr. Camron's horses, but he had also a display of Jersey cattle, which was hardly less notable.

Another breeder of fine horses who made an excellent display was E. Sackrider, of Oakland, a breeder of Percheron horses, who has had much experience and has developed many notable animals. Mr. Sackrider looks upon the introduction of the Percheron blood as a most valuable aid in the production of a better style of draft animal to meet the demand both in city and country. The horses he brought before the public at the fair were certainly magnificent animals.

The leading exhibits of sheep were the Spanish Merinos of J. H. Strobridge and E. W. Woolsey & Son. Both of these well-known flocks have been sketched in our columns, and they are popular among the wool growers of the coast, as is shown by their sales of young stock this year. The judges seem to have been sorely put to it to decide between the two flocks, as the premium list shows the honors are rather easy between them. The French Merinos of Mrs. Blacow had a clear field, but they needed no such advantage, for they would well stand comparisons. It is clear from the sheep we saw at the fair that the famous old Blacow flock is being still handled with great skill, and is fitted still to exert a powerful influence in the improvement of the sheep of the State.

General Albert J. Myer.

We present herewith an engraving of Gen. Albert J. Myer, Chief of the Signal Service Bureau, who died on the 24th ult. at Buffalo. Gen. Myer was known all over the country, although very few knew his face. He was better known as "Old Probabilities," a familiar cognomen applied to the official representative of the Signal Bureau. This distinguished officer was born at Newburg, in the State of New York, in 1828. He graduated at Hobart College, at Geneva, in that State, in 1847. After applying himself to the study of medicine, he took the degree of M. D. at the University of Buffalo in 1851; and in 1854 he was appointed Assistant Surgeon in the United States army. He served in the medical department until the breaking out of the civil war, when he was appointed Chief Signal officer. He continued in the service until the close of the war, and received the brevet rank of Lieutenant-Colonel, Colonel and Brigadier-General of Volunteers. In 1866 Gen. Myer was placed at the head of the Signal Service of the regular Army, and in 1870 he was charged with the taking of meteorological observations at the military posts and other points in the country. It was largely owing to Gen. Myer's executive ability, scientific knowledge and capacity for mastering details that the Signal Service of the United States has succeeded in reaching its present condition of usefulness.

FINE GRAPES.—The thanks of our senior publisher are tendered to W. Cantelow, of Vacaville, who sent a box of beautiful grapes of selected varieties for his refreshment during a recent painful illness, from which we are happy to announce our respected principal has now recovered. Mr. Cantelow's application of the "grape cure" doubtless contributed to this result and was duly appreciated.

LECTURE ON MANURING VINEYARDS.—It was announced at the last meeting of the St. Helena Viticultural Club that Prof. Hilgard would deliver a lecture at St. Helena soon after vintage, on the subject of "Manure Adapted for Vines in this Vicinity."

The Moon's Force.

After getting somewhat accustomed to the greatness and strength of a bar of solid steel 16½ ft. square, imagine one which is one mile square, 5,280 ft. wide and as many thick. If it lay on the ground near the Catskill mountains, its upper surface would overtop their highest summit by more than 1,000 ft. It would be equal to 102,400 such monster bars as this last. Its lifting power would be nearly 240,869,000,000 tons. The mind is utterly unable to grasp such figures. The whole globe contains 1,200,000,000 inhabitants. If each man, woman and child could pull with a force of 100 lbs.—a large estimate—to move such a weight would require the united efforts of the inhabitants of 2,000 such worlds as this.

As I shall have frequent occasion to speak of this load which such a bar could sustain, I shall, for convenience, call it in round numbers 240,000,000,000 tons, neglecting the other figures, because the number is so inconceivably great that taking from it a billion or so of tons will alter the result less than one-half of 1%. This bar is to be the unit of measure, which I shall for the present employ, and with its help I shall attempt to give some idea of the influence of the sun in holding the system together, and of the attraction exerted by the planets upon our earth, and by the earth upon the moon; and, lastly, by the fixed stars upon the sun and upon each other.

We begin with the moon because it is nearest to us, and, with the exception of the sun, is to us the most important of all the heavenly bodies.

If a half dozen persons were asked how large the moon appears, they would give as many different replies: "The size of a cart wheel," "Twelve inches across," "The size of a dining plate," "As big as a man's head," etc. Probably no one would mention a smaller measure, yet a cherry held at arm's length much more than covers its disk. It is difficult to believe that so small a body exerts any considerable influence on the earth which seems so immensely larger. It is easy to admit that the earth holds the moon in its orbit; but that to do this, to bend its course into a nearly circular orbit, requires any great outlay of force, is not so clear. Our credulity would be taxed were we asked to believe that the moon in its efforts to move in a straight line would break away, although held by a bar of steel one ft. square, for that means a force able to lift nearly 9,000 tons. An astronomer would grant it, making first a mental calculation to see if he was justified in doing so; but even he would hesitate, and perhaps would deny that it was possible the moon could pull asunder one of those great unit bars one mile square, and equal to more than 27,000,000 bars each one ft. square.

But he would have no hesitation in saying "Impossible!" if told that, rather than change its course from a straight line to its present curve, our willful little satellite would snap like pack-thread not one, nor two, nor three of those unit bars, but the united strength of 10,000—or, in other words, one gigantic bar whose section is 100 miles square. Yet more than eight such bars, or more precisely, 87,500 unit bars, would but barely deflect the moon into its present path.

*The non-astronomical reader may, perhaps, need to be reminded that the moon does not move easily and naturally in a circle—or ellipse—but that its path, if left to itself, would be a straight line—a tangent to its orbit. Consequently, the moon requires to be forced into a curve.

—Popular Science Monthly.

LIABILITY FOR INJURIES TO RAILWAY EMPLOYEES.—In connection with the discussion in England of the Employers' Liability Bill, the advocates of that measure have issued a paper describing the laws in force in France and Germany. It states that in Germany an Imperial law, passed June 7, 1871, and extended in 1872 to Alsace-Lorraine, contains a provision "that if any person is killed or hurt in the working of a railway, the proprietor is liable for the injury inflicted, so far as he cannot prove that such injury was inflicted by a higher power or by the fault of the person so killed or injured." A similar system exists in regard to mines and manufactures, and it is said to be common in portions of Germany for employers to club together to form accident insurance societies for the purpose of insuring the lives of their workmen. In France a general law applicable to employers, which also governs the operations of railway companies, contains a provision that "A person is responsible not only for the injury caused by his own act, but also for that which is caused by the act of persons for whom he is bound to answer, or by things which he has under his care." The French railway companies have established provident institutions for the benefit of their employees; but it is stated that even this precaution has not prevented frequent litigation in cases where men have been injured while engaged in the performance of their accustomed duties.—*Railway World*.

PRESERVING LEATHER.—To preserve leather hose, belting, etc., in good condition, use crude castor-oil, warmed, if possible, and freely applied. It increases the pliability of the leather and the cling of the belts, and does not become rancid. Rats avoid it. In hose it should be pumped in from the interior under considerable pressure, thus thoroughly filling the pores.

Outbursts of Heat in the Sun.

Lately many scientific journals have contained accounts of the observation of new and suspected variable stars. The more carefully we study the stars the more evident it becomes to us, that a large proportion of them undergo and exhibit changes of light with a certain degree of regularity. Very few stars change their brilliancy so quickly as Algol, the "winking demon," in Medusa's Head, but there are many that wax and wane in a remarkable manner.

This subject becomes especially interesting, remarks a writer in the *New York Sun*, when we consider the fact that reasons have been shown why our own sun may be regarded as a variable star. Prof. Proctor in his essay on the "End of Many Worlds," suggests that periodical outbursts of heat in the sun may account for the curious traditions running alike through the Indian, Egyptian, Chinese and Greek mythologies, that the earth at certain epochs undergoes destruction and renovation by fire. On such a supposition the story of Phaeton becomes the tradition of an actual event in the earth's history. According to the myth, Phaeton persuaded his father Apollo to let him drive the car of the sun for a day, lost the road, and, approaching too near the earth, set Olympus on fire, consumed cities and whole nations with flame, and turned the northern end of Africa into a waterless desert.

The cause of any sudden access of heat in the sun, or in a star, is believed to be the downfall upon its surface of a vast quantity of meteoric matter whirling in the track of some comet. We have records of a sudden brightening of the sun in modern times. A remarkable phenomenon of this kind occurred on September 1, 1859, and although it was of very brief duration, it produced startling effects in various parts of the world.

If there is a mass of meteors rushing in an orbit that the sun crosses at certain epochs, and which then causes his fires to burst out with the effects described in the ancient traditions, they have thus far escaped the ken of the astronomers. Observation has shown, however, that if such meteors exist they are to be looked for in the wake of a comet, and we can depend upon the astronomers to give due notice of the comet's appearance.

HOW RAILWAY TIME IS KEPT.—There are in use between this city and New York 13 electric clocks, two of the number being placed in the waiting-rooms and one in the dispatcher's office at the Grand Central depot, New York. The time on the clock in the depot at East Albany corresponds exactly with the time in New York. Each one of the clocks is connected with the General Superintendent's office in New York, in which the railroad time is kept on what is called the "big clock." Conductors, train men and others are compelled to keep their watches in strict conformity with the Superintendent's clock. It is set by standard time, and connected with the time service department of the gold and stock telegraph. The time is distributed over the line each week day as follows: At 10 o'clock 58 minutes and 3 seconds A. M. the word "time" is sent by the main office to the telegraph stations between New York and Albany. This word is repeated for 23 seconds, during which time operators must see that their instruments are adjusted. At 10 o'clock and 50 seconds, seconds commence beating, and continue for 50 seconds. The word "switch" is then sent over the wire, and operators having electric clocks connect them immediately with this circuit known as number 9 wire. Ten seconds are allowed in which to make the connection. At 11 A. M., with one touch of the New York key, the hands on the different clocks are set to 11 o'clock. If they are fast or slow, they change all at once to the hour named.—*Albany Argus*.

SALICYLIC ACID AS A PRESERVATIVE.—A correspondent of the *Journal of Microscopy* says salicylic acid has been strongly recommended in this journal as a preservative, and I have had very good success with it in mounting vegetable preparations of all kinds. One difficulty, however, is that it dissolves very sparingly in water, and alcohol produces changes which are frequently undesirable. It is well known that salicylic acid dissolves freely in a solution of borax, and it is also familiar to most persons that borax itself is quite efficient as a preservative. It, therefore, occurred to me to combine these two, and I have found that two parts of salicylic acid and one part of borax dissolved completely in half an ounce of glycerine, and that this solution when mixed with three parts of water, forms a most excellent preservative fluid for coarse organisms. More delicate preparations should be mounted in the above solution diluted with five parts of water. Preparations mounted with this solution are very durable.

A MACHINE, by which 600 pails can be turned out daily, the sides of each pail being made in one piece, has been invented at Merrimacport, Mass. Round a block of wood shaped like a water pail, the machine cuts off a strip of the requisite thickness for a pail, and of the same length the block itself is. A piece of the strip, of the right length for a pail, is then cut off, the edges tongued and grooved, and a groove cut to receive the bottom.

FILES AND FILING.—The following information may be found useful to some of our readers. A new file should always be used with light pressure on the work until the needle-like points of the teeth are worn away; after this a much heavier pressure may be used with much less danger of breaking off the teeth at their base. Many new files are violently diminished of half their efficiency by a few careless strokes when first applied to the work. Do not use a file on the chilled and gritty skin of castings, or on a weld where borax or any vitreous fluxes have been employed—no file can endure such usages. Every filer should keep a worn file with which first to attack the rough, gritty, or oxidized surface of iron work, and thereby pave the way for more efficient work with his sharp files. A piece of gritty or chilled casting that would rapidly destroy the cutting qualities of a new file would produce scarcely any damaging effect to a worn one. In filing steel, better results can generally be obtained by using files of a grade not coarser than "2d cut;" finer grades being employed according to the finish and delicacy of the work under manipulation. Users of files should always seek to discover the fitness or adaptability of cut and form of files specially suited to their work. No one should expect the best results from a file on brass or spelter which was intended for use on iron and steel. Care should be taken when purchasing files to see that the manufacturer furnishes full weight articles. This is always a desideratum, and especially in case re-cutting is desired. A full-weight file can be re-cut two or three times, while a light weight will hardly bear one re-cut and give satisfaction.

STEAM DREDGING FOR OYSTERS.—Geo. M. Graves, of Oyster Point, New Haven, has now in process of construction an oyster boat designed for steam dredging. She is 71 ft. long, 17 ft. beam and 6 ft. deep, her engine 30-horse power and her screw propeller 53 inches. The boiler is on board and the work is being pushed as rapidly as possible. There is an over deck from 7 to 9 ft. high made water tight. In the sides of this over deck, in a line with the main hatchway, are openings, 6 by 8 ft., which when dredging open inwardly and are hooked to the ceiling. Through these openings the dredging is done by steam, saving the weary "back breaking" that attends dredging in the ordinary sailboat. Forward is the forecastle in which are berths or bunks for the crew. Directly over this is the pilot house, and back of this the captain's quarters. The expense of running this steam is for fuel not over \$1 per day, 6 men at \$15 to \$20 per month for each. She will dredge in a day from 700 to 1,000 bushels, taking at each lift 12 or 15 bushels, while the sailing boat at each lift will not get more than a bushel or two at once, and during the day will be doing extremely well if she gathers 40 or 50 bushels.—*Sea World*.

GLUCOSE.—This manufacture of glucose in this country has grown to enormous proportions, there being at present no less than \$30,000,000 invested in it. The material here is made entirely from corn, and so successful has it been, that quite a *furor* exists in connection with it throughout the West, where a number of new factories are being set up. This industry originated in the year 1863, with Messrs. Gessling & Bradley, who at that time improvised an experimental factory in Buffalo, to determine if grape sugar and syrup could not be made from corn. The product had been made for years in Europe from potatoes, and imported into this country at prices ranging from 8 to 12 cents per pound; but up to that time sugar from corn was not known as a commercial article. The experiment was successful, and from this beginning has gradually developed what is now an immense industry. At the present time, instead of importing from Europe an inferior article of grape sugar made from potatoes, at a cost of from 8 to 12 cents, as above noted, large quantities of corn sugar are exported at about three cents. A bushel of corn produces 30 pounds of glucose.

WAVES OF COLD.—Mr. R. G. Jenkins, F. R. A. S., has attempted to show a very remarkable effect of the planet Venus upon the earth. Many years ago this present Astronomer Royal proved that the disturbing effect of this planet was so great that the earth was materially pulled out of its orbit. Mr. Jenkins shows that it is to this disturbing action we must look for an explanation of the cold waves, which occur, on an average, every eight years—as in 1829, 1837, 1845, 1855, 1863, 1871, 1879—and that for the next 40 years the temperature will be below the average, as it has during the last 40 years been above the average. In regard to high temperatures, he states that for the last 50 years a heat wave has been observed to pass over the earth every 12 years, nearly contemporaneous with the arrival of the planet Jupiter at its perihelion, and that we are on the eve of the next heat wave.

AN ADJUSTABLE LENS.—Dr. Cusco, of Paris, has invented a lens of variable focus, in which the pressure of transparent liquid is made to alter the curvatures of the flat faces of a cylindrical cell of brass closed with thin glass discs; the pressure can be regulated by a manometer gauge to any required degree within the limits of working.

A Trans-Neptunian Planet.

In the *American Journal of Science*, Mr. D. P. Todd, of the "Nautical Almanac" office, Washington, details the efforts made by him to discover a trans-Neptunian planet. In 1874 he began a speculative search for such a planet, the presence of which has been suspected by earlier astronomers of eminence, and in October, 1877, he reached the following as a result of his inquiry: The longitude at that time would be approximately 170°; mean distance from the sun, 52; period of evolution about the sun, 375 years; stellar magnitude, about 13, and inclination of orbit to elliptic, 1° 24'. This practical search with the 26-inch telescope at the Naval Observatory, begun on November 3, 1877, and ended March 6, 1878, was unsuccessful. It was necessarily confined to narrow limits, but it was thorough so far as it went. Being unsuccessful, Mr. Todd did not see any benefit in publishing the negative result. He adds, however: "The matter now assumes a very different aspect; the publication of a recent memoir 'On Comets and Ultra-Neptunian Planets,' by Prof. George Forbes, of Glasgow, assigns, by a method of investigation entirely independent of my own, a position to a possible trans-Neptunian planet which may be regarded as in exact coincidence with that which I have deduced. Should a careful and protracted search of the region adjacent to the indicated longitude prove unavailing, no more certain test of the existence of a trans-Neptunian planet admits of application within the next few years than that of telescopic search of a limited zone extending entirely around the heavens—a search which I have been hoping, for more than two years past, for an opportunity to undertake, but which I see no present prospect of realizing."

THE ORIGIN OF THE DIAMOND.—M. J. A. Roorda Smit has in the *Archives Néerlandaises des Sciences Exactes* a paper on the diamond mines of South Africa. He states that the diamond is found in a primitive gangue of volcanic origin, the presence of a double carboniferous silicate being a characteristic of these mines, which he regards as extinct craters of volcanoes. His hypothesis is that the diamond is of Plutonic origin, formed at the expense of organic matter under the influence of great pressure and at a high temperature. The recent artificial production of the diamond appears to confirm this view. M. Meunier states in the *Comptes Rendus* that he has produced crystals of spinel, and he believes periclase and corundum, by the action of steam on the chloride of aluminium in presence of magnesium at a red heat.

TO TEST MILK FOR WATER.—A German chemist furnishes a very simple procedure for testing the amount of water in milk, which can be applied by any one. All that is required is a small quantity of plaster of Paris, say one ounce. This is mixed with the milk to a stiff paste, and then allowed to stand. With milk of 1,030 specific gravity, and a temperature of 60° F., it will harden in 10 hours; if 25% of water is present, in two hours; if 50%, in one and one-half hours, and with 75%, in 30 minutes. Skimmed milk which has been standing for 24 hours, and is of 1,033 specific gravity, sets in four hours; with 50% of water, in one hour, and with 75%, in 30 minutes. Heat should not be applied, as then the use of the thermometer would be required. This test is certainly very simple, and not costly.

THE EARTH AS A CONDUCTOR.—In a paper on the earth as a conductor of electricity, Prof. Trowbridge, of Harvard, arrives at these conclusions: 1. Disturbances in telephonic circuits usually attributed to effects of induction are in general due to contiguous grounds of battery circuits. A return wire is the only way to obviate these disturbances. 2. The well-defined equipotential surfaces in the neighborhood of battery grounds shows the theoretical possibility of telegraphing across large bodies of water without the employment of a cable; and leads us to extend greatly the practical limit set by Steinheil. 3. Earth circuits have an intermittent character, with periods of maxima and minima, which may occur several times a minute during the entire day. This intermittent character is seldom absent.

HIGHT OF THE AURORA BOREALIS.—Drs. De La Rue and Muller determine the height at which the aurora borealis has its greatest brilliancy at about 38 miles; at a height of 81 miles the light is pale and faint, and at 124 miles above the earth's surface no electric discharge can take place to produce the phenomenon.

IMPROVED ELECTRIC BATTERY.—M. Reynier has introduced a new battery which is claimed to possess twice the electro motive force of the ordinary Bunsen couple; a solution of caustic soda is substituted for nitric acid, and the "porous" cell is constructed of parchment paper.

MAKE YOUR OWN BAROMETER.—A sheet of paper, dipped in chloride of cobalt, when the weather is to be dry and pleasant will become blue, when wet weather approaches it will become pink. The barometer flowers of France are thus manufactured.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER Saxe & Son, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

A. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Scraphins Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

HORSES.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

SHEEP AND GOATS.

J. B. HOYT, P. O. Address, Birds Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams, \$30 and \$40 each. Ewes, \$10 per head. Also cross-bred Rams from Choice Merino Dam and Shropshire Sire; price, \$20 and \$25 each. Also 1/2 Shropshire and 1/2 Merino Rams for sale.

E. W. WOOLSEY, Berkeley, Alameda Co., Cal. Importer and breeder of choice thoroughbred Spanish Merino Sheep.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magpie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.

THE IMPROVED EVAPORATORS For Making SUGAR, SYRUP AND APPLE JELLY.



Make the best syrup and sugar with less fuel and labor than any other apparatus. Will condense sweet cider into delicious Jelly at the rate of four barrels per hour. Agents wanted. Send for descriptive circulars.

VT. FARM MACHINE CO., BELLINGS FALLS, VT.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

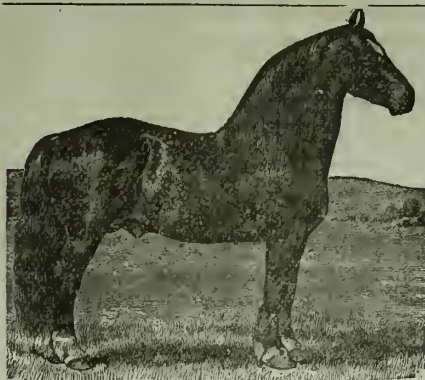
Apply to L. A. GOULD.

GUNS Lowest prices ever known on Breech Loaders, Rifles, and Revolvers. OUR \$15 SHOT-GUN at greatly reduced price. Send stamp for our New Illustrated Catalogue (B) P. POWELL & SON, 233 Main Street, CINCINNATI, O.

AGENTS WANTED Everywhere, to sell the Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.,** 409 Washington St., Boston, Mass.

BLOOMINGTON NURSERY.

Established 1852. 600 acres; 13 greenhouses. We offer a large stock of Trees, Shrubs, Roses, Bulbs, Apple Seedlings, Orange Plants, etc. New Fall Price List free. Address BAIRD & TUTTLE, Agents, Bloomington Nursery, Ill.



Lakeside Stock Farm.

HOLSTEIN CATTLE.

Clydesdale Horses, Hambletonian Horses.

Largest Importers and Breeders of HOLSTEINS in America. Also large Importers and Breeders of CLYDESDALES, and Breeders of HAMBLETONIAN HORSES. Send for Catalogue. SMITHS & POWELL, Syracuse, N. Y.

If orders for a sufficient number of animals to fill a car are received within two months, arrangements will be made for sending a carload, thus making freight on each animal very reasonable.

PATREY'S Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment.

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. EMMERT.

SPRING VALLEY, CALIFORNIA, CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAINES.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. O. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWERT.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

Rent paid two and a quarter years buys one.

MASON AND HAMLIN ORGANS BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR for 13 YEARS. Prices, \$51, \$57, \$66, \$84, \$103, to \$500 and upward. Also for easy payments, \$5 a month or \$6.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Anthora, 15c. Lyman & Co., Cliftonville, Ct.

Stock Notices.

E. W. WOOLSEY & SON,

Importers and Breeders of THOROUGHbred



SPANISH MERINO SHEEP.

We are breeding from FIRST PREMIUM stock of Vermont and California. Unsurpassed in quality and condition. Purchasers are invited to examine. We are cultivating the style of wool pre-eminently required on this coast. Berkeley, Alameda County, Cal.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped.....\$5.00

Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. RUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

CANDRALL

SPRING SKELETON BUGGY.

LIGHTEST and EASIEST RUNNING.

Cannot be upset by cramping or sudden turning. Will pass over the roughest roads or car tracks without jolting. Especially adapted for mountain roads. Warranted for two years.

A. MERSEREAU,

No. 1927 Mission St., Manufacturer.

B.K. BLISS & SONS' HAND BOOK. A COMPLETE GUIDE FOR THE GARDEN & FARM. SEEDS, PLANTS, BULBS, SMALL FRUITS. GARDEN REQUISITES. 300 ILLUSTRATIONS. 150 PAGES. PRICE 10 CTS. 34 BARCLAY ST. NEW YORK.

SEND FOR THE \$1.50

Homœopathic Medicine Case.

Containing 12 principal remedies, with directions for use. ALSO VETERINARY CASES AND BOOKS. Send for catalogue. Address BOERICKE & TAFEL, Homeopathic Pharmacy, San Francisco.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Lands for Sale and to Let.

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

FINE ORANGE ORCHARD FOR SALE.



Three Miles South of Los Angeles.

174 56-100 ACRES,

Comprising 68 acres of ten-year old trees, 5,800 in number, now just beginning to bear. Irrigated from surplus city water at a cost of \$60 per annum. The remainder of the land, 106 56-100 acres is of the finest quality of

DEEP, SANDY LOAM,

The very best of land for Orange, Grape, Olive or General Cultivation. The tract is surrounded by streets, and lies favorably for subdivision. The orchard can be cultivated at a total cost of \$1,800 per annum, and within two years will pay a handsome interest on the investment, which with good management will soon afterwards reach 20%, 30% and 50% per annum on the sum for which it now can be bought.

For Sale at Foreclosure Prices.

A rare opportunity for a Fortune.

C. T. HOPKINS,

No. 318 California St., S. F.

Sheep Range For Sale.



About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N. R. 6 W. M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 20th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1880. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast Inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING and SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

Dewey & Co { 202 San- } Patent Ag'ts
some St.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR WEEK ENDING SEPTEMBER 14th, 1880.
232,120.—CAR COUPLING.—E. Hickman, Red Bluff, Cal.
232,185.—NIBBLE-THREADER.—D. H. Jaccard, S. F.
232,132.—DISCHARGE FOR AMALGAMATING PANS.—H. S. Jacobs, S. F.
232,186.—MILK YESSER.—W. G. Jones, San Jose, Cal.
232,205.—WINDMILL.—J. C. Preston, Arcata, Cal.
232,208.—BALING PRESS.—J. Price, San Leandro, Cal.
232,207.—BREAKING CART.—D. W. C. Putnam, Petaluma, Cal.
232,153.—STEAM AND AIR ENGINES.—A. G. Waterhouse and B. B. Brewer, Sacramento, Cal.
11,564.—TEA URN.—E. A. Bixler, S. F. (Design.)
NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

The Tulare Settlers and the President.

In our last issue we alluded to the visit to President Hayes of a committee of the Mussel Slough settlers and the presentation of an address, signed by 300 citizens, setting forth their serious grievances. The President received the settlers' committee kindly and listened to their statements with attention. The following is the full text of the address:

To His Excellency Rutherford B. Hayes, President of the United States:—We, the undersigned, citizens of the United States, and residents of what is known as the Mussel Slough country in the counties of Tulare and Fresno, in the State of California, on our own behalf, and on behalf of hundreds of other citizens, whose signatures we have not had time to procure, congratulate you and ourselves on your opportune presence at this time in the Western extremity of the republic; and present to you this, their respectful address, to which, in your triple capacity of a Christian man, an American citizen, and executive head of the Federal Government, we earnestly invite your personal and serious attention. We have the strongest possible claim to your consideration and respect, because we are not, on the one hand, political agitators or disturbers of the public peace, nor, on the other hand, corruptionists, monopolists or plutocrats. We are simply Americans, faithful to the Constitution and the laws, inseparably linked to our country by social and domestic ties, industrious and moral in our habits, of average intelligence and education, representing every shade of political and religious opinion among decent citizens, and united in one peaceful but determined body by a common interest and a common distress. We are formally organized as

The Settlers' League of Tulare

And Fresno counties for the lawful protection, through the constituted authorities, of our rights to the homes and property we have created, and upon the basis, which underlies our political institutions and all enlightened statesmanship in the United States, of the fair distribution of the public lands not otherwise appropriated among actual and qualified settlers. In 1865 the Southern Pacific Railroad Company of California was organized under articles of association in which, in accordance with a public statute, the general route of its projected railroad, from San Jose to San Diego, and from thence to the eastern boundary of the State, was defined. This route was not within from 90 to 100 miles of any of the lands occupied by us, and it is doubtful, moreover, whether the present Southern Pacific Railroad Company, established under what are termed Amended Articles of Association, and under which various other railroad companies have been consolidated, is either the same corporation or its legal successor. In 1866 Congress formed the Atlantic & Pacific Railroad Company, and made to that corporation a grant, dependent upon the completion of its proposed line of railroad in sections of 25 miles each, of the odd sections of vacant public land within 20 miles of its route on either side. A provision of this act

Extended the Grant

To the then existing Southern Pacific Railroad Company of California, which, Jan. 3, 1867, filed in the Department of the Interior a map in which, from the town of Hollister, in San Benito county, it deflected from its original line in its articles of association in such a manner as to pierce the heart of the Mussel Slough country. In 1870, by a joint resolution, Congress attempted to cure this obvious infraction of the law, and the company, recognizing the necessity of patching together the dismembered strands of its own corporate existence and of uniting State and Federal authority in its efforts to appropriate the fruits of our investments, labor and enterprise, has also secured the passage of several acts by our State Legislature for the same purpose. The railroad itself has never been built consecutively, as the law required. This act of 1866 was interpreted as allowing the company to select detached portions of the public domain, where grading was easy and cheap and the land fertile, and whenever any point 25 miles in length was complete, to receive a patent. The result is that the odd sections in the Mussel Slough district are now claimed as appurtenant to a side road about 40 miles in length. From San Jose, through Gilroy and Hollister, the Southern Pacific railroad extends to Tres Pinos; but there, in the face of a range of mountains, it terminates. The journey by railroad from San Francisco to

The Mussel Slough Country,

Or to Los Angeles, and thence to Arizona, cannot be made on this line. It is necessary to pass through Lathrop, on the San Joaquin division of the Central Pacific railroad, to Goshen, where the two roads are supposed to connect. But the fact is that at Goshen a branch railroad runs to the southwest and towards San Francisco to Hanford, in Tulare county, which is the center of the Mussel Slough region, and thence 20 miles further through Lemoore to Huron, which is the opposite end of the cap commencing at Tres Pinos and situated in a barren plain, where there is not a single resident. A person traveling by railroad from Hanford to San Francisco thus passes 20 miles in the wrong direction, over what is called the Southern Pacific railroad and supposed to be part of a transcontinental highway, to Goshen, and then, almost reversing his course, completes his journey on various divisions of the Central Pacific. It is by virtue of this branch road, 40 miles in length and a mere feeder to the main line, that the effort is now being made to deprive us of our property. In 1866, and for several years after that period, the land in the Mussel Slough country was dry, uninhabited and almost valueless. It was not worth, on the average, \$1 per acre. At various times between 1866 and the date of the completion of their branch road or feeder in 1877, the Southern Pacific Railroad Company, by circulars and elaborate pamphlets,

Invited the Settlement

We have made. The following are illustrative extracts: The company invites settlers to go upon their lands before patents are issued or the road is completed, and intends in such cases to sell to them in preference to any other applicants, and at a price based upon the value of

the land, without the improvements put upon them by the settlers.

If the settlers desire to buy, the company gives them the first privilege of purchase at a fixed price, which in every case shall only be the value of the land without regard to improvements.

In ascertaining the value, any improvement that a settler or other person may have on the lands will not be taken into consideration; neither will the price be increased in consequence thereof. * * * Settlers are thus assured that, in addition to being accorded the first privilege of purchase, they will also be protected in their improvements.

It has been claimed by the Southern Pacific Railroad Company that we have denied its title and at the same time demanded the fulfillment of its promises, and, therefore, that our position is inconsistent and indefensible.

But this proposition begs the real question, invokes an inapplicable rule of law and is as untrue as it is specious and ingenious. The case is not that of a corporation offering to sell under a title vested and irrevocable, but of an offer conditioned upon the performance of

Its Agreement with the United States.

Many of us went on the land before and some after the adoption of the joint resolution of 1870. Some of us were attracted solely by the glowing and inaccurate description contained in pamphlets of the company, circulated in the Atlantic and Southern States. All of us believed that the soil might be reclaimed by extensive irrigation, and that it would then become extraordinary fertile. What we wanted and what we relied upon was the certainty of acquiring the true title when the time for purchase arrived, either from the Government or the company. The company, by its own acts, fully and clearly recognized the consistency of this position. We desired and intended to buy and pay for the land at once at proper rates—that is, in the one case, at the Government price, and in the other case, by the standard fixed by the company itself. It is absurd to suppose that we would have made the expensive and lasting improvements hereinafter mentioned upon any other expectation. We knew we could trust the Government and we thought we could trust the company. We felt justified in taking the chances, or rather, that we were taking no chances. If the sections reverted to the United States we could purchase at a price not exceeding \$2.50 per acre. If the company finally held them and kept its word, as we supposed it would, we would scarcely have to pay a larger amount, certainly, at the very utmost, and for the most valuable farm, not more than from \$6 to \$8 per acre, and this would allow

An Enormous Margin of Profit
For any imaginary benefit produced by a railroad that terminated in a solitude. We were not bound to take from the company any but the complete title, derived from the Government, in accordance with the terms and conditions of the grant. In conforming with this quoted offer then, we took or retained possession of a large number of the odd sections within 20 miles of the route upon which the branch road has since been constructed. Uniting in some instances with settlers upon the even sections, who have always been our friends, and in other cases acting independently, we organized companies and situated the sterile plains to the extent of hundreds of thousands of acres, with water, conducted through large ditches and canals, some of them from 50 to 100 ft. in width. We accomplished this work in the face of great natural obstacles, with very limited means, and under conditions of hardship, toil and endurance such as would be impossible for us to describe. We were not idlers, stimulating our appetites, speculating on popular necessities and spending our time in riotous living or fashionable dissipation, but workers, whose labor alone, at current wages, during the period of our residence in the counties of Tulare and Fresno, would have given to each of us the price of

A Comfortable Home.

We erected fences, houses, barns, school-houses and churches after the manner of a permanent and well-ordered community. We laid out and established roads, which are now in many places shaded by thrifty trees. We cultivated fields and orchards, and produced the cereals, vegetables and fruit, even grapes and figs of unsurpassed quality and in luxurious abundance. We raised stock of all kinds and of choice breeds. We beautified our homes with gardens and vines. We supported thriving villages and one considerable town. In brief, through sheer energy and perseverance, by the investment of all our means, by excessive toil and privation continued through the best years of our lives, and relying firmly upon the rights we had acquired as American citizens, and upon the pledges of the Southern Pacific Railroad Company, we converted a desert into one of the garden spots of this State. Slowly and painfully, but with unconquerable energy and hope, and without human aid outside of our own people, we founded an American community in which peace and order, honesty and decency, industry and economy, plenty and comfort prevailed; and we sought to elevate our condition, and to reach the true standard of American citizenship by the diffusion of education and religion. But, since 1877, when the Southern Pacific Railroad Company began to receive its patents, the gravest doubts with respect to the legality of its title have arisen.

Its Antecedent Promises

Have been steadily ignored; our lands have been graded at their full value, including all our improvements, as high, say, as \$45 per acre; our equities have been rudely denied, and all the powers of every department of the Federal Government have been legitimately and illegitimately invoked to secure the confiscation of our property for the benefit of this grasping corporation, which is in the hands of the same persons by whom the Central Pacific railroad is owned. And your excellency will not overlook the fact that these two corporations, which represent three men and the estate of one deceased person, by consolidations and purchases, legal or illegal, control nearly all the railroads in the State, as well as the trunk lines to Ogden and to Arizona; several steamship routes to the Atlantic States and to Asia; the ferry between San Francisco and Oakland and street railways in San Francisco; that they build or destroy towns, and raise or depress the taxable value of property at their pleasure; that they regulate fares and freight substantially all over the Pacific coast, and exercise a despotic sway over its trade and commerce, and that all this enormous wealth and influence was acquired by them from the people of the United States, and is administered exclusively and selfishly for their own benefit, with an almost total disregard of public rights and interests, and through a network and ramifications of

Social and Political Influences,

In which party distinctions are submerged and individual independence and manliness destroyed, they are in effect an "imperium in imperio," forming their combinations and administering their affairs in the city of San Francisco, and, but for the reserved and inalienable powers still retained by the people, they would speedily and effectually revolutionize our institutions in this portion of the Union. It is surprising that having doubts, founded in the facts and the law, as to the continued legal existence of the Southern Pacific Railroad Company itself, and as to the legality of its original title, as well as with reference to its compliance with the conditions prescribed by the act of 1866, we desired to have these doubts judicially and finally resolved before we completed our purchase, and that, if the title should prove sufficient, we expected to purchase by the standard originally set up by the corporation, and not by a new standard adopted for the purpose of appropriating the results of our labor and investments, in view of the success of our experiment? It must be evident that the commonest prudence, apart from our pecuniary necessities, dictated this course. But if such a course had been permitted, while justice would have been done to both sides, confiscation would have been impossible. Within the last few months, therefore, the Southern Pacific Railroad Company obtained

Judgment in Ejectment

Against 23 of our number in the United States Circuit Court for this district. These judgments, in numerous instances, were practically by default, and not only for

possession, but for damages exceeding the value of the disputed premises. Situated as we are, it is hard for us to procure bonds, but we succeeded in taking three of these cases to the Supreme Court of the United States, and we were prepared to abide by the decision of that tribunal, even though it should reduce the wives and children of 600 Americans to beggary, and themselves to the condition of homeless tramps. In fact, we suppose that the remaining cases would abide the result of these three, and this supposition was encouraged by the action of the company, which temporarily stayed proceedings, and entered into negotiations with us, in which we soon found that, on its side, there was no real abatement of its pretensions. Then suddenly, and almost, though not quite, without warning, the work of eviction was inaugurated. The United States Marshal was sent down to our country with writs of possession. He was, of course, discharging a purely official duty, and the company was apparently enforcing a strictly technical right. But the parties to whom possession was to be delivered were vindictive and determined men, hostile to our people, eager for the use of physical force, and provided with all the most

Approved Arms and Ammunition.

They, and they alone, apart from any Federal authority, as far as we are now aware, precipitated a difficulty in which five of our citizens in the first instance, and themselves ultimately lost their lives. Of the merits of that difficulty, beyond this reference, we do not propose to speak, because it has resulted in an indictment for alleged conspiracy to resist the Marshal and for actual resistance, against 10 of our number, and will be judicially investigated on the 24th day of next November in the Circuit Court of the United States. We anticipate a fair and impartial trial, where the defence will be fully heard and where there will be no conviction without proof of guilt, and we are not afraid of the consequences of such a trial. The animus of the Southern Pacific Railroad Company, however, will be understood when we state the fact that, while we have always been ready patiently to submit to a final adjudication of the legal and equitable merits of our case, and have simply asked to be permitted to retain our homes until that determination was reached, within the last three months, more than 120 new actions of ejectment have been commenced against us, and that we are threatened with further evictions during the next few days. We have presented to your Excellency

A Bare Outline

Of the leading facts. The details can be readily supplied. We have necessarily spoken somewhat of ourselves, but our object is to convey to your mind, however imperfectly, some glimmering of the truth, which cannot be shaken by sophistry or diplomacy, and which will inspire you with a just and patriotic desire to investigate further. The majority of the people of San Francisco and of the whole State, through the disinterested efforts of private citizens, who are not railroad parasites, and of independent newspapers, have learned much of our history and have extended to us cordial sympathy and effectual support. But there is one plutocratic circle, with its associates and votaries, which is alike destitute of Americanism and of humanity where railroad interests are involved. Pardon us for saying, your excellency, that, in visiting this State for the first time, you will involuntarily and inevitably be brought into contact with this circle, and that you will find it difficult, if not impossible, to escape even temporarily from its influence. It will represent wealth and hospitality, but above all other things, the railroad, and just now the Southern Pacific railroad. It has prevented hundreds of travelers and statesmen from obtaining the faintest conception of the true condition of

Important Public Questions

Affecting this State and the Union. It has the means of employing subtlety, tact, readiness, knowledge, to a degree and in forms which it requires local experience to understand or counteract. But it would be indelicate and tedious to pursue this topic further. We hope no rude words from us will mar the pleasure of your visit, and we would not be understood as reflecting upon the many gallant and honorable gentlemen by whom you will be welcomed and entertained. We possess, however, the intense earnestness of men who are forced by their conditions to mean exactly what they say, and whose lives would be valueless if the least misfortune that can occur in life should overwhelm them. The country we have made speaks better for us than written statements or arguments. We ask you as a Christian man, as a husband, as a father, as an American citizen, as the first President of the United States who has visited this coast during his term of office, to come and see it for yourself. Your programme includes, or would naturally include, a trip to Los Angeles, and at Goshen you will be within 20 miles of Hanford. Three or four hours out of the weeks you will spend in the extreme West will answer our purpose. We will meet you.

Men, Women and Children,

Face to face with a cordial welcome, and you will have an opportunity to judge of what stock we are, how we live and what we have endured and accomplished. We will supply you with a condensed and incontrovertible summary of the origin and progress of our settlement. And we shall not make to you a foolish and unavailing appeal to step aside from the strict limits of your executive duties, but we shall request you, as a President of the United States for once permitted to get to the bottom of a disturbing issue, to determine the following propositions:

First—Whether we are a collection of outlaws or of respectable American citizens.

Second—Whether we have not acted like men who believed that they were securing fairly and honorably permanent homes for themselves and their families.

Third—Whether we have not accomplished a great work of reclamation and development.

Fourth—Whether we have not solid equities, if not legal rights, which ought to be fully and definitely adjudicated before we are evicted.

Fifth—Whether the Federal Government should permit the Southern Pacific Railroad Company through any of the departments to use any unusual or extraordinary methods to dispossess us.

Sixth—Whether the Attorney-General of the United States should not commence proceedings to cancel the patents heretofore issued to the Southern Pacific Railroad Company.

Seventh—Whether we have not been placed by Providence in a position to represent a cause in which the whole people of the United States, who are Americans at heart and value the stability of political institutions, are concerned, namely: organized and peaceable resistance, not to the just rights, but to the usurpations, corruptions and unjust exactions of railroad corporations; and whether this subject thus pointed by an example, does not deserve special notice by your excellency in your communications with Congress, by which body the act of 1866 and the resolution of 1870, without interfering with any vested rights, might be so modified or amended as to give us relief.

Eighth—Whether the fluctuating decisions of the Department of the Interior should not cease, at least so far as the unconstrued portion of the railroad between Tres Pinos and Huron is concerned, and this public lands along that gap be thrown open to settlement.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. This number of sea lions is increased and there is a better chance to study their actions. The floral department has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

J. G. COLMERN is requested to report to this office. He went to Humboldt County, Cal., about May 4th, 1880. His Agency for this paper has been revoked for good and sufficient reasons. Mr. C. is a heavy set man, of dark complexion, weighing some 175 pounds, or more.

Horticultural Awards at the Mechanics' Fair.

The following is the list of the awards of the Mechanics' Institute for the exhibits made under the supervision of the California State Horticultural Society:

CLASS 46.—Plants and Flowers.

To the exhibitor making the best and most attractive continuous display of plants and flowers during the exhibition, Woodward's Gardens, silver medal and \$75; to the exhibitor making the second best and most attractive continuous display of plants and flowers during the exhibition, F. A. Miller & Co., bronze medal and \$50; to the exhibitor making the best display of foliage plants and ferns, E. Meyer, silver medal and \$50; to the exhibitor making second best display of foliage plants and ferns, F. A. Miller & Co., bronze medal and \$25; best group of hardy best group of orange or lemon trees, rarity, height and growth considered (not less than 10 specimens), E. Meyer, silver medal and \$25; best display of fuchsias in bloom in pots, not less than 25 plants, bronze medal and \$15; E. Meyer; best continuous display of cut flowers during the exhibition, J. T. Murphy, silver, \$35; second do., Thos. Saywell, bronze, \$15; best floral design W. Meyer, \$10; second do., E. Meyer; best continuous display of gladioli (not less than 40 glasses), Thos. Saywell, bronze, \$25; second do., W. Meyer, diploma, \$10; J. Begs, best display of ornamental grasses, bronze, \$15; E. Meyer, best display of rustic work and filling, silver, \$30; F. J. Keller & Co., best single specimen of rustic work and filling, diploma, \$10. Open to amateurs only: Best 12 house plants, Thomas Saywell, \$10; best specimen of climber on globe or trellis, J. T. Murphy, \$5; best 12 variegated leaf geraniums, Thos. Saywell, \$10.

CLASS 47.—Fruit.

Best collection of apples, M. Gilliam, \$20; 12 best varieties apples, M. Gilliam, \$10; best collection pears, J. Strentzel, \$20; best 12 varieties pears, F. A. Miller, \$10; best collection of peaches, W. W. Smith, \$20; best 6 varieties canning peaches, W. W. Smith, \$10; best collection of plums, W. W. Smith, \$10; second best collection of plums, Wm. Boots, \$5; best collection of prunes, Mr. Rhoda, \$10; best collection of nectarines, Mrs. Wilson, \$5; best collection of quinces, J. Strentzel, \$5; best collection of figs, E. R. Thurer, \$10; special premium for superior peaches, E. D. Pierce, \$5; superior exhibit of peaches, G. W. Hinkley, \$5; superior exhibit of plums, Dr. Cranall, \$5; best collection of oranges, J. W. Wolfkill, Los Angeles, \$15; best collection of lemons, J. W. Wolfkill, Los Angeles, \$10; best collection of limes, J. W. Wolfkill, Los Angeles, \$5; special premium for oranges, G. C. Swan, San Diego, \$10; display of grapes, W. C. Cate, first premium, \$25; collection of table grapes, K. B. Blowers, first premium, \$15; display of variety of table grapes, D. A. Learned, first premium, \$10; collection of wine grapes, D. A. Learned, first premium, \$20; R. B. Blowers, 6 varieties wine grapes, first premium, \$10; R. B. Blowers, collection of raisin grapes, first premium, \$15; R. B. Blowers, collection of seedless raisin grapes, \$15; L. G. Sreocovich, dried fruits, apricots, best 10 lbs., \$5; apples, best 10 lbs., \$5; pears, best 10 lbs., \$5; peaches, best 10 lbs., \$5; W. A. Jeannet, plums, best 10 lbs., \$5; L. G. Sreocovich, pears, best 10 lbs., \$5; R. B. Blowers, raisins (California), best box of 50 lbs. or more, \$25; R. B. Blowers, seedless raisins (California), best box of 20 lbs. or more, \$15; A. T. Hatch, almonds, best 10 lbs., \$5.

In order that no orthographical or other errors may occur, all the successful exhibitors are requested to send at once to J. H. Culver, Secretary, No. 27 Post St., their names, with such inscription as they may desire upon the premium awarded them.

HALL'S VEGETABLE SICILIAN HAIR RENEWER is a scientific combination of some of the most powerful restorative agents in the vegetable kingdom. It restores gray hair to its original color. It makes the scalp white and clean. It cures dandruff and humors, and falling out of the hair. It furnishes the nutritive principle by which the hair is nourished and supported. It makes the hair moist, soft and glossy, and is unsurpassed as a hair dressing. It is the most economical preparation ever offered to the public, as its effects remain a long time, making only an occasional application necessary. It is recommended and used by eminent medical men, and officially endorsed by the State Assayer of Massachusetts. The popularity of Hall's Hair Renewer has increased with the test of many years, both in this country and in foreign lands, and it is now known and used in all the civilized countries of the world.

FOR SALE BY ALL DEALERS.

A GOOD PLACE TO STOP.—With the majority of people who visit San Francisco, it is the desire to find a home-like, comfortable stopping place, where the prices are moderate, and at the same time the accommodations are good. To such, the American Exchange Hotel, corner of Sansome and Halleck streets, offers superior inducements. While in these days of colossal caravansaries, it cannot claim to be the first-class hotel of San Francisco, as it was in early days, it still does claim to be the best family hotel in the city, containing 200 rooms, well ventilated and neatly furnished. The table is well supplied with the best the market affords, and here, as elsewhere, mine host Bryan seems to have an eye single to the satisfaction of his guests, and to cheapness, neatness and comfort. The location of the hotel is good, being in the great business center, directly opposite Wells, Fargo & Co.'s express, convenient to the leading places of amusement—nearest hotel to all Oregon, southern and other steamers—and having street car connections with Woodward's Gardens and all quarters of the city, every two minutes. A barber shop, laundry and bath-rooms are connected with this house. The American Exchange coach is found at all boats and trains ready to convey passengers to the house free of charge. T.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Sept. 22, 1880.

Wheat has fallen off still more, and Wheat charters have advanced, as is described in an article in another column. There is little encouraging in the situation at present, except that farmers are in much better shape generally to hold their Wheat, and that money can be obtained at much fairer rates than during any previous year. This will prevent much of the hardship which such a Wheat market as the present would have exerted earlier in our history.

Liverpool Prices.

The following are the spot prices in Liverpool for each

day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice	Cal. Wheat.
Thursday.....	9s 3d@9s 8d	
Friday.....	9s 3d@9s 8d	
Saturday.....	9s 3d@9s 8d	
Monday.....	9s 3d@9s 8d	
Tuesday.....	9s 4d@9s 8d	
Wednesday.....	9s 4d@9s 8d	

The Foreign Review.

LONDON, Sept. 20.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: Rains and floods have greatly damaged the crops still standing in the north of Scotland. As threatening proceeds, it is found, in the midlands especially, that the yield of Wheat is considerably below the anticipation formed during the brilliant harvest weather. This caused growers to be bolder in resisting decline. A decided reaction has taken place, raising values 1s to 2s per quarter, both in London and the country. Supplies of home-grown Wheat were comparatively light, but parcels suitable for milling sold readily. The larger millers, however, have not shown such inclination to increase their stocks, as they would have done if the improvement in price proposed to be the first step to a prolonged rise. There is not much chance of prices attaining anything but a very moderate level if only subject to the legitimate influence of supply and demand, as the American surplus far exceeds the estimated old world deficiency. Arrivals at ports of call have been small. There has been considerable business in Wheat, both for Great Britain and the Continent, Red Winter closing at 1s 3d to 1s 6d, and Australian 1s dearer on the week. Maize is in moderate request at about 3d advance. American Red Winter generally held above buyers' views, but there is an occasional advance of 1s per quarter for special shipments. Barley is quiet. Sales of English Wheat during the week were 47,524 quarters, at 39s 11d, against 13,214 quarters, at 47s 4d, for the corresponding period last year. Imports into the United Kingdom, during the week ending Sept. 11th, were 1,939,021 cwt of Wheat, and 240,012 cwt of Flour.

Freights and Charters.

The ship *Jabez Howes*, 1,643 tons, is chartered for Wheat to Liverpool direct at £3 7s 6d; the British bark *Sir William Wallace*, chartered for Wheat to Cork or Havre, £3; the British iron ship *Pizarro*, 1,357 tons, is re-chartered for Wheat to Cork at £3 12s 6d—a sharp advance.

Eastern Grain and Provision Markets.

NEW YORK, Sept. 20.—The markets are moderately active. Wheat is slow, and a half lower. Barley is in better demand. Provisions dull and higher. Mustard Seed is in fair demand. Sales of 50 bags California yellow at five.

CHICAGO, Sept. 18th.—The grain market has been pretty firm, but with no very marked features to indicate the future course of prices. Provisions show a tendency to decline as to cash and new options, and to stiffen as to more deferred futures. That cash Pork is nearly \$18 per barrel, and that November is \$18, shows the power of the clique. The sales for the week for October options were: Wheat, 92½@94½; Corn, 40½@41½; Oats, 28@29½; Pork, \$17.65@17.80; Lard, \$7.75@7.85. The closing cash prices were: Wheat, 93½; Corn, 40½; Oats, 28½; Rye, 85½; Barley, 74c; Pork, \$17.50@17.75; Lard, \$7.82½. The closing October prices were: Wheat, 93½; Corn, 40½; Oats, 29½@29¾; Pork, \$17.65@17.70; Lard, \$7.82½@7.85. Receipts for the week were: Wheat, 456,000 bushels; Corn, 263,600; Oats, 693,000. Shipments were: Wheat, 234,000; Corn, 1,684,000; Oats, 459,000. Receipts in the same time last year were: Wheat, 1,354,000; Corn, 1,448,000; Oats, 299,000. Shipments were: Wheat, 978,000; Corn, 2,009,000; Oats, 109,000. The receipts of Wheat are smaller and of Corn nearly double those of last year, while the outward movement is much decreased in volume from that of 1879 and from previous weeks.

Eastern Wool Markets.

BOSTON, Sept. 18th.—The Wool market shows a decidedly better feeling than for a long time, but there is as yet no improvement in prices, although manufacturers are more free purchasers and are now disposed to stock up for future wants. Spring California, 25@34c; Fall do, 12½@25½; super and X pulled, 38@45c; scoured, 40@80c; tub washed, 46c. The total sales of the week were, 2,408,600 lbs, of which 1,897,600 lbs were domestic.

The London Wool Sales.

LONDON, Sept. 21.—At to-day's Wool sales, 10,700 bales were sold, chiefly new South Wales, Queensland and New Zealand. Prices were firm and the spirit of competition was fully sustained.

BAGS—There has come a slight reaction from the late decline, and merchants have advanced Bags to 9c with the hope that the demand which is still active will hold up values.

BARLEY—There has come a perfect demoralization in Chevalier Barley. Shippers are wholly inactive, and forced sales could only be made at but little more than the prices of ordinary Brewing Barley. Some in the trade think the best standard Chevalier could not be sold above \$1.10 to-day. In the total absence of transactions to-day the value is somewhat conjectural. Sales earlier in the week were as follows: 1,000 sks new Brewing, 95c; 1,700 sks fair do, 85c; and 150 sks Coast Feed, 75c. Sales to-day were: 1,500 sks good Coast Feed, 77½; 300 good Bay Feed, 80c; 2,000 sks Bay Brewing, 90c; 900 poor Coast Chevalier, 85c.

BEANS—There is no change. The price given for Lima's is for the remnant of the old crop.

CORN—Corn is still dull and but little is done.

DAIRY PRODUCE—Butter is advanced again. Fancy brands are selling as high as 37½c, but there is little of this description arriving; the run of choice Butter brings 32½@35c. Cheese is unchanged, although there is some now held for something better than 14c.

EGGS—Choice fresh California Eggs have also reached 37½c, but the poorer lots still drsg at 30@32½c.

FEED—The millers have advanced the rates on Bran and Middlings \$1 per ton, and have dropped the price of Flour. Dairymen can afford to use Feed at the present Butter prices; hence the chance for the millers to advance. Hay is extended in range, there being sales of choice Wheat as high as \$13, and from that down to \$8. Alfalfa Hay generally brings \$9@10.

FRESH MEAT—There is no change in prices; the trade is fairly active.

FRUIT—Fruits are now quite steady. Receipts are cleared away regularly, and prices do not change much. There is a little concession on Grapes except Muscats. Limes and Lemons are sharply advanced and scarce. Raspberries are also high.

HOPS—Sales of Hops are freer, and where lots are consigned without limitations, the sales are from 10@22c. Many choice lots bring 22c, but the weight of the Hops arriving probably range from 10@20c. Some are held at 25c per lb.

LIVE STOCK—We note sales: 1,000 Ewes, Visalia, wool on, \$1.75; 750 Wethers do do, \$2; 1,100 Lambs do do, \$1.40; 2,000 Humboldt Sheep, at Cloverdale, \$2.25; 4,000

Hogs at 4½@4¾c per lb; 25 carloads stalled Steers, \$31; 1 carloads Calves, \$13 each.

OATS—Oats are a shade lower. There has been a sale of choice Milling at \$1.50.

ONIONS—Unchanged.

POTATOES—The supplies are now well covered by the demand, and sales are made quickly. Prices are about the same, except a slight reduction in Early Rose.

POULTRY AND GAME—A few minor changes may be found in our prices of Hens, Roosters and Broilers. Turkeys are reduced. Game Birds are now very plentiful and cheap.

PROVISIONS—There is no change this week.

VEGETABLES—Cantaloupes are doing a little better, and Tomatoes are cheaper. Other prices have varied but little.

WHEAT—A few sales are being made each day, but at a low range of prices. To-day there were sales on 'Change as follows: 20,000 cts fair Shipping at \$1.30; 3,500 sks Coast Wheat, \$1.25@1.27½; 900 sks choice Milling, \$1.40; 900 sks choice Milling, \$1.42½; 4,000 do extra choice Milling, at Oakland, at \$1.43½; 1,300 and 900 sks do do, \$1.45, the latter an extreme rate.

WOOL—Some of the Southern Fall Wool arriving is very poor and there have been sales below 10c; the range, however, for ordinary Southern Fall is placed at 10@12c; free Mountain Fall clip is arriving and selling at 13@15c. Choice free Northern Lambs Wool has sold as high as 23@24c. We note sales: 35 bales Southern Fall, ordinary, 12c; 1 lot Humboldt Lambs Wool, 24c; 28 bales free mount. ain, 15c; 38 bales Spring Wool (Sacramento county) 20c.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Sept. 22, 1880.

BEANS & PEAS.	ONIONS.
Bayo, cts..... 90 @ 100	Filberts..... 17 @ 18
Butter..... 10 @ 15	Red..... 60 @ 65
Castor..... 32 @ 35	Silver Skin..... 87½ @ 90
Peas..... 10 @ 15	POTATOES.
Red..... 30 @ 35	Petalum, cts..... @
Pink..... 30 @ 35	Tomatoes..... @
Sm'l White..... 05 @ 15	Humboldt..... @
Lima..... 50 @ 60	" Kidney..... @
Field Peas, b'k eye..... 25 @ 50	" Peachblow..... @
do, green..... 10 @ 25	Cuffy Cove..... @

BROOM CORN.	POULTRY & GAME.
Southern..... 1½ @ 2	Early Rose, new..... 40 @ 62½
Northern..... 2½ @ 3	H'll M'n Bay, Chile..... 75 @ 85
CHICORY.	Sweet..... @ 75
California..... 4 @ 4½	Rens, doz..... 6 00 @ 7 00
German..... 6½ @ 7	Roosters..... 5 50 @ 6 00
DAIRY PRODUCE, ETC.	Broilers..... 3 00 @ 4 00
BUTTER.	Ducks, tame, doz..... 4 50 @ 5 50
Cal. Fresh Roll, lb..... 32½ @ 35	Mallard..... 1 75 @ 2 25
do Fancy Brands..... @ 37½	Spring..... 1 75 @ 2 25
Pickle Roll..... 27½ @ 30	Teal..... 2 00 @ 2 25
Firkin, new..... 25 @ 27½	Widgeon..... 1 25 @ 1 50
Western..... @	Geese, pair..... 1 75 @ 2 25
New York..... @	Wild Gray, doz..... @
CHEESE.	White do..... @
Cheese, Cal. B..... 13 @ 14	Turkeys..... 15 @ 18
N. Y. State..... @	do, Dressed..... 2 50 @ 3 00
ECOF.	Snipe, Eng..... 2 50 @ 3 00
Cal. Fresh, doz..... 32½ @ 37½	do, Common..... 75 @ 1 00
Ducks..... @ 30	Quail, doz..... @ 1 00
Oregon..... 25 @ 27½	Rabbits..... 1 00 @ 1 25
Eastern, by exprs..... 26 @ 27½	Hare..... 1 75 @ 2 25
Pickled here..... @	Venison..... 9 @ 12
Utah..... @ 25	PROVISIONS.

FEED.	SEEDS.
Bran, ton..... @13 00	Alfalfa, extra..... 10 @ 12
Corn Meal..... 25 @ 26 00	do, Chile..... 4 @ 6
Hay..... 8 00 @ 13 00	Canary..... 5 @ 6
Middlings..... @ 18 00	Clover, Red..... 14 @ 15
Oil Cake Meal..... 30 @ 40	White..... 50 @ 55
Straw, bale..... 40 @ 50	Cotton..... @ 20
FLOR.	Flaxseed..... 24 @ 30
Extra, City Mills..... 4 75 @ 4 87½	Hemp..... @ 10
do, Country Mills..... 4 50 @ 4 75	Italian Rye Grass..... 30 @
do, Oregon..... 4 12½ @ 4 37½	Perennial..... 30 @
do, Walla Walla..... 4 25 @ 4 62½	Miller, German..... 10 @ 12
Superfine..... 2 75 @ 3 50	do, Common..... 7 @ 10

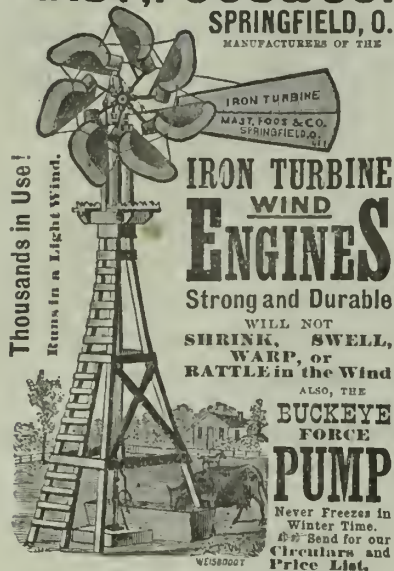
FRESH MEAT.	WHEAT.
Beef, 1st quality, lb..... 5 @ 5½	do, No. 1..... 1 25 @ 1 35
Second..... 4 @ 5	do, No. 2..... 1 25 @ 1 35
Third..... 4 @ 4½	do, No. 3..... 1 10 @ 1 15
Mutton..... 3 @ 3½	Choice Milling..... 1 37½ @ 1 40
Spring Lamb..... 4 @ 4½	HIDES.
Pork, undressed..... 4 @ 4½	Hides, dry..... 19½ @ 20
Dressed..... 6 @ 6½	Wet salted..... 10 @ 10½
Veal..... 6 @ 7	HONEY, ETC.
Milk Calves..... 6½ @ 7	Beeswax, lb..... 22½ @ 25
do choice..... 7 @ 7½	Honey in comb..... 12 @ 13½
do, No. 2..... @	do, No. 2..... @
Dark..... @	Extracted..... 7 @ 7½
GRAIN, ETC.	HOPS.
Barley, feed, cts..... 72½ @ 80	Oregon..... @
do, Brewing..... 82½ @ 92½	California, new..... 16 @ 22
Chevalier..... 10 @ 21	Wash. Ter..... @
do, Coast..... 80 @ 100	Old Hops..... 6 @ 10
Buckwheat..... @ 62 00	WALNUTS—Jobbing.
Corn, White..... 1 02½ @ 1 05	do Chile..... 8 @ 10
Yellow..... 1 02½ @ 1 05	Almonds, hd sh lb..... 8 @ 10
Small Round..... 1 02½ @ 1 05	Soft sh lb..... 16 @ 18
Oats..... 1 20 @ 1 50	Brazil..... 14 @ 15
Milling..... 1 52½ @ 1 57½	Pecans..... 16 @ 17
Rye..... 1 25 @ 1 35	Peanuts..... 8 @ 9
Wheat, No. 1..... 1 32½ @ 1 35	
do, No. 2..... 1 25 @ 1 35	
do, No. 3..... 1 10 @ 1 15	
Choice Milling..... 1 37½ @ 1 40	

WHEAT.	WHEAT.
do, No. 1..... 1 32½ @ 1 35	do, No. 2..... 1 25 @ 1 35
do, No. 3..... 1 10 @ 1 15	Choice Milling..... 1 37½ @ 1 40
do, No. 4..... 1 05 @ 1 10	do, No. 5..... 1 00 @ 1 05
do, No. 6..... 09 @ 10	do, No. 7..... 08 @ 09
do, No. 8..... 07 @ 08	do, No. 9..... 06 @ 07
do, No. 10..... 05 @ 06	do, No. 11..... 04 @ 05
do, No. 12..... 03 @ 04	do, No. 13..... 02 @ 03
do, No. 14..... 01 @ 02	do, No. 15..... 00 @ 01
do, No. 16..... 00 @ 01	do, No. 17..... 00 @ 01
do, No. 18..... 00 @ 01	do, No. 19..... 00 @ 01
do, No. 20..... 00 @ 01	do, No. 21..... 00 @ 01
do, No. 22..... 00 @ 01	do, No. 23..... 00 @ 01
do, No. 24..... 00 @ 01	do, No. 25..... 00 @ 01
do, No. 26..... 00 @ 01	do, No. 27..... 00 @ 01
do, No. 28..... 00 @ 01	do, No. 29..... 00 @ 01
do, No. 30..... 00 @ 01	do, No. 31..... 00 @ 01
do, No. 32..... 00 @ 01	do, No. 33..... 00 @ 01
do, No. 34..... 00 @ 01	do, No. 35..... 00 @ 01
do, No. 36..... 00 @ 01	do, No. 37..... 00 @ 01
do, No. 38..... 00 @ 01	do, No. 39..... 00 @ 01
do, No. 40..... 00 @ 01	do, No. 41..... 00 @ 01
do, No. 42..... 00 @ 01	do, No. 43..... 00 @ 01
do, No. 44..... 00 @ 01	do, No. 45..... 00 @ 01
do, No. 46..... 00 @ 01	do, No. 47..... 00 @ 01
do, No. 48..... 00 @ 01	do, No. 49..... 00 @ 01
do, No. 50..... 00 @ 01	do, No. 51..... 00 @ 01
do, No. 52..... 00 @ 01	do, No. 53..... 00 @ 01
do, No. 54..... 00 @ 01	do, No. 55..... 00 @ 01
do, No. 56..... 00 @ 01	do, No. 57..... 00 @ 01
do, No. 58..... 00 @ 01	do, No. 59..... 00 @ 01
do, No. 60..... 00 @ 01	do, No. 61..... 00 @ 01
do, No. 62..... 00 @ 01	do, No. 63..... 00 @ 01
do, No. 64..... 00 @ 01	do, No. 65..... 00 @ 01
do, No. 66..... 00 @ 01	do, No. 67..... 00 @ 01
do, No. 68..... 00 @ 01	do, No. 69..... 00 @ 01
do, No. 70..... 00 @ 01	do, No. 71..... 00 @ 01
do, No. 72..... 00 @ 01	do, No. 73..... 00 @ 01
do, No. 74..... 00 @ 01	do, No. 75..... 00 @ 01
do, No. 76..... 00 @ 01	do, No. 77..... 00 @ 01
do, No. 78..... 00 @ 01	do, No. 79..... 00 @ 01
do, No. 80..... 00 @ 01	do, No. 81..... 00 @ 01
do, No. 82..... 00 @ 01	do, No. 83..... 00 @ 01
do, No. 84..... 00 @ 01	do, No. 85..... 00 @ 01
do, No. 86..... 00 @ 01	do, No. 87..... 00 @ 01
do, No. 88..... 00 @ 01	do, No. 89..... 00 @ 01
do, No. 90..... 00 @ 01	do, No. 91..... 00 @ 01
do, No. 92..... 00 @ 01	do, No. 93..... 00 @ 01
do, No. 94..... 00 @ 01	do, No. 95..... 00 @ 01
do, No. 96..... 00 @ 01	do, No. 97..... 00 @ 01
do, No. 98..... 00 @ 01	do, No. 99..... 00 @ 01
do, No. 100..... 00 @ 01	do, No. 101..... 00 @ 01
do, No. 102..... 00 @ 01	do, No. 103..... 00 @ 01
do, No. 104..... 00 @ 01	do, No. 105..... 00 @ 01
do, No. 106..... 00 @ 01	do, No. 107..... 00 @ 01
do, No. 108..... 00 @ 01	do, No. 109..... 00 @ 01
do, No. 110..... 00 @ 01	do, No. 111..... 00 @ 01
do, No. 112..... 00 @ 01	do, No. 113..... 00 @ 01
do, No. 114..... 00 @ 01	do, No. 115..... 00 @ 01
do, No. 116..... 00 @ 01	do, No. 117..... 00 @ 01
do, No. 118..... 00 @ 01	do, No. 119..... 00 @ 01
do, No. 120..... 00 @ 01	do, No. 121..... 00 @ 01
do, No. 122..... 00 @ 01	do, No. 123..... 00 @ 01
do, No. 124..... 00 @ 01	do, No. 125..... 00 @ 01
do, No. 126..... 00 @ 01	do, No. 127..... 00 @ 01
do, No. 128..... 00 @ 01	do, No. 129..... 00 @ 01
do, No. 130..... 00 @ 01	do, No. 131..... 00 @ 01
do, No. 132..... 00 @ 01	do, No. 133..... 00 @ 01
do, No. 134..... 00 @ 01	do, No. 135..... 00 @ 01
do, No. 136..... 00 @ 01	do, No. 137..... 00 @ 01
do, No. 138..... 00 @ 01	do, No. 139..... 00 @ 01
do, No. 140..... 00 @ 01	do, No. 141..... 00 @ 01
do, No. 142..... 00 @ 01	do, No. 143..... 00 @ 01
do, No. 144..... 00 @ 01	do, No. 145..... 00 @ 01
do, No. 146..... 00 @ 01	do, No. 147..... 00 @ 01
do, No. 148..... 00 @ 01	do, No. 149..... 00 @ 01
do, No. 150..... 00 @ 01	do, No. 151..... 00 @ 01
do, No. 152..... 00 @ 01	do, No. 153..... 00 @ 01
do, No. 154..... 00 @ 01	do, No. 155..... 00 @ 01
do, No. 156..... 00 @ 01	do, No. 157..... 00 @ 01
do, No. 158..... 00 @ 01	do, No. 159..... 00 @ 01
do, No. 160..... 00 @ 01	do, No. 161..... 00 @ 01
do, No. 162..... 00 @ 01	do, No. 163..... 00 @ 01
do, No. 164..... 00 @ 01	do, No. 165..... 00 @ 01
do, No. 166..... 00 @ 01	do, No. 167..... 00 @ 01
do, No. 168..... 00 @ 01	do, No. 169..... 00 @ 01
do, No. 170..... 00 @ 01	do, No. 171..... 00 @ 01
do, No. 172..... 00 @ 01	do, No. 173..... 00 @ 01
do, No. 174..... 00 @ 01	do, No. 175..... 00 @ 01
do, No. 176..... 00 @ 01	do, No. 177..... 00 @ 01
do, No. 178..... 00 @ 01	do, No. 179..... 00 @ 01
do, No. 180..... 00 @ 01	do, No. 181..... 00 @ 01
do, No. 182..... 00 @ 01	do, No. 183..... 00 @ 01
do, No. 184..... 00 @ 01	do, No. 185..... 00 @ 01
do, No. 186..... 00 @ 01	do, No. 187..... 00 @ 01
do, No. 188..... 00 @ 01	do, No. 189..... 00 @ 01
do, No. 190..... 00 @ 01	do, No. 191..... 00 @ 01
do, No. 192..... 00 @ 01	do, No. 193..... 00 @ 01
do, No. 194..... 00 @ 01	do, No. 195..... 00 @ 01
do, No. 196..... 00 @ 01	do, No. 197..... 00 @ 01
do, No. 198..... 00 @ 01	do, No. 199..... 00 @ 01
do, No. 200..... 00 @ 01	do, No. 201..... 00 @ 01
do, No. 202..... 00 @ 01	do, No. 203..... 00 @ 01
do, No. 204..... 00 @ 01	do, No. 205..... 00 @ 01
do, No. 206..... 00 @ 01	do, No. 207..... 00 @ 01
do, No. 208..... 00 @ 01	do, No. 209..... 00 @ 01
do, No. 210..... 00 @ 01	do, No. 211..... 00 @ 01
do, No. 212..... 00 @ 01	do, No. 213..... 00 @ 01
do, No. 214..... 00 @ 01	do, No. 215..... 00 @ 01
do, No. 216..... 00 @ 01	do, No. 217..... 00 @ 01
do, No. 218..... 00 @ 01	do, No. 219..... 00 @ 01
do, No. 220..... 00 @ 01	do, No. 221..... 00 @ 01
do, No. 222..... 00 @ 01	do, No. 223..... 00 @ 01
do, No. 224..... 00 @ 01	do

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE BUCKEYE FORCE PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

To D. E. GOLDSMITH,
General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50 is wanted. A cook-stove attachment is suggested. — Bulletin, July 26, 1880.

ZIMMERMAN

IMPROVED GALVANIZED IRON, PORTABLE COMBINED

FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good speed of all who have used or seen it operate.

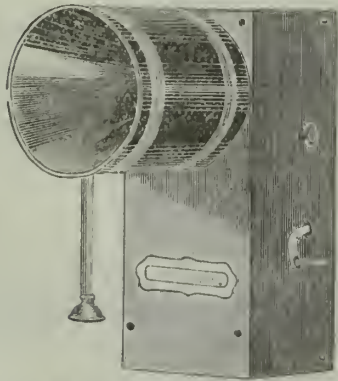
PRICES—\$47.50, \$63, \$130.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to
LINFORTH, RICE & CO.,
General Agents for Pacific Coast,
Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

Hoover Telephone.

PATENTED.



\$10.00 PER SET.

Put up and guaranteed for one year. Private lines a specialty. It will cost you nothing to try them. No work, no pay. All orders promptly attended to. Circulars free. Room 24, 328 Montgomery St., S. F.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

ELLWANGER & BARRY

ROCHESTER, N. Y.

Offer the largest and most complete Stock of Fruit and Ornament Trees in the U. S. Priced Catalogues sent as follows: No. 1, Fruits with plate 15 cts; plain, 10 cts. No. 2, Ornamental Trees, etc., with plate, 25 cts; plain, 15 cts. No. 3, Greenhouse, Free. No. 4, Wholesale, Free. No. 5, Catalogue of Roses, with beautiful colored plate, 10 cts; plain, Free. No. 7, Catalogue of Strawberries and Small Fruits, Free.

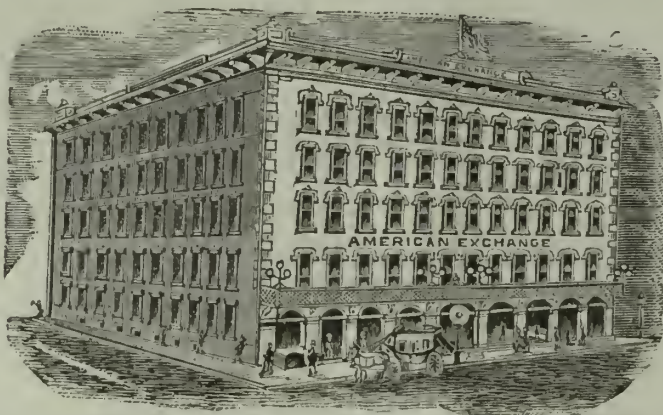
50 Perfumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. G. A. SPRING, E. Wallingford, Ct.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

In consequence of spurious imitations of
LEA AND PERRINS' SAUCE,
which are calculated to deceive the Public, Lea and Perrins
have adopted A NEW LABEL, bearing their Signature
thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of CROSS & CO., San Francisco.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Vall's Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vols., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

PACIFIC RURAL PRESS.

A first-class 16-page Illustrated Agricultural Weekly, filled with fresh, valuable and interesting reading. Every farmer and ruralist should take it. It is immensely popular. Send for a sample copy.

DEWEY & CO., Publishers, S. F.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

50 New Style Cards. Lithographed in bright colors, 10c. 80 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

Mining & Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice, free.

Address:

DEWEY & CO.,

202 Sansome St., N. E. Cor. Pine,

San Francisco.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street., Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '53 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crankshaft with double bearings for the crank to work in, all turned an run in babbitted boxes. Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order new, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

TO POULTRY MEN.

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street, San Francisco.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



LITTLE'S CHEMICAL FLUID.

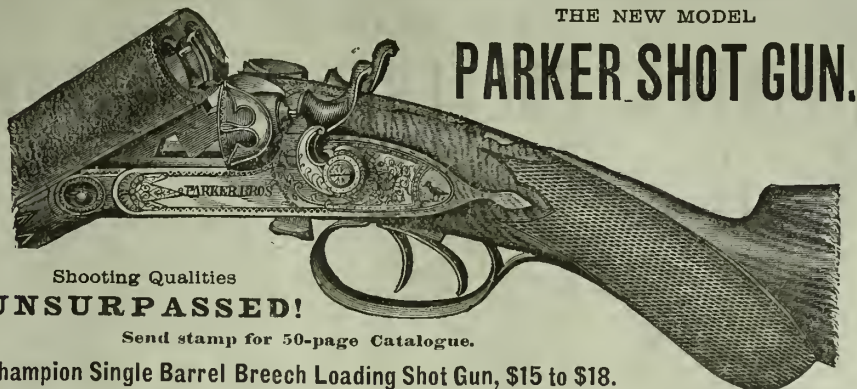
The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to **FALKNER, BELL & CO.**
Sole Agents, 430 California Street, S. F.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc.
Printing Press and General Machine Repairing.
Punches, Dies, Taps, Reamers, etc., made and repaired
I. A. HEALD, Proprietor.
514 Commercial Street, above Sansome, San Francisco.

SADDLES, HARNESS, WHIPS, LEATHER,
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in All Goods in this line.
Send for Catalogue

Engraving. Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the **MINING AND SCIENTIFIC PRESS,** San Francisco at favorable rates.



Shooting Qualities
UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL

SECURE PATENTS



Through **Scientific Press** Patent Agency.
Dewey & Co.'s

OUR U. S. AND FOREIGN PATENT AGENCY presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library containing official American and foreign reports, files of scientific and mechanical publications, etc. All worthy inventions patented through our Agency will have the benefit of an illustration or a description in the **MINING AND SCIENTIFIC PRESS.** We transact every branch of Patent business, and obtain Patents in all countries which grant protection to inventors. The large majority of U. S. and Foreign Patents issued to inventors on the Pacific Coast have been obtained through our Agency. We can give the best and most reliable advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and Circulars free. **DEWEY & CO., PATENT AGENTS.**
A. T. DEWEY, W. B. EWER, GEO. H. STRONG.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

RECORD OF SUPERIORITY.

1878-AWARDED
J. H. STROBRIDGE,
First Premium:
Pen 5-Breeding Ewes.....\$22.50
Pen 5-Yearling Ewes.....22.50
Pen 5-Ewe Lambs.....22.50
Pen 3-Ram Lambs.....22.50
Yearling Ram (1st and 2d).....28.50
Two-year-old Ram.....22.50
Ram and five of his Lambs.....30.00



Sweepstakes:
For best Ram of any age or breed, and five of his Lambs.....75.00

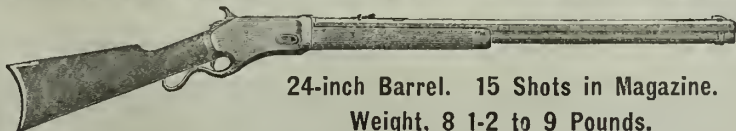
1879-AWARDED
J. H. STROBRIDGE,
First Premium:
Pen 5-Breeding Ewes.....\$22.50
Pen 5-Yearling Ewes.....22.50
Pen 5-Ewe Lambs.....22.50
Two-year-old Ram.....22.50
Yearling Ram.....22.50
Ram and five Lambs.....30.00
Pen of 3 Ram Lambs.....22.50

Sweepstakes:
For best Ram and five of his Lambs, of any age or breed.....75.00

THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. **J. H. STROBRIDGE,** Haywards, Alameda, Co., Cal.
E. W. PEET, Agent.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,
416 Market St., San Francisco,

SEEDS.

ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

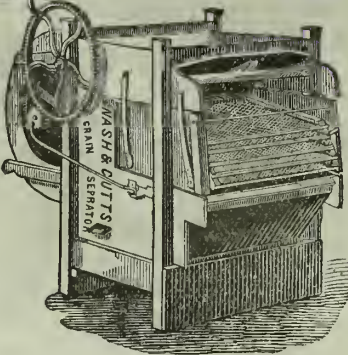
POP CORN.

115, 117 and 119 Kinzie Street, CHICAGO, ILLINO S.

STILL AHEAD!

Trade Mark.

"The Improved Nash & Cutts Grain Cleaner."



Three sizes-warranted to clean from 60 to 150 bushels per hour perfectly.
Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here, we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted.

Prices at Factory-No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,
906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific Coast.

We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader. Horse Forks for Headings or Hay. Folding Derricks. Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address **BYRON JACKSON, Prop'r.**



DO NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, **MONTGOMERY WARD & CO.,** 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wickets. Apply to **A. SCHULLER,**
209 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best

GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$3 per doz. Address, **G. W. JOLLY,** Paraiso Springs, Cal. Pat. apld for



YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. **STEVENS BROS.,** Northford, Conn.

charge, and all kinds of lenses made to order at greatly REDUCED PRICES.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, OCTOBER 2, 1880.

Number 14

A Wonderful Ruin in Arizona.

Many have heard of Casa Grande, and have read detailed descriptions of it, and the impressions of travelers upon viewing it. It is certainly one of the most interesting and important vestiges of an earlier civilization upon this coast, and we have thought our readers would like to see a view of the exterior of the structure with some notes concerning its internal construction and arrangement. The view of the exterior is taken from Conklin's "Picturesque Arizona," published by the Continent Stereoscopic Co., of New York. The description of the ruin and the diagrams accompanying it we condense from an article prepared for the *Californian* by Henry G. Hanks, of this city.

The ancient building known as Casa Grande, on the banks of the Gila river, is at the present time the most interesting of all the ruins left by the prehistoric people. Although there are many other ruins of less note which are worthy of careful study, this one is the best known, and is identified with the history of the country. The first mention of Casa Grande is in the account of the explorations of Colorado in 1550. Coronado came northward from Mexico to search out the grand buildings which were reported to exist in the region he explored. The Casa Grande was then a ruin, and the explorer was much chagrined at finding it instead of the golden splendors promised him. Another account describes a visit of Father Kino to the ruin in 1694, and he found traditions among the Indians that the ruin was then 400 years old. Other accounts by visiting priests contain testimony from the Indians which led the explorers to conclude that Casa Grande was built in the 13th century. Later, however, the Indians were closely examined as to the truth of their traditions, and they admitted that they in truth knew nothing of the origin of the building, but that all was wrapped in mystery.

Mr. Hanks, in company with Prof. George H. Cook, State Geologist of New Jersey, and S. P. Van Winkle, also of New Jersey, visited Casa Grande in April, 1879. This remarkable ruin lies about 12 miles from the flourishing town of Florence, Pinal county, Arizona. It stands on a wide-spreading mesa, rising slightly from the main road. The mesquite trees, although low, hide the building until it is nearly approached. For miles distant from the ruin the ground is spread with fragments of broken pottery, in such quantities that it is impossible to reject the idea that the site was at one time densely populated, where now utter desolation reigns. It is natural, under such circumstances, to speculate as to how the people lived; for, if the country was in the same state then as now, the question would be a difficult one to answer. The visitor has ample time to think the matter over from the time he first begins to observe the signs of human habitation until he reaches the building. With our party the conclusion reached was that the Colorado desert may have been once an inland sea, and the climate widely different from the present.

As the traveler approaches Casa Grande he cannot fail to be somewhat disappointed, the more so if he has taken a romantic or poetical view of the published descriptions of that noted building. Instead of the stately edifice he has pictured in his imagination, he beholds only a huge dun colored, almost shapeless mass, looming up strangely from the desolate plain. There is nothing architectural about the structure. It is, at best, but a mud house; though, as he examines it more closely, it seems more and more wonderful, and the mind is filled with conjecture as to the uses to which this great building may have been put, and why it stands so lonely and isolated.

The diagram, Fig. 1, upon this page is the ground plan of Casa Grande, on a scale of 20 ft. to the inch. The walls were originally, as near as may be, four ft. in thickness, the exact measurement being three and seven-tenths ft. The highest point, as the building now stands, is 35 ft. It was originally four or five stories high,

each of which was eight ft. from floor to ceiling. The extreme length, carefully measured, is 58½ ft., and the width 43 ft. In the north, south, east and west faces of the building there were narrow doors, centrally placed, through which entrance was made into the main compartments, and over each door narrow port holes, decreasing in width from the bottom upward. The diagram, Fig. 2, gives the form of them, drawn to a scale of half an inch to the foot.

The building faces nearly the cardinal points

condition of this wonderful ruin, Mr. Hanks observes, that the inner surface has remained these long years intact, the smooth face showing no sign of decay. The little wrinkled marks, left when the surface dried, remain the same as when, centuries ago, the builder laid aside his tools, and the work was declared finished. Readers of works written by travelers in Egypt wonder at the accounts given of temple and tomb, whose pictured walls remain as fresh as if newly-painted. They are inclined to think,



EXTERIOR VIEW OF CASA GRANDE IN ARIZONA.

of the compass, the north and south walls bearing north, ten degrees east, which is nearly the true meridian. The interior must have been dark, as the light was admitted only through the before described port-holes. The inner

if at all skeptical, that these statements are exaggerated. Yet here in Arizona we have evidences that, in the warm, dry climate, changes take place slowly. It is not easy to understand why the concrete walls should not last a

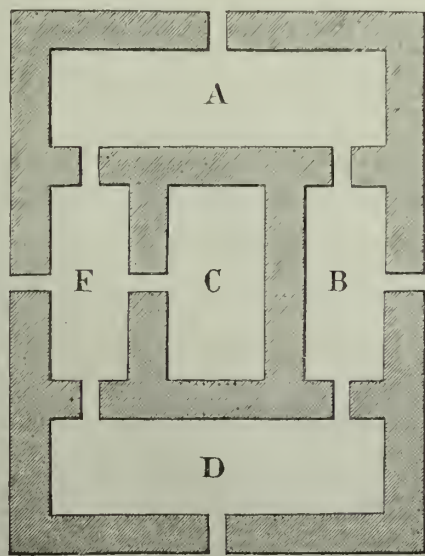


Fig. 1. Ground Plan.

room was, presumably, like a dungeon. The central series of rooms was at least one story higher than the others. From A into E (Fig. 1) there is a port-hole in the second story, from room to room. From E into D there was originally a port-hole of the same size, but it has been filled in. From E to C there is a door, but none from C into B, instead of which there are several circular openings, from eight to ten inches in diameter, extending through the thick walls and resembling modern stove-pipe holes. They are still perfectly smooth on the inside. What use these singular openings were put to can only be conjectured. Concerning the present

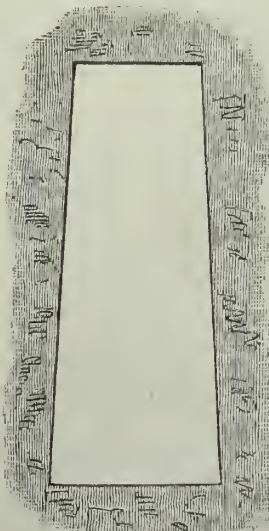


Fig. 2. Porthole

thousand years as well as a hundred. Some parts of the outer surface remain as smooth as when left by the builder, while in others the tooth of time has gnawed unsightly cavities, like cancer spots. Why this should be the case has caused the writer much thought. For centuries occasional rain storms, and the continued action of the natural sand-blast, have gradually worn away the surface, and left their records on the old dun-colored walls. We are apt to overlook the importance of little things, and may forget that an incessant bombardment, lasting for centuries, may produce great changes, even if the missiles be only grains of sand.

Early American Farming.

While we contemplate the high excellence and great capacity for work which has been attained in the agricultural machinery of this country, it is interesting to cast a thought backward at the tools used by our forerunners upon American soils. The contrast is startling. At the late meeting of the American Society for the Advancement of Science, held in Boston last month, there was a paper read by a citizen of Illinois concerning the ancient stone implements found in the rich, alluvial soil about the mouths of the Missouri and Illinois rivers used by the Mound-builders in their rude agriculture. The writer exhibited a fine collection of these implements. They are all chipped from flint, or a hard silicious limestone, and some of them beautifully made. Some are nearly a foot in length and six inches wide at the broader end. Some are made to be fastened to handles, like our modern spades. Others resemble our modern hoes, having a deep, lateral notch, to facilitate the fastening to a handle. Some of these stone hoes are made with such ingenuity as to have been effective implements. There were also exhibited stone implements which evidently were made to fasten to some kind of stock to be pulled through the ground like a plow. As these ancient people had no domestic animals for this purpose, it is probable that manual force was used to perform the work. The broad cutting-edge of these stone implements was highly polished from long use by the attrition of the soil. These implements of agriculture were in the ancient graves associated with pottery, some of which contained carbonized corn. Cobs in a carbonized state were found, and it seems probable that these ancient people lived principally on corn and vegetables, which they cultivated to a considerable extent.

A SPLENDID FRUIT SHOW.—Accounts which are arriving from the first fruit exhibition of the Mississippi Valley Horticultural Society indicate that the show of fruit must have been one of the finest and most comprehensive ever made in the history of pomology. The *Rural World* says, "it is safe to say it has never had any equal." The specimens of each variety by the same exhibitor were reduced to five, and if this had not been done, we are assured that the hall of the Merchants' Exchange, "one of the largest in the world," would have been wholly inadequate to contain the fruit. There were more than 5,000 plates of apples alone. These brief notes will give the reader some idea of the great masses of fruit which were on exhibition, and the imagination can easily picture the infinite variety of colors and forms which must have been displayed. California has an especial interest in this grand show, for semi-tropical fruits were exhibited by G. C. Swan, of San Diego, and several premiums were awarded to him. He also secured an award for quinces, which will bring recognition to our peerless quince production, for the same fruit must have been shown from many States. We are glad Mr. Swan made the exhibit he did. We cannot appeal more forcibly to the horticulturists of the East than to give them ocular demonstration of the character of California fruits; and when Eastern societies are so courteous as to offer special premiums for California fruits, we ought certainly to meet them half-way by sending forward the material. Concerning the quality of Mr. Swan's exhibit the *Journal of Agriculture* says: "California presented superior, not to say superb assortments of oranges, limes, lemons, citrons, and other semi-tropical fruits, the growth of 1879."

MONDAY morning immense swarms of grasshoppers appeared, coming from the north, at Jackson, Texas, at times obscuring the sun. Farm products near there are completely demolished, even cotton stalks being devoured.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds

San Bernardino's First Fair.

EDITORS PRESS:—The San Bernardino County Agricultural Society is a young association. It was born only last spring, and the quickening impulse to which it owes its birth was undoubtedly given by the successive citrus fairs at Riverside. Its debut upon the field of annual exhibitions has been a very gratifying and encouraging success. The display of fruits and domestic manufactures was made in Jackson's theater, which had been prettily decorated for the occasion—the walls being festooned and the pillars twined with evergreen. Aloft, between the columns, were suspended a variety of quilts, table-covers, afghans, etc., the excellent handiwork of the maids and matrons of the district. The floor was covered, about half an inch deep, with planing-mill chips, which effectually muffled the footfalls of visitors and prevented the clatter so apt to be tedious. (This novel, admirable measure of littering with "clean dirt" is respectfully commended to hall committees in general.) Less admirable was the judgment that almost barricaded the entrance with the towering show-case of a druggist, past which one had to go before getting sight of

The Fruit Tables.

These were in the middle of the hall and the center of your correspondent's interest. On the right was the Riverside exhibit, all together. First came a stack of canned and specimen boxes of very handsome dried fruit from their packing company; then a large number of plates of grapes, etc., from various parties—among which the trouble is what *not* to mention. There were E. Caldwell's fine, large Muscats; James Boyd's entry comprised plates of Berger, Flaming Tokay, Delaware, Mission, Concord, Hartford, Black Hamburg, Iowa, Muscat and Black Morocco (beside three which he hesitated to name), and took the second prize for the best 10 varieties named.

G. W. Garcelon exhibited a very choice collection of 16 varieties, viz.: Grover Dell, Heriberto, Berger, Burgundy, Salem, White Malaga, Rose of Peru, Muscat of Alexandria, Black Morocco, Black Hamburg, Black Malvoise, Black St. Peter's, Flaming Tokay, White Chasselas, Rose Muscat and Royal Muscadine. The fact that these were arranged in four raisin boxes, instead of in 16 plates, may have cost their exhibitor a premium. (The Salem was, to my taste, the highest-flavored grape on the tables.) Of his pears, the Bartlett especially were elegant.

D. S. Musselman's four "Orange" quinces weighed four and one-half lbs.—the largest one weighed one lb. seven ounces—and took the first premium; Mrs. Conway's, lying close by, received the second.

Premiums were also awarded to Riverside for Capt. Handy's platter of pears, and for Crane's Champion raisin press, which was shown in the side-room.

Beyond the fruit on this table stood sundry bottles of potables, more or less alcoholic; then came the bread. Here were but six entries: Mrs. Palmer's nice Boston brown bread having no rival, and Miss Tilly Willis' white loaf far surpassing the rest in sweetness.

The table of the left-center was almost wholly devoted to horticultural products. In T. Tomkins' exhibit (which needed plates and arrangement) I noticed Blue Gage plums and Winter Nelis, Gray Doyenne, Bartlett, Louise, Bonne de Jersey and White Spanish pears.

S. E. A. Palmer, the well-known nurseryman, easily bore off the palm for the "best display of deciduous fruits," embracing plates of Heath Free, Blood, Old Mixon, Lemon and Davis clings, President and Late Crawford peaches, Tulpehocken, R. I. Greening, Wagoner and yellow Bellflower apples, Mammoth nectarines, Petite Prune d'Agen, quinces and 11 plates of Seckel, Beurre Box, B. Del, Flemish Beauty, Clapp's Favorite, Sheldon and other pears. (There was some difficulty in telling the limits of different exhibits—the system of labeling being faulty—and a good many cards had nothing on them but the name of the exhibitor.) Mr. Palmer also took premiums for the second best collection of peaches, ditto of pears, second plate of nectarines, ditto of pears and of prunes; while Mrs. Palmer's nine glass jars of preserved apricots, peaches, crab apples, pears and plums were, in their own class, unapproached.

Mr. Waterman and Dr. Smith, from the Hot Springs region, brought in grapes, almonds, peaches, apples, etc. The latter's pomegranates were by far the finest looking of the three lots on the table.

Cotton, grown at Dr. Smith's, Arrowhead Springs, was used in making the quilt entered by his mother, who is 70 years old and has never worn glasses.

G. B. Wallace, from his mountain-side "Esperanza" ranch, a mile or two west of Waterman's, displayed the best almonds, the best nectarines (though in the latter Mr. Palmer was his only rival), premium plums and Siberian crab apples, and some remarkably fine muscat grapes, half a dozen varieties of apples and pears, which were indeed "Beauties," whether

or not rightly termed Flemish. His combined pruning knife and shears also attracted some attention.

Morse Bros.' fine purple plums were peculiarly noteworthy, since that fruit has not often succeeded well hereabouts.

P. Filance, a mountain rancher, put in huge Angora pears and cabbage heads, girthing 44 inches.

J. W. Waters displayed the largest and handsomest Brown Turkey figs, and some chestnuts in the burr. His 16 plates as a whole were highly attractive, and one of the grape clusters bore a premium ribbon.

M. M. Kincaid's big apples, from San Antonio, embraced the "best five varieties," but were not named. P. A. Forsee, from up Mill creek, right under Mount San Bernardino, had 12 varieties piled upon the board, viz.: Oregon Red, Maiden Blush, Forsee's Sweet Seedling, Wine Sap, Newtown Pippin, Tulpehocken, Red Spitzenberg, Roxbury Russet, Yellow Bellflower, Ben. Davis, Baldwin and R. I. Greening.

Judge Morris had his own way with the tomatoes—Acme, Beefsteak and Yellow—and his fine platter of "Davis cling" passed for the best single plate of peaches.

Judge Willis had a varied and comprehensive output—among which were the second Brown Turkey figs and a heavy branch of damsons.

But the most delicious figs, if not the largest and finest looking, that it was my privilege to sample after the committee, were the little purple ones by D. A. Shaw of the Lugonia district. He also had several twigs crowded with almonds, one of them bearing 35 nuts, within six lineal inches.

Rev. James T. Ford's little exhibit was very choice. It embraced seven plates of pears ("best collection—not less than five varieties named," and "best single plate"), among them Bartlett, Beurre d'Ajou and Vicar of Winkfield, the second best five varieties of apples—Gloria Mundi, Wine, Early Rising, R. I. Greening and Fall Pippin—a box of English walnuts and two of the most beautiful plates of peaches in the hall, one being filled with seven large, rich-hued "Mission Dolores," and the other with superb "Presidents." These last were "grown on a tree close to the school house fence in Riley school district, and ripened while school was in session."

In this connection should be mentioned, also, two noble watermelons (grown I understand by J. W. Swing), which had the following placard: "There is nothing remarkable about these melons except their presence. They were raised in the town of San Bernardino, with a very poor fence around them."

Parish Bros., the ardent and accomplished hotanists, have perhaps 50 varieties of peach in their orchard, many of them being late kinds imported from Delaware and the Southern States. Their exhibit was I think, upon the whole, the finest and most tasteful in the building. Of peaches, there were Golden Dwarf, Shipley's Late Red, Silver Medal, Newton, Nanticoke, Keyport and Tuckahoe. (These, unquestionably, the "best collection.") Theirs, also, was the "best collection of foreign grapes named," viz.: Black Hamburg, Black Prince, Black Spanish, Purple Damascus, Rose of Peru, Flaming Tokay, White Frontignol, Fifer Zagos, Golden Chasselas, Sweetwater and Verdal.

A. H. Hart showed 8 varieties of grapes—in cluding Concord, Cornichon, Sultan, and the Seedless "Zante Currant," whose crowded clusters of piquant berries were charming, both to eye and palate.

Among the visitors from outside the lines came Rev. C. F. Loop, of Pomona, bringing Burre Clairange and other pears, Duchess of Oldenburg apples—delighting the eye with broken stripes of crimson on a bright yellow ground; Fall and Blue Pearmain, Famense, Esopus Spitzenberg, Roxbury Russets, and Newtown Pippins.

From all the apiarists of these foothills and canyons, only two exhibits of comb-honey appeared; but how fascinating in their purity and delicacy were those two! Messrs. Staples & Terrass and A. C. Riche, made the entries. The former also set out four flat glass flasks, each holding about a quart of the most luscious "white sage" honey extracted.

In a side-room were to be seen huge aquashes 5 to 6 feet in circumference, and one of them, nearly a yard long, was said to be "three weeks old." (We guessed it to be all of that.) Corn, unirrigated, 14 ft. in height; other maize, from Durke's, in Devil Canyon, 12 ft.; and Egyptian corn hanging full-heads; half a dozen giant watermelons, the "boss" marked 64 lbs., girthing 35 inches, and 2 ft. in length. Sacks of flour, too, from Mathews' Southern Pacific Mills; fine samples of wheat and oats; two of butter, and one solitary cheese from Suverkrup's factory. There, too, was a thriving "White Berkeley" tobacco plant, 9 feet high, with leaves half a yard wide and three-fourths long, surmounted by pink stars of blossom—interesting as a botanical curio even to one who abominates the weed—whether chewed, smoked, snuffed or dipped, and was glad to see "smoking strictly prohibited" in the theater.

A clean pine plank from Calcy & Co's mill, on the mountains, measured 14½ ft. by 38 inches, and not a single knot was to be seen on its entire surface.

The main room contained numerous articles, in no wise horticultural, which we cannot even glance at before visiting the live-stock department, but we should not fail to notice John Benniger's decidedly miscellaneous exhibit in

an alcove. Tall stalks of maize ran up a dozen feet on the one side and a thrifty hop-vine on the other. Between these, against the wall, a pyramidal flower-stand was covered and flanked by sundry pots of begonia, tuberose, New Zealand flax-plant (*phormium*), fuchsia, "dusty miller," Japanese nut tree, or "gingko," and what not? and towering bouquets of cut roses, dahlias and pampas-grass. On a table in front of the flower-stand was a tank of gold-fish, divers specimens of ores and maiden-hair, several plates of grapes, including the White Riesling, and a box of hops.

It is time we should pay some attention to the horses and cattle; but the stock-grounds lie four miles southeast of town, and readers of the PRESS will hardly care to accompany us so much farther till another week. N. E. Boyd.

Tulare Crops—Single Track Railway.

EDITORS PRESS:—The continuous work since the latter part of June of a dozen steam threshers and several horse-power machines will complete the abundant harvest of the Mussel Slough country by the end of the first week in October. The entire wheat crop of the district around Grangeville, Lemoore and Hanford will hardly fall short of 35,000 tons. Warehouses and granaries are full to overflowing, although over 10,000 tons have already been shipped to San Francisco and Stockton. With all the sad troubles and annoying litigation of many of these badly treated and most worthy settlers on account of the harsh policy of the railroad company towards them, they have gone on quietly and steadily harvesting and mowing a crop worth, even at present low prices—\$1 to \$1.05 per cental here—not far from \$800,000. On such of this crop as they ship by rail they will pay the railroad company between \$150,000 and \$200,000, or more than half enough to build and equip

The James Narrow-Gauge Railroad.

As proposed from here to Antioch, or some deep water landing near there.

Your readers will be interested to know that the directors of the Grangeville and Antioch Railroad Company which was organized last spring propose to build part of their single-track road at once. As the work of construction for a farmer's road like theirs must be done largely by farmers, they have waited for the rush of heavy harvesting to end that the necessary teams and men can be had. The stock of this company, of which a good deal has already been subscribed, is non-assessable, and much of the stock subscribed can be paid by work. This is exactly the plan used by the

Enterprising and Co-operating Farmers of this Mussel Slough region to construct several hundred miles of ditches, which, as the people of California well know, has given these lands whatever value they have for agricultural purposes. Many teams, plows and scrapers will soon be at the disposal of the directors. Some of them will start down in about two weeks to begin operations. By that time Dr. A. Bradley, President, and J. J. Doyle, Secretary of this true farmer's road, expect to have selected the northern terminus of the road, near Moore's landing on the San Joaquin, and to have surveyed the first five miles of the route. They expect to have this five miles finished and equipped with an engine and three or four cars by the 1st of November, or thereabouts. It is then proposed to extend the road about 50 miles to Hill's Ferry, to which point they hope to be running their trains early in January next. Now that the early building of this road is definitely decided on, your readers may be interested to know the details of

Estimates of Cost of Material

And construction for road to Grangeville, as made now by competent men and based on offers already received from responsible parties:

FOR EACH MILE.	
44,000 ft. 7x7 rails, at \$14 per 1,000	\$ 616 00
1,760 ties, at 13 cents each	228 80
Spikes and angle irons	100 00
Grading	155 20
Laying track, etc.	100 00

Total cost per mile.....\$1,200 00

ROLLING STOCK, ETC.

10 locomotives	\$25,000
400 cars, at \$140 each	56,000
3 water tanks, at \$125 each	1,000
8 windmills and pumps	800

Total.....\$82,800

ANTIOCH TO ORANGEVILLE.

165 miles, at \$1,200 per mile	\$198,000
Rolling stock	\$2,800

Total.....\$200,800

POSSIBLE EARNINGS FOR SIX MONTHS.

1,000 tons per day, 5 or 6 mos., at \$2 to \$3 per ton	\$460,000
Running expenses 6 months	60,000

Total net earnings.....\$400,000

The figures form the basis of their work. Following are some of the

Economical and Attractive Features

In the contract signed by stockholders:

For entire distance of 165 miles, freights not to exceed \$3 per ton for wheat, barley and all other cereals; merchandise of all kinds—first class, 95 cents; second, 75; third, 55 cents per 100 lbs., either way; each passenger either way not to exceed \$6; charges to and from all intermediate points, in proportion to above rates,

according to distance. From these figures it can be seen at once how valuable such a road as this proposed single track will be, not only to this monopoly-ridden community, but to all others. J. W. A. W.

Hanford, Sept. 27th.

HORTICULTURE.

Scale Insects on Orchard Trees.

At a meeting of the State Horticultural Society, held in this city Sept. 24th, Prof. J. Henry Comstock, Entomologist of the Agricultural Department, Washington, read the following paper on "Scale Insects Injurious to Fruit and Other Trees:"

There is no group of insects which is of greater interest to horticulturists to-day than that family which includes the creatures popularly known as "scale bugs." No variety of fruit is exempt from their attacks, and in certain localities many trees have been seriously injured, or even killed outright by them. The oyster-shell bark louse of the apple, and several species infesting citrus fruits are well-known examples of these facts.

Notwithstanding the great importance of the subject, comparatively little thorough work has been done on the species of this country. This fact led me to undertake a serious study of the group, the result of which will be published as soon as practicable.

The object of the present paper is simply to give for the benefit of California horticulturists a few of the more important points in the life-history of scale insects, and a part of the results of my studies of the forms which occur on this coast.

The scale insects or bark lice comprise the family known to entomologists as the *Coccidae*. In many respects this is a very anomalous group of insects, differing greatly even from closely allied forms in appearance, habits and development.

The newly-hatched scale bug is oval in outline, much flattened, furnished with six legs, a pair of antennae, and an apparatus for sucking the juices from plants. At this stage of its existence it is very small, a mere speck, which the untrained eye could only with difficulty detect. By means of a lense, however, they can be seen crawling in all directions over the leaves or bark of an infested tree. After wandering for a time the young coccid settles on some part of the plant, inserts its beak and begins its growth at the expense of its host.

From this point the development of certain species is quite strange, appearing to be a retrogression instead of an advancement to a more highly organized form, as is the rule in the development of animals. The skin it shed, and with it the legs and antennae. The coccid thus becomes a degraded grub-like creature, with no organs of locomotion. The mouth parts remain, however, in a highly developed state, and well fitted to perform their functions. This apparatus is not the least remarkable thing in the structure of these insects. It is terminated by a thread-like organ, which is frequently much longer than the body of the insect, and is composed of four delicate hair-like bristles. By means of this organ the insect is firmly attached to the plant and draws its nourishment therefrom. From this stage the development of the sexes differs.

The female coccid soon moults a second time, and this shed skin is joined to that first moulted and forms a covering or scale, under which the insect is to pass its life. The moulted skins are, however, insufficient to cover the body of the coccid, which increases in size rapidly. To supply this deficiency a waxy matter is secreted by the insect and successive additions thus made to the scale. The different modes in which these additions are made form some of the characters by which the different species of scale insects are most easily distinguished. For example: If the waxy matter is added to one side of the moults and successive additions made to the same side, a long and more or less narrow scale is formed. The common oyster shell bark louse of the apple and the long scale of the orange, well known in Florida, are illustrative of this kind of scale insects. If the waxy matter be added to all sides of the moults, and successive additions are in the form of concentric rings, a circular scale is formed. To this group belongs the so-called "red scale" of this State, and a species which I purpose to call the Cuba scale, which occurs in a single grove in Florida, as well as the scale most destructive to fruit in the Santa Clara valley. In each case the scale is nearly circular and the moults appear at a point in the center. Numerous other forms of scales occur, but these are sufficient for our present purpose.

After the female reaches maturity the process of oviposition begins. The eggs are laid under the scale, the body of the female gradually diminishing in size as the eggs are laid, thus making room for them.

A word now respecting the development of the male. In the group of scale insects which I am now considering, the male scale can be distinguished by its small size and the fact that but a single skin is moulted in the course of its formation. When the male bark louse attains

its growth it changes to a pupa with rudimentary legs and wings; later it undergoes another change, and emerges from under the scale an active little creature furnished with long legs and antennae and two large but very delicate wings. Its mouth and its appendages have disappeared, and in their place has been developed a second pair of eyes. Of course no nourishment can be taken during this stage of its existence, and its energies are devoted solely to the perpetuation of its kind.

A Second Group of Scale Insects.

A second group of scale insects differs from that just described, in that the species do not excrete a scale-like covering, composed in part of moulted skins, and the females preserve their legs and antennae throughout life. The form of the body of the female, however, usually changes greatly after impregnation. Of many species of this group the males are unknown, but in all the cases where they are known they are winged, as in the first group. The most familiar representation of this group are the "black scale," or "brown scale" of this coast, and the "soft scale" of Florida. With the black scale, after impregnation, the body of the female becomes much thickened and elevated, assuming the well known characteristic form. After that the sides and back of the insect become much hardened, and the minor part shrinks away from the plant as the eggs are laid. Thus there is formed a cup-like shell, or "scale," which covers the eggs and newly-hatched young. It should be borne in mind that this "scale" is the hardened body of the dead or dying female, and not an excretion separate from the body of the insect. This point is of practical importance, for it is easier to destroy a naked insect than one which is furnished with a water-proof covering like that of the scales of the first group.

A Third Group of Scale Bugs.

In the third group of scale insects the females change very little in form during their entire life, and do not become fixed in one place. The males are winged, as in other groups of coccids. The male hogs, so common in hot-houses, and the cochineal insect, are the best known examples of this group.

The Forms of Scale Bugs Occurring on the Pacific Coast.

These few remarks will give a general idea of the natural history of this family of insects. Now as to the forms which occur on this coast: Up to this time I have studied 15 species which infest cultivated plants in sufficient numbers to prove injurious. These will be described at length, with others occurring in the East, in a report which I am preparing for the Department of Agriculture. The most common species of this State is the "black scale," which is very abundant on citrus trees and olives, and also infests many other plants, including the deciduous fruits. This agrees with descriptions of a common European species—*Lecanium oleae*—and I presume will prove to be the same. If this be true, the species was doubtless brought from Europe on citron trees. Another very important species is that known as the "red scale." This is as yet undescribed. I have, however, in manuscript, ready for publication, a description, including figures of different stages and both sexes. There is abundant proof that this species was introduced from Australia. These two examples are sufficient to show the danger of introducing pernicious pests with exotic plants. The same thing has happened in Florida. Although the two species just mentioned do not occur in that State, one very closely allied to the "red scale" has been introduced from Cuba. And another, the most common on orange in that State is an European species. All of these insects, however, are not foreigners. For example, there is an undescribed scale common on olive, pear, fig and other trees in this State, which I have good reason to believe has spread in the cultivated trees from the native willows. And in Florida there is a scale which is quite common on citron trees and other plants, which I believe has spread from the gall berry, an indigenous hush very common throughout that State.

How the Scale Insect is Spread.

A word as to the mode of spreading scale insects. As I have already stated, with most species the adult female is firmly attached to the plant upon which she lives; she is consequently a "stay-at-home body." And although the adult males are winged, it is obvious that the pests could not be spread by the flight of that sex alone. The newly-hatched young of both sexes, however, are very active, crawling about from one part of an infested tree to another, or even to other trees which may be near. It doubtless often happens that these tiny creatures are brushed from trees by persons or vehicles passing, and are thus distributed; or they may crawl upon the feet of birds, and thus be carried long distances. But the most common mode by which these pests are distributed is by the transportation of trees and fruit, infested with living scale insects.

Methods of Preventing the Pest.

These facts suggest the following methods for preventing the occurrence of these nuisances. In planting an orchard, choose as isolated a spot as is practicable. If isolation cannot be obtained, induce your neighbor to join you in efforts to grow clean fruit. Use the greatest care in the purchase of trees or importing buds. Before planting, thoroughly wash all such trees with an insecticide, even if they appear to be clean, for the untrained eye may fail to detect early stages of these insects. Do not visit in-

festated orchards unnecessarily, and above all things do not carry home specimens of scale bugs as curiosities. Watch your trees carefully, and if one is ever found to be infested with scales, remember that no better investment can be made than to burn that tree, and that no time is so good for doing it as the day it is first found to be infested. The system of exchange of fruit boxes is a very dangerous one. Each shipper should have his boxes marked and insist on not receiving boxes belonging to other shippers.

Remedies for Exterminating the Pest.

In many cases, however, the pests have gained such a foothold that these methods of warfare are impracticable, and a remedy which will destroy these insects without injuring the trees is desirable. I have begun a large series of experiments with different substances, hoping to find such a remedy. These experiments are as yet incomplete, and I will only state that so far I have found nothing more desirable taking into consideration its value as an insecticide, its effect upon the tree, and its cheapness, than a strong solution of whale-oil soap. This I apply with a fountain pump or garden syringe. And as it is impossible, almost, to thoroughly wet every insect by a single application, several are usually necessary.

Many other substances have been tested, and the results of the experiments will be published as soon as practicable.

I will add, however, that I have seen most excellent results in the orchard of V. C. Mason, San Jose, from the use of the following mixture: One pound of concentrated lye, one pint gasoline or benzine, half pint oil, five gallons water.

Smut on Orange Trees and Oleanders.

Associated with certain coccids, and especially with those which do not form a scale-like covering to the body, as has been already described, is a black substance covering the leaves and fruit. This is very abundant in this State on oleanders, oranges and other plants infested by the black scale, and in Florida on trees infested by the mealy bug. It is popularly known as "smut." It is a fungus, and has been determined by Prof. Farlow of Harvard, as *Fumago salicina*, a species which has long been known in Europe on olive and orange trees. It is a very serious pest, marring the appearance of plants and in certain sections of this State where it covers oranges, greatly reduces the market value of the fruit. An excellent paper on the natural history of this fungus has been published by Prof. Farlow in the "Bulletin of the Bussy Institution of Harvard University," in which the following paragraph occurs: "The result of our examination of the diseased orange and olive leaves is briefly as follows: The disease although first attracting the eye by the presence of a black fungus, is not caused by it, but rather by the attack of some insect, which itself deposits some gummy substance on the leaf and bark, or so wounds the tree as to cause some sticky exudation, on which the fungus especially thrives. It is not denied that the growth of the fungus greatly aggravates the trouble already existing, by so encasing the leaves as to prevent the action of the sunlight. We only say, that in seeking a remedy we are to look further back than the fungus itself—to the insect, or whatever it may be which has made the luxuriant growth of the fungus possible."

My own observations confirm these conclusions. In fact, before I had read Prof. Farlow's paper I had learned to consider the presence of fungus on the leaves as a sure indication of the presence of scale insects. And as I had never been able to find the fungus organically connected with plants, but simply growing over the surface of them near the coccids, and easily removed by rubbing, I supposed that it grew upon the honey-dew which the insects excreted, and which so frequently attract the visit of the ants. This honey-dew is doubtless the gummy substance which Prof. Farlow observed. Prof. Farlow suggests, as a means of destroying the fungus, the use of alkaline soaps as strong as the trees will bear. If our conclusions respecting the fungus be true this remedy will be a very effectual one, for it will destroy the scale insects which render its presence possible.

An interesting fact which I have frequently observed, is that where there is a luxuriant growth of this fungus, it not only feeds upon the honey-dew, but attacks and destroys the young coccid themselves. Thus in some instances I have found a large proportion of the young coccids on a leaf destroyed in this way, and when the remains of the insects were examined with a microscope, the fungus was seen projecting in great quantities from them. At first thought this would seem to be a natural remedy. But I find that it is rare that coccids are destroyed except upon the upper surface of the leaves, where the fungus is most abundant. This is probably due to the lodging of the falling honey-dew chiefly on that surface of the leaves and the consequent confining, as a rule, of the fungus to that part, and there always remains a sufficient number of healthy coccid on the lower surface of the leaves to restock the plant.

COPPER IN PLANTS.—M. Dieulafoy reports the presence of copper in plants which grow on rocks belong to the older geological formations. He says that plants growing in soil formed by the decomposition of primitive rocks contain such quantities of copper that it is possible to detect the copper in one grain of their ash by means of ammonia.

THE VINEYARD.

Raisin Making at Home and Abroad.

On Friday evening, Sept. 24th, there was held a meeting of the Viticultural Commission at Sacramento, to discuss the raisin industry. The following address was made by W. B. West, of Stockton:

Only a few years ago it was impossible to find any California raisins that were worthy of the name. We were groping in the dark; we knew nothing of the varieties to plant, how to cure them or how to pack them; we knew nothing of localities suited to the raisin grape, and we had extravagant notions of the profit of the business.

All this has passed. We begin to understand the requirements of the business, and there were produced in this State in the year of 1879, at least 75,000 boxes of good marketable raisins. We have also learned that to succeed we must have knowledge, patience, energy and brains; that we must have the right kind of soil and climate, for the true raisin grape, the Muscatella, will not succeed everywhere, even in California.

Many who rushed into the making of raisins a few years ago, found that there was too much to learn, and gave it up after making a few tons of trash from all kinds of grapes, dried and packed in a slovenly manner. A few indomitable persons stuck to it; they had hard times; the price of foreign fruit was low; they had much to learn, but they persevered, and are now nobly rewarded. They have taught us that only in certain localities can the business be carried on profitably. We are gaining information by these experiments every day, so that the future of raisin culture is more certain.

The California process will be given in the report of the commissioner of this district, Mr. R. B. Blowers, who is amply able to do it justice, as he is one of the most successful producers in the State. To those who possess the required skill and capital, the method of drying by artificial heat is of much value. But I believe in the future this business is destined to be carried on by small farmers. It is pre-eminently one of detail; such an one as would give employment to the family of the poor man—the one to make the little homestead in the hills a source of revenue. To these the Spanish method is well adapted. I propose therefore in this paper to give their methods of cultivation and preparation for market. From a people who have cultivated the grape and made raisins for many generations, we can certainly learn something, especially as we are only beginners.

Malaga Raisin Making.

The raisin district of Malaga extends about 75 miles along the coast, and 6 inland. In this little strip of territory are produced all the Muscatella raisins of Europe, amounting at present to over 3,000,000 of boxes per year. Not near all of the land is devoted to raisins. Much of it is hilly, and too dry and barren to produce anything. Some of it—like the Vega, of Malaga—is planted with sugar cane. Oranges, lemons and bananas are grown on the terraced sides of ravines, where irrigation can be commanded. The olive, fig, almond, caroba and prickly pear occupy some portion of almost every plantation. Many places are still uncultivated, the people seeming to want the enterprise or money to develop them.

In order to fully understand the matter, let us honestly compare our products with those of Malaga, and see if we have anything to learn: Our newspaper writers sometimes tell us that our raisins are, at any rate, equal, if not superior, to those of Malaga. What are the facts? Our merchants (men of figures) tell us that our best brands are almost but not quite equal to London Layers.

The following was the relative price of fruit at Malaga in August of 1878. It is the first cost in store; that is, the price paid to the producer, who only furnishes with the fruit the boxes and common paper, which has to be changed by the merchant: There are five qualities better than London Layers, known as Nos. 1, 2, 3, 4 and 5. No. 1 rates at \$4.50 per box; No. 2, at \$3.75 per box; No. 3, at \$3.25 per box; No. 4, at \$2.50 per box; No. 5, at \$1.75 per box; London Layers, \$1.25 per box; Loose Muscatelles, \$1.10; Layers, \$1.

The proportion of fruit better than London Layers, varies at different vineyards, so that I cannot give the estimate exactly; but in one instance, where the party was said to be a skillful and honest packer, it was given at one-fifth. Thus, you see, that one-fifth of their fruit was better than any of ours, and that ours could be ranked as only sixth in quality there.

It is a fact that their fruit, as it is put on the market, is better than ours. The reason for this will be explained in due time. In the Spanish methods of planting and cultivation we have nothing to learn. The cost of labor in this country entirely shuts us out, if we were disposed to follow them. I will only state that all planting and cultivation is done by hand. For planting, large holes are dug often 3 ft. square, and 2 or 3 ft. deep. The whole vineyard is dug over twice a year with hoes, which cultivate it very thoroughly; the pruning also is very close, usually leaving only one eye. To this thorough cultivation and short pruning, I attribute the high quality of their raisins. The average yield of their vineyards is quite small. At one place, where the raisins were very fine, the yield was only two pounds of grapes per

vine. As there were 1,000 vines per acre, the yield was only one ton. Still, it was called a profitable and valuable place. The yield on some hillside vineyards is even less than this, while on some valley land the vines will yield from 5 to 10 pounds each.

The Spanish Method of Curing.

In their mode of curing we may find something of advantage to us. As our grapes ripen nearly a month later than theirs, we have trouble to get them dried, and have resorted to many expensive methods to accomplish this purpose.

Now, the climate in which the Spaniards cure their raisins in fifteen days is not any warmer than ours. It is a little more moist, and sometimes varied by a shower; but his fruit, being securely covered by boards, remains perfectly safe, and, by being covered at night to protect them from the dew, he is enabled to cure his raisins in that time. While we, in California, who cure them on boards or canvas, are usually twice as long. I would, therefore, call your attention particularly to their drying floors, which will be described in their turn.

Their grapes commence to ripen by the 1st of August, and are usually gathered by the 15th of that month. They are not all picked at the same time, but only those that are perfectly ripe. Much judgment is required in this matter, as unless the grapes are perfectly ripe they will not make good raisins. They are picked from the vines very carefully, taking care to handle them by the stems, and are placed upon willow trays and carried to the drying-floors. In every subsequent operation care is taken not to disturb the bloom, which is very important to the higher grades.

Drying Floors.

We will now describe the drying floors, which are constructed as follows: Where the country is a little hilly—as it usually is—advantage is taken of some slope with a southwestern aspect. When this is not obtainable, an artificial slope is sometimes made by building a strong wall for the back and sides, and filling in with dirt. Sometimes they are perfectly level. They like to have them with such an inclination as will allow the water to run freely from the covers. The length of these floors—which depends upon the inclination of the land—is usually about 45 feet where the angle is about 45 degrees; where it is steeper, they can be longer. The width is 14 ft. Between each bed is a path of 3 or more ft. Around the outside of these beds is a row of tile, to prevent the water from entering from the paths. These are properly connected, as it is very important that no water should enter. In the middle is a row of tile to support the center of the covering, which is of boards 14 ft. long by 1 ft. wide. They are laid across the bed and are lapped, one over another, so that no rain can get in.

The bottom upon which the grapes are placed, is of the natural soil, and is always loose and dusty, the vineyardists contending that the dust rather protects, than disturbs, the bloom. The grapes are placed quite closely upon this floor, but not so as to cover each other.

Every one who has grown grapes knows that there is one side of a bunch of grapes that shows the stem more than the other, this side should be placed upward.

The covers should not be placed on at night until the grapes have shriveled a little, or in three or four days. At the end of eight days, if the weather is good, they will require to be looked over, to take out such grapes as have dried in advance of the others, and these are clipped out with a pair of scissors. If allowed to remain they would become hard and worthless. A man commences at one end of the bed, and selects those that are dry, or nearly so, placing the remainder back just as they were before, not turning them over as is the universal practice here. The reason for this is that the side cured on the ground, presents a more attractive appearance than the other. At the end of the next seven days, the raisins are fully cured. Here let me state that no substance has ever been found that will cure a raisin so well as the ground, and no plan have I ever seen that seemed to me to be more fitted, to accomplish the object sought, than the Spanish hillside drying floors. Those made upon level ground require a few days more to cure the fruit, and are sometimes covered with cloth or corrugated iron. The superiority of this method, over the ordinary California way of using boards or canvas, is so marked that I hope some of our vineyardists will give it a trial. The necessity of covering fruit at night is not properly recognized in this State. I have found the Malaga fruit under the covers to be warm and dry in the morning, whereas it would require at least two hours' sun to bring it to that state had it not been covered. The covers also protect them from any shower that might come up during the drying season. They are also useful in retarding the drying, as it sometimes occurs that the raisins cannot be packed as fast as they dry.

Assorting and Packing Raisins.

The assorting and packing comes next. The raisins are taken directly to the packing house and assorted and packed immediately for market, not going through any sweating process which some of our people think necessary. This assorting is of such a complicated nature and requires so much skill that it would be utterly impossible for us to follow it. They calculate that it requires a day's labor to select

[CONTINUED ON PAGE 218.]

PATRONS OF HUSBANDRY.

Shall We Go to the State Grange?

[For the RURAL PRESS by MARIA B. LANDER.]

Farmers and Patrons everywhere are you going to the State Grange? Ceres, Pomona and Flora on this year's scroll have richly endowed you with favors, becoming these triple goddesses of the home and farm. In gratitude for Flora's fragrance, for Ceres bountiful harvest, Pomona bids you with the lushness of her rich fruitage do homage at her court, gather with the faithful around her altar, there to act as her almoner in scattering the rich incense of those social oils that burn continually in subordinate Grange homes, and make smooth the wear and tear of the not always evenly balanced or nicely adjusted machinery of neighborhoods. Ceres has made our hills and valleys clap their hands with plenty, even now moves the rolling stock of our railroad kings, and will ere long whiten the sea with the flapping sails of commerce; but to Pomona is given the crowning social blessing of the harvesters in their glad greetings and merrymaking. Over her board is spread the experience of another year's toil; so that from her failures as well as successes is written a history, whose voluminous sheets will throw much light upon all agricultural work in the to-come. Oh, ye active, sacrificing workers of to-day, take the divining-rod of Buckle, and see in the general progress of man that those who as leaders "strut and fret their hour on the stage," while beyond and around them are forming and flowing those surging tides of opinions and principles, will, as initial workers, either float or be engulfed in the final eddying that makes placid this seemingly endless stream of humanity.

If our agricultural experts would but reflect that this State Grange meeting is, or should be, a fitting exponent of the farmer's power, then methinks each Grange household would harvest the strength and enthusiasm of its ablest supporters, back with that zeal born of charity and pure brotherly love, and crown with that sympathy and appreciation, which to the *dare all* and *brave all* is full recompense for trials and labors earnest and true, yet unavailing. Such being the case, then would that bandful of Grange-lights indeed be a body secure and strong because of that support so honest and hearty.

Those gathering representatives come burdened with trials, troubles and successes of the body politic, and these various tones, whether of joy or sorrow, go toward the building or tearing down of that structure whose bases are formed of principles the unfolding of which opens to that central truth, the greatest good to the greatest number.

Long ago in a "Prairie State" school-house, with a quill-pen, too, I wrote this copy: "Birds of a feather flock together." When I slowly and carefully scribbled these words how little I thought of the significance and aptness of the text. This proverbial truth was verified years ago by every creed and profession, save that of the farmer; be, with the wealth-life of nations in his hand and under his feet, stood for ages with statue-like stolidity, the embodiment of these lines:

"Blindfolded and alone I wait,
Loss seems too bitter, gain too late;
Too heavy burdens in the load,
Too few the helpers on the road."

Standing thus, seemingly unmindful of that time-worn adage, "Those who would be helped must first help themselves." Other classes, such as lawyers, doctors, teachers, authors, mechanics, sailors and day laborers, nay, even the mendicant, whose graceless acts open the hand of charity, is under co-operative bonds; what though these ties are oftentimes perverted in form they still insure benefits, hence each profession welds unto itself a co-operative chain which modifies and intensifies their common sympathies till the massive body works as a unit. Thus is consecrated to each individual the particular calling into which is thrown his best energy and talent.

Has it been so with the farmer? We know too well it has not, and now that the Grange opens an avenue for yeoman consecration many, very many, are averse to its line of duty, saying "there is no money in it," or "I would be independent, bounden to neither laws nor edicts of anybody." What an inconsistent thought is this bravely mooted one of independence, for is not the very breath of life given only on sufferance; even the twinkling of an eye may close our life-record; starvation, famine and death may stalk abroad, even with the gold of the Incas at our door, and if you would intensify the loneliness and dependence of the stranger and wanderer, place him in the midst of the city's surging crowd. Yet with these plain, acknowledged truths staring in the face, good and influential farmers isolate themselves from those with whom their interests are inseparably connected, forgetting that none are so strong as to be beyond the possibility of needing help, nor yet none so feeble but can impart strength.

But says one, you Grangers do nothing but eat, drink and be merry, even midst the business councils of the State Grange does that

periodical feast obtrude itself. Admitted in part, with the declaration that this human machine only runs by eating, notwithstanding Dr. Tanner and his 40-days fast, and these hardy tillers of the soil have but sublimated this eating act, making this vulgar habit one of the towers of strength of that social temple dedicated to social culture.

To the faithful, those who long ago pnt shoulders to the wheel, laboring without thanks, nay too oft under blame, we can only say "be not weary in well-doing," while to those who have half-way clapped hands, bid-God-speed, we beg them not longer lay themselves at the mercy of engulfing waves of indifference; but raise the sails of enthusiasm and zeal that they may be launched into the safe harbor of the State Grange and realize that 'tis good to cultivate brotherly love.

Sisters, young and old, come, and may each as nearly exemplify that true spirit of independence, as she who with the prestige and honors of the White House, dared to put a veto on a custom which crowned heads, royal servitors, high plenipotentiaries, and even our independent American men and women heretofore dared not do. This noble woman, though in the highest position given the American wife and mother, was brave enough to air and keep even in our National Capital center her pure home principles; and will soon retire to private life with the added glory of being a consistent Christian woman, temperate not only in eating and drinking, but in that which pertains to dress.

Oh! ye laboring fathers and mothers wipe the dust of the field from your feet, brush your best clothes even though not the latest cut, and go to the State Grange in Oakland there to hold converse with brothers and sisters from all parts of the State. Upon turning homeward you will say:

"I've found out this with Farmer John,
That happiness is not bought and sold,
And clutched in a life of waste and hurry:
In nights of pleasure, and days of worry;
And wealth isn't all in gold,
Mortgage and stocks and ten per cent,
But in simple way and sweet combat,
Few wants, pure hopes and noble ends,
Some lands to till and a few good friends.
Like you, old Bay,
And you, old Gray!

That's what I've learned by going away."

Martinez, Sept. 17, 1880.

The State Grange Meeting.

Oakland is a good place to hold a meeting of the State Grange, as was proved by last year's experience, and we trust this year's experience will approve this verdict. Oakland has many claims upon the attention of one who rejoices in the progress of our State. It is a young city, and yet one of honorable proportions, as the recent census showed a population of about 37,000 souls. In itself it is a beautiful city—a city of lovely homes, of well-known institutions of education and charity, and withal, a place of growing business fame. And, then, Oakland is a gem in a setting of gems. A few moments' ride in any direction, save to the westward, will bring one upon commanding ground, whence can be seen the Bay of San Francisco with its islands, the shores of San Francisco, San Mateo, Marin and Sonoma counties, while below the observer runs the bay shore of Alameda county, and from the shore to the hills is the gentle slope upon which are hosts of little towns and garden-girdled homes. Near by is Alameda, sunny and beautiful; East Oakland with its heights, whence the southern stretch of the bay can be best seen; Piedmont with its springs, and still wider stretch of scenery; Berkeley with its eye upon the Golden Gate, and its thoughts bent on culture and charity fostered by the presence of the State University and the Asylum for the Deaf and Blind. But we hardly need introduce Oakland to our readers who have visited the bay, for no one overlooks so fine a city with so staunch a name.

The State Grange will meet at Odd Fellows' Hall, corner of Franklin and Twelfth streets. Visitors arriving by the local trains stop at Broadway station, at the corner of Broadway and Seventh streets, walk four blocks northward to Eleventh street and one block eastward to the Hall, on the corner of Franklin. The opening session will be on Tuesday, Oct. 5th, at 10 A. M. It is expected that Thursday will be devoted to an open meeting, which our Congressmen and all farmers will be invited to attend. Friday evening the Pomona (5th) Degree will be conferred on new members of the State Grange, and such fourth degree members as may choose to take it, if they be properly qualified and vouched for, the feast of Pomona will be given in connection with the conferring of this degree.

There will be no election of officers this year unless it be to fill vacancies, for the officers elected last year hold place two years.

It is expected that there will be a full attendance at this year's meetings. The year has been, as a rule, a good one, and long months of hard work have been met and conquered. It is fitting that a rest and a vacation should be taken both by Patron and Matron, and the meeting of the State Grange, with its social exercises and its discussion of themes of general importance, offers an opportunity for pleasant and profitable recreation.

The Grangers' Bank.

The following is the report of the condition of the Grangers' Bank September 18th as made by Commissioners Coleman and Watt, as follows:

ASSETS.	
Bank premises.....	\$77,200
Other real estate.....	6,553
Loans on real estate.....	153,069
Loans on stocks.....	95,738
Loans on other securities.....	618,685
Loans on personal securities.....	214,989
Money on hand.....	37,941
Due from banks and bankers.....	6,492
Office furniture and fixtures.....	3,000
Interest accrued.....	16,362
Expenses, taxes, etc.....	13,857
Total.....	\$1,243,831
LIABILITIES.	
Capital paid up.....	\$420,760
Surplus.....	5,223
Due depositors.....	204,056
Due banks and bankers.....	544,676
Interest collected.....	28,688
Rents, exchange, etc.....	428
Bills Payable.....	40,000
Total.....	\$1,243,831

The previous examination was made November 14, 1879, when the assets were \$723,124. Thus with 10 months there has been an increase of over \$500,000. The loans on grain are nearly treble what they were at that time. The business is understood to have been mainly worked up by Albert Montpelier, Cashier and Manager.

Officers of the California State Grange.

Master—B. R. Spilman, Sutter county.
Overscer—S. T. Coulter, Sonoma county.
Lecturer—Mrs. J. C. Carr, Pasadena, Los Angeles county.
Steward—T. T. Hooper, Solano county.
Assistant Steward—E. W. S. Woods, San Joaquin county.
Chaplain—J. Russell, Alameda county.
Treasurer—J. V. Webster, Alameda county.
Secretary—Amos Adams, Sacramento county.
Gate Keeper—W. L. Overheiser, San Joaquin county.
Ceres—Mrs. C. H. Ivans, San Luis Obispo county.
Pomona—Mrs. P. H. McGrew, Alameda county.
Flora—Mrs. O. Clark, Sutter county.
L. A. Steward—Mrs. T. T. Hooper, Solano county.
Executive Committee—P. H. McGrew, Alameda county; G. W. Hancock, Sacramento county; C. Gratton, Stockton.

AGRICULTURAL NOTES.

CALIFORNIA.

COLUSA.

BIG PILE OF WHEAT.—*Sun*, Sept. 25: We saw the pile of wheat at L. F. Moulton's landing the other day. He has built up a mound above high water, and has piled his wheat upon it. He has carried up the pile of sacks some 12 or 15 ft. perpendicular, and then brought it in like the room of a house. This he will leave and wait for a market. There are about 60,000 sacks in the pile.

FAVORABLE.—The season so far has been very favorable to those who are behindhand with threshing. There is yet a great deal of wheat in the county not threshed. The boats and the railroad must be taking away from 1,000 to 2,000 tons a day, but even at that the rains, even if much later than usual, will be apt to find much grain uncovered.

FRESNO.

CHEESE FACTORY.—*Republican*, Sept. 25: The cheese factory at the Washington Colony continues to turn out a quality of cheese equal to any ever manufactured in this State. At present but 80 cows are contributing to it. This number will in a few days be increased by 60, and it is hoped, during the winter, that enough milk may be obtained to crowd the factory to its fullest capacity. The factory has been of great benefit to the colonists, and they should recognize the fact by contributing all the milk that they possibly can, and make the factory a source of profit instead of a loss to its enterprising projectors.

LOS ANGELES.

WHEAT IN SAN FERNANDO VALLEY.—*Herald*, Sept. 25: Threshing has now proceeded far enough in the San Fernando valley to admit of a very fair estimate of the wheat crop. An average yield of ten sacks to the acre, with an average weight of 140 lbs. to the sack, is now assured, and there will be the handsome total of 675,000 bushels of wheat as the yield of the San Fernando valley this year. The quality of the grain is said to be exceptionally fine and heavy. A comparison with last year will show the splendid character of this year's growth. The average weight to the sack all over the whole valley last year was only 127 pounds. This year it is easily 140 pounds. We learn that the wheat growers of Los Angeles county never felt so much encouraged as now. Their crops have been reasonably abundant and they are in a better position to market them profitably than almost any county in the State.

MENDOCINO.

HOP YIELD.—*Ukiah Press*, Sept. 24: W. D. White, from four acres of old hops and one of new, balod 9,000 pounds of first-class hops. Good soil, careful cultivation, seasonable pick-

ing and skillful curing tells the story. Who can beat it? C. H. English reports the same yield. MONTEREY.

THE FAIR.—Castroville *Argus*: The District fair of the Monterey District Agricultural Association is announced to open Tuesday, October 12th, and to continue until and including the 16th. The speed programme embraces the awarding of purses to the amount of \$2,500, which ought to bring together the best stock in the district, considering, too, that the track is a good one and will be put in first-class condition for the exhibition. During the five days of the fair there will be, daily, a stock parade at 10 A. M., racing to commence each day at 1 P. M. As usual, the horticultural and mechanical features of the exhibition will be displayed at the Salinas pavilion. PLACER.

ORANGE VALLEY.—Three miles southeast from Rocklin, F. Birdsall, of the Lyon mill and mining company at Dayton, Nev., has put out an orchard of 31,000 orange trees, covering 200 acres of ground. The trees were all set out since last March, and are from four to seven years old. A good many had fruit on this year, but it could not be expected to be good for anything. The cost of the experiment has been over \$25,000. Mr. Birdsall owns the Bear river, Gold hill and North fork ditches. S. Washburn is Superintendent of his Placer county property. The valley where the orchard has been set out has been named Orange valley. SACRAMENTO.

THE WILD GEESSE.—*Bee*, Sept. 16: The first arrival of wild geese this season was mentioned in the *Bee* a week ago. It occurred about the 7th or 8th. In 1876 the first flock was noticed on August 12th; in 1877, August 31st; in 1878, September 6th, and in 1879, August 23d. Thus it will be seen that the geese were considerably later this year than for four years past. But then they were later in their departure last spring than usual. In fact, all kinds of wild fowl on this coast bred late this year. There is not yet a duck in market in this city—at least, we have seen none, and many broods of quail are not yet more than half-grown. Parties who were out on the 15th encountered several not larger than sparrows, and out of pure sympathy for the youngsters refrained from shooting them. The geese are pretty regular as to the duration of their absence, showing that they leave their breeding grounds as soon as the young are strong enough to endure the fatigue of so long a flight. In another month the stubble-fields and tules will be filled with them, and the farmers will be erecting "scare-crows" to keep them off their summer-fallowed fields. It is surprising, however, to note with what alacrity the wild-geese makes the acquaintance of these dum-dums. While the hunter cannot get within a hundred yards of the wary fowl, they will walk right up to these stuffed gentry and feed on the grain at their very feet, as it were. Nothing but long-range guns, and plenty of them, will effectually protect the farmer from being almost literally eaten "out of house and home" by these long-necked, greedy fellows. SANTA BARBARA.

HORTICULTURAL FAIR.—*Press*, Sept. 18: Having decided at their last meeting to hold a horticultural fair in the city of Santa Barbara on Friday and Saturday, the 28th and 29th of October, the society appeal to all the friends of the movement to assist in making the exhibition a complete success. Every variety of autumn fruits, flowers and vegetables are desired, as well as all kinds of domestic productions, such as canned fruits, jams, jellies, marmalades, preserved and dried fruits, pickles, and everything rare and interesting, as preserved flowers, cut flowers, sea-weed, shells, pot plants; grains and seeds of all kinds, garden products, in fact everything of a horticultural or agricultural nature.

LIMA BEANS.—*Press*, Sept. 25: Lima beans are the leading crop at Carpinteria, and the prospect this year is exceedingly good. Over 2,700 acres are in beans this year, and the average yield is estimated by good judges at 1,500 pounds per acre. The principal growers, so far as we have been able to learn, are Henry Lewis, 60 acres; T. A. Cravens, 40 acres; Lawrence Bailard, 60 acres; Mrs. Bailard, 60 acres; E. H. Pierce, 30 acres; Richardson Bros., 100 acres; Pierce & Butler, 60 acres; Thomas Callis, 25 acres. There are as many others who have in almost or quite as much, and many who have from 5 to 20, acres. At the present market rates here, 3 cents a pound, the value of the crop is about \$45 per acre, or an aggregate of over \$121,000 for this one locality. SANTA CRUZ.

EDITORS PRESS:—My wife and I went to-day to visit friend Dakin and wife (Mrs. Laura J. Dakin, a Press correspondent) to have a social chat and see his blackberries, and sample them, too. It is a real pleasure to visit courteous, kind, generous and intelligent friends, who entertain you with real neighborly generosity. We found Mr. Dakin's berries were so large, sweet and rich, that I concluded to bring some home with me and send to the Press editor and ask his opinion about them. I think they are as fine as I ever saw—yes and as large too—for some of them will measure over three inches round, the long way. One which we measured there to-day was three and a half inches. You will see by the young green and red berries, and the sprig of blossoms, too, that the prospect is good yet for berries well up to Christmas. I also send you a few prunes from my

orchard, just to show you that we can grow prunes here, too. Some of the Hungarian prunes measure nearly eight inches round, the long way—and all who have tested their quality here pronounce it good. The "Petite de Agen" I send is not large, but of good size, and I think as sweet and rich as I ever saw anywhere. And now let me say to all your readers who would like to grow fruit, that there are thousands of acres of land in Santa Cruz county that would grow just as good fruit as this, that is lying idle, and can be had at from \$20 to \$40 per acre—and a good deal for less—say \$10 to \$15 per acre. Our market is good, for we are in easy reach of San Francisco and the San Jose canning factories, and this same fruit land is in a region of country where you could make very pleasant homes—in fact, the whole county is well adapted to growing fruit of excellent quality.—M. P. OWEN, Soquel, Sept. 16th. [The fruit was duly received and fully bore out the description of our correspondent. Our thanks are tendered for the remembrance of us.—EDS. PRESS.]

Notes From the State Fair.

Amid the host of meritorious exhibits of articles of a practical or useful character our representative at the State fair selects those for special mention which seemed most novel or especially meritorious. There were doubtless others worthy of notice which escaped his observation:

Filters.

It is fortunate for the dwellers upon the Sacramento river, who use its turbid water in their households, that the inventors of filters have achieved such success. Nothing has proved handier for removing the impurities from the water than a filter which is attachable to the hydrant and thus acts both as a filter and a faucet. These small filters were shown in the pavilion by T. M. Lash, 601 N street, Sacramento, agent of the California Water Filtering Co. One cannot go to the capital city without obtaining abundant testimony to their excellence. They attracted much attention at the fair, and many favorable comments were heard.

Ant-Proof Safe.

Another invention which won the interest of housekeepers was the ant-proof safe made by Larrabee & Crab, 903 Front street, Sacramento. The plague of ants is a serious one in the pantry, and a simple device for securing provisions from their attacks is a boon. The safes of Larrabee & Crab are so contrived that any ant attempting entrance is speedily doused, and the same treatment is visited upon other insect foragers.

Force Pumps.

The Hector force pumps shown by T. M. Lash, of 601 N street, Sacramento, have patent stone cylinders, which are acid proof, and therefore adapted for use with corrosive liquids of all kinds. Aside from this quality the pumps are effective, throwing a stream from 40 to 80 ft. with light effort from the operator. The air chamber is perfect, ensuring a steady flow from the nozzle.

Fruit Picker.

Lash's adjustable fruit gatherer is another ingenious device shown by T. M. Lash, of 601 N street. It is very simple in its construction and enables the orchardist to take his fruit from the trees without a ladder. It is claimed to be well adapted for all kinds of fruits, including cherries. This fruit picker is just being introduced, and Mr. Lash is disposing of State and county rights.

Davis' Iron Wagons.

The subject of iron wagons is one of general interest on this coast, and the latest candidate for favor is the Davis iron wagon, which comes with a fine record from New York State, where it was first brought out. There are four styles made: the header wagon, the farm wagon, the light freight wagon and the medium ditty; the last having been adopted by the U. S. Government and used in the service. In general appearance the Davis iron wagon resembles the ordinary wooden wagon, except that it is far more handsome and graceful in its proportions. The pole and reach are wood. The small bolster plate is cast. The hubs and stakes are malleable. With these exceptions the entire vehicle throughout is constructed of the finest quality of wrought iron, put together in the most workmanlike manner and in the best shape possible to answer the purpose intended. The agents for this coast, E. A. Scott & Co., of Madison, Yolo county, have abundant testimonials of the tests of actual work accomplished by the vehicles they are introducing.

Buhach.

The exhibit of Buhach, or California insect powders, excited much interest. We have heretofore fully informed our readers of the introduction and growth of the true Dalmatian plant by Mr. Milco, of Stockton, and have testified from personal experience to its excellence as an insecticide. It is coming into wide use in granaries, fruit drying and packing houses, in gardens, poultry yards and dwelling houses and elsewhere where there are insects to destroy. The only trouble this year is the short supply of the powder and the large demand for it. Another good growing season will doubtless place a considerable amount of the powder within reach of those who desire it.

Marble Work.

A most chaste exhibit was that of Aitkin & Fish, of Sacramento, the largest marble working firm in the interior, and one of the oldest. The exhibit consisted of fine marble work. The chiseling is in the highest style of the art, and the entire designing, execution and finish betokened conscientious and thoroughly competent workmen. The monument work was very handsome, and the mantel work commanded especial attention. Finer mantels no man should desire in a residence, office, hotel or public structure. The mantels are not only handsome and original in design, but in their finish have not been surpassed upon this coast. This firm exhibit also H. Buckhout's patent hot-air grate, one that gives double the heat of the old grate and keeps the temperature of the room uniform.

Feed Mills.

Mills for crushing grain for stock feed are found of great value in flouring mills and in farm economy. There is much difference in mills, and a purchaser should exercise much discrimination. A mill which is very highly recommended is the Rusby & Mery improved feed mill, using the Benoit corrugated rollers. It is claimed to be more durable and simpler in construction than any other mill. It is also claimed that it "crushes more grain, with better satisfaction, than any other mill or burr in use, and requires less skill to run it. Parties using feed crushed with this mill, say that stock thrives much better than with feed ground on burrs. While these mills thoroughly crush it they do not separate the grain from the hull; and, furthermore, the finest grain or chaff cannot pass through without the grain being destroyed, thereby effectually keeping it from ever growing again. There is no danger of grain heating that is crushed on these mills, as with burrs." A number of our leading millers in the interior are mentioned as references, and the claims made for this feed mill are certainly worthy of attention. The mills are of California make, the manufacturers being Rusby & Mery, of Chico.

Buggies and Farm Wagons.

The finest exhibit of first-class buggies, light spring wagons and farm wagons was made by J. F. Hill, of Sacramento. Mr. Hill has a good reputation as a carriage

and wagon maker, and he insures excellence by his selection and seasoning of the timber he uses, and the style of workmanship he employs. His exhibit at the fair was a credit to the State from a manufacturing point of view.

Grain Cleaners and Grain Grader.

Much interest was manifested in the exhibit of Nash & Cutts, of Sacramento, who have a State-wide reputation for their grain cleaners. They had both small and large cleaners in operation at the fair. These machines have come into general use, and they have done much this year to improve the general quality of the grain marketed. The large machine is attached to a separator, and is run by a belt from the beater shaft. The cleaner can be attached or detached in five minutes. It is easily handled, and not likely to get out of repair. It dispenses with the digging of holes for sacking, as it is mounted on four wheels, and is set up high enough to receive the longest wheat sack. The small size Nash & Cutts' cleaner is for hand power, and is an excellent "fanning mill," as the term is commonly understood. Another valuable machine introduced by Nash & Cutts is a "grain grader" for cleaning seed grain and giving a gilt edged article of seed. Those who are careful what they sow were much interested at the showing of this machine at the fair.

The Spring Tooth Harrow.

The merits of the California spring tooth harrow were shown in the fine exhibit of Messrs. Batchelor, Van Gelder & Co., in the mechanical display of the Agricultural Park. We have so often alluded to good points in this harrow and the popularity which it has secured, that we need but remark that it was regarded by many at the fair as an object of great interest, and its design and construction carefully examined.

The Eclipse Incubator.

This Eclipse incubator was shown in the pavilion by the agent, G. G. Wickson, of 317 Market street, S. F. There was a similar arrangement to that at the Mechanics' fair in this city and attracted much attention. A good flock of fledglings showed the effect of the machines upon the eggs. Mr. Wickson was awarded two diplomas for his exhibit at the State fair, and a silver medal by the Mechanics' Institute in this city.

State Fair Premiums.

The following are the premiums awarded in the departments of farm live stock at the State fair at Sacramento last week:

Horses.

Thoroughbred—Theodore Winters, stallion, 4 yrs; also 3 yrs; W. L. Pritchard, stallion, 2 yrs; also 1 yr; Theodore Winters, stallion, 1 yr; also under 1 yr; Theodore Winters, mare with colts, 4 yrs; also 3 yrs; W. L. Pritchard, mare, 3 yrs; also 2 yrs; also 1 yr; also mare colt. Families—W. L. Pritchard, sire with 6 colts; also dam with 2 colts; E. W. Covey (for Leland Stanford) stallion with 2 colts; Ben E. Harris, dam (other than thoroughbred) with 2 colts. Horses of all Work—Stallions—Four yrs, L. U. Shippee, Henry Clay; 3 yrs, J. P. O'Neil, Colonel; 2 yrs, H. R. Covey (for Leland Stanford), Bentonian; 1 yr, B. E. Harris, Grenadier. Mares—Four yrs, E. Comstock, Poll; 4 yrs with colt, E. Comstock, Cooly and colt; 3 yrs, John Piau, Lizzie May; 2 yrs, H. R. Covey (for Leland Stanford), Monte Belle; 1 yr, B. E. Harris, Emola; suckling colt, J. B. McDonald.

Draft Horses—Stallions—Four yrs, T. J. Hutchinson, Mark Dunham; 3 yrs, E. Comstock, Prince; 2 yrs, Wm. Sparrow, Ploughboy; 1 yr, R. J. Merkle, Normandy Second. Mares—Four yrs with colt, R. J. Merkle, Dolie and colt; 4 yrs, E. Comstock, Maud; 3 yrs, do; 2 yrs, do; 1 yr, do; suckling colt, R. J. Merkle, Fancette. Roadsters—Stallions—Four yrs, George Sewall, Boccaccio; 3 yrs, W. E. Morris, Upright; 2 yrs, H. R. Covey (for Leland Stanford), Falls; gelding, 4 yrs, T. W. Covey. Mares—Four yrs, M. W. Hicks, Fawn; 3 yrs, D. McCarty, Carrie F.; 2 yrs, H. R. Covey (for Leland Stanford), Waxana.

Carriage Horses—Matched span, A. C. Bingham, C. F. Reed and John, silver goblet.

Roadster Team—Double team, D. McCarty, Jo and Harry, silver goblet.

Saddle Horses—Saddle horse, Edward Stokes, White Stockings; 2d, W. Bauden.

Sweepstakes—L. H. Titus, stallion, silver pitcher; Theodore Winters, mare, silver pitcher.

Jacks.

Jacks—Four yrs, L. Culberson, Kentucky Star; 2 yrs, George W. Carey, H. W. Beecher.

Mules—Span, W. L. Pritchard, a bay span.

Cattle.

Durhams—Bulls—Four yrs, C. Younger, Red Thorn-dale; 2d, John Bidwell, Osceola; 3 yrs, M. Wick, Major Butler; 2d, John Bidwell, Duke of Ohio; 2 yrs, Charles Clark, Quinn Prince; 2d, R. Ashburner, Baden Duke; 1 yr, C. Younger, Seventh Red Thorn-dale; 2d, R. Ashburner, Chief; bull calf, J. D. Carr, Twenty-Eighth Duke of Gabilan; 2d, M. Wick, Golden Wreath. Cows—Four yrs, J. D. Carr, Third Maid of Monterey; 2d, M. Wick, Gem; 3 yrs, C. Younger, Red Dolly Second; 2d, do, Jesse Maynard; 2 yrs, do, Red Dolly Fifth; 2d, J. D. Carr, Gabilan Beauty; 1 yr, do, Eighteenth Maid of Monterey; 2d, do, Nineteenth Maid of Monterey; 2d best 1-yr-old, C. Younger, Sixth Rosa Nell; best heifer calf, do, Oxford Rose Second.

Alderneys and Jerseys in one Class—Bulls—Four yrs, Robert Beck, Buffalo Bill; 3 yrs, Henry Pierce, Hugo of Yerba Buena; 2 yrs, E. F. Aiken, Major; bull calf, do, Bolivar; 1 yr, K. Noel, Highland Prince. Cows—Four yrs, Henry Pierce, Pearl of Yerba Buena; 2 yrs, do, Beauty of Yerba Buena; 3 yrs, R. Noel, Queen; 1 yr, J. Asken, Jersey Belle; heifer calf, P. Stanton, Anemore. Devons, Ayrshires, Herefords, Holsteins and Holderness in one Class—Bulls—George Bement, Redwood; 3 yrs; Melancton Callaghan; 1 yr, Archie; bull calf, Eclipse. Cows—George Bement, 3 yrs, Stella; 2 yrs, Stella; 1 yr, Highland Maid; heifer calf, Marietta.

Graded Cattle—Cows—R. Ashburner, 4 yrs, Maggie; 3 yrs, Lucy; E. Comstock, 2 yrs, Pet; 1 yr, Rosa; heifer calf, Beauty.

Sweepstakes—C. Younger, bull; cow; bull and 3 calves under 1 yr.

Herds—Herd 2 yrs, Moses Wick; herd under 2 yrs, C. Younger.

Sheep.

Spanish Merino—E. W. Woolsey, ram, 2 yrs, Columella, 3 yr ram lambs, pen of 5 ewe lambs, ram and 5 of his lambs.

J. H. Strobbridge, ram, 1 yr, Sprightly, pen 3 ewes 2 yrs, pen 5 ewes, 1 yr.

French Merino and Silesian—Mrs. R. Blacow, Center-ville, ram, 2 yrs, Gladiator, ram, 1 yr, Bulger, 3 lambs, pen 5 ewes, 2 yrs, pen 5 ewes, 1 yr, pen 5 ewe lambs, ram and 5 lambs.

Cotswold, Leicestershire, Lincolnshire, Shropshire and any thoroughbred cross—C. Younger, ram, 2 yrs, Far West, ram, 1 yr, 3 ram lambs, pen 5 ewes, 2 yrs, pen 5 ewes, 1 yr, pen 5 ewe lambs, ram and 5 lambs, Far West and lambs.

Sweepstakes—Mrs. R. Blacow, ram and 5 lambs.

Goats.

J. H. Harris, of Hollister, received all premiums and sweepstakes for thoroughbred and grade Angoras.

Swine.

Berkshires—John Rider, boar, 2 yrs, Commodore, boar 6 mos, Canute No. 2; John Kennedy, boar under 2 yrs, Prince; Hugh Cava, breeding sow, Nellie; M. D. Boruck, sow 6 mos, Queen Bess.

Poland China and Chester White—E. Gallup, boar, 2 yrs, Captain Jinks, boar under 2 yrs, California Peerless, boar, 6 mos, Comic, sow, 6 mos, Rosalind Star; L. M. Scott, pair of pigs, Willia and Flora.

Sweepstakes—John Rider, 4 sweepstake premiums for Berkshires.

Recommendations made—E. Comstock, Berkshire hog; H. Cave, pen of 6 pigs; John Rider, Berkshire pigs under 10 mos; E. Comstock, pen of 6 pigs.

Poultry.

T. D. Morris, light Brahmas, dark Brahmas, buff Cochins, partridge Cochins, white Cochins, black Cochins, game, Mslay games, golden spangled Hamburgs, silver spangled Hamburgs, black Hamburgs, T. Waite, white Leghorns. Mrs. L. E. McMahon, Dixon, brown Leghorns, Plymouth Rocks, game Bantams, black-breasted red game. F. S. George, black Spanish. E. Gallup, white Dorkins. T. D. Morris, silver-gray Dorkins, red Dominiques, black Polish, silver Polish, white Polish, Houdan. C. W. Rapp, Seabright Bantams, silver Seabright Bantams, white Bantams, black Bantams.

Next week we may find room for mention of premiums in other classes.

Premiums at Placerville Fair.

The El Dorado District Agricultural fair was held at Placerville last week. The following, among other awards, were made:

Fruits.

Best apples, Jacob Lyon; 2d, f. S. Bamber; best 12, 1 S. Bamber; best 6, P. G. Isbell; spec prem recommended to L. Waymouth. Best pears, 1 S. Bamber; 2d, P. J. Isbell; best 12, f. S. Bamber; best 6, P. J. Isbell. Best peaches, f. S. Bamber; 2d, J. C. Marsh; best 6, Thomas Hardie; best single variety, f. S. Bamber. Best plums, f. S. Bamber; 2d, Jacob Lyon; best 5, J. C. Marsh; best single variety, P. G. Isbell. Best nectarines, Jacob Lyon; 2d, J. C. Marsh. Best prunes, P. J. Isbell; 2d, J. G. O'Brien. Best White figs, f. S. Bamber; of other varieties, J. G. O'Brien. Best seedling fruit, f. S. Bamber; 2d, J. G. O'Brien. Best and largest display of grapes, J. G. O'Brien; 2d, T. O. Hardie; best table grapes, Thomas Hardie; best wine grapes, J. G. O'Brien; best raisin grapes, Kramp Bros.

Dairy and Farm Products.

Butter, James Askew; lard, J. Lyon; wheat bread, Mrs. Tagtueyer; 2d, Mrs. Hunter; biscuit, same; 2d, Mrs. Frazer; best and greatest variety of bread, Mrs. Reynolds; best salt-rising bread, Mrs. Frazer.

Flowers, Plants, Etc.

Flowering plants, Mrs. J. Eddy; foliage plants, same; new and rare plants, Mrs. O'Donnell; fuchsias in bloom, Mrs. Eddy; cut flowers, Mrs. Jacob Lyon; bouquets, Mrs. f. S. Bamber; plants for window culture, Mrs. Eddy; hanging baskets, Mrs. J. J. Reed; native grasses, C. H. McCuen; hops, W. W. Hoyt; leaf tobacco, C. H. McCuen.

Dried Fruits and Nuts.

Dried peaches, apples and berries, C. H. McCuen; nectarines and pears, P. J. Isbell; figs, 1 S. Bamber; plums, Jacob Lyon; raisins, T. O. Hardie; display of dried fruits, P. J. Isbell; prunes, same; peanuts, same; black walnuts, J. J. Crispin; chestnuts, Thomas Wallace; almonds, Kramp Bros.

Preserves, Honey, Etc.

Honey in comb, P. J. Isbell; preserves in glass, Mrs. Reynolds; fruit in glass, Mrs. S. A. Evans; jellies in glass, Mrs. Darrington.

Machinery, Implements, Etc.

Holman, Stanton & Co., chilled plow and barbed wire fence; Batchelor, Van Gelder & Co., harrow and cultivator. Spec prem to Jacob Lyon for peach and plum pitter; to W. H. Dyer for combined apple corer, slicer and parer; to Charles McCuen for gopher trap.

Agricultural Products, Etc.

Wheat, Wax Bros.; rye, same; shelled corn, C. H. McCuen; clover seed, G. H. Miller; flour, Reuben Dumuth; green sweet corn, Jacob Lyon; potatoes, C. H. McCuen; new variety of potatoes originated by the exhibitor, C. H. McCuen; onions, Kramp Bros.; tomatoes, Jacob Lyon; cabbage, C. H. McCuen; melons, Jacob Lyon; parsnips, C. H. McCuen; carrots, beets, cucumbers and turnips, Jacob Lyon; peppers, J. C. Marsh; variety of garden products, Jacob Lyon; 2d, C. H. McCuen; 3d, F. Versamp.

Wines.

Red, white, sherry and sweet wines, Robert Chalmers; best grape brandy, dry white and sparkling wine, Kramp Bros. Spec prem to Robert Chalmers for 8 varieties of wine and blackberry brandy.

Stock.

Best 2-yr-old, General Jackson, George T. Blanchard; 3-yr-old, same.

Graded—Stallion, Young Diamond, John Ekel; 2d, Constitution, J. Knisely; 3d, Lou Foster, Lewis Williams; 4th, Young Dexter, J. Ekel; best mare, Mountain Maid, G. L. Tubbs; 2d, Minnie Norris, S. G. Norris.

Florses of all Work—Best, Random, Jr., L. Williams; 2d, Belle, L. Williams.

Roadsters—Best, Lodi, J. Knisely; 2d, Young Champion, N. L. Miller; 3d, Fauny, N. L. Miller.

Best draft over 4 yrs, Honest John, B. C. Williams.

Best stallion, any age or breed, Green Mountain Boy, J. C. Brewster.

Cattle—Jersey bull, General Grant, James Askew; Jersey cow, same; Jersey calf, same; cow over 4 yrs old, T. Frazer.

Hogs—Boar, f. S. Bamber; sow, John Bryan. Spec prem to Levi Rosier for 2d best sow.

Chickens—Speckled Hamburg, J. Clifton; Plymouth Rocks, same; Partridge Cochins, same; Brahmas, f. S. Bamber; Cochins, T. Frazer; Dorkins, same; ducks, T. Clifton; Houdans, same.

Sheep Premiums at Golden Gate Fair

There was an error in the list furnished us of the premiums awarded for sheep at the Golden Gate fair. We therefore reprint the list with corrections, as follows:

Sheep—Spanish Merino rams, 2 yrs, 1st, Columella, E. W. Woolsey; 2d, Silk Stocking, J. H. Strobbridge; 1 yr, 1st, Sprightly, J. H. Strobbridge; 2d, Longwool, Jr., E. W. Woolsey; pen of 5 ewes, 2 yrs, J. H. Strobbridge; pen of 5 ewes, 1 yr, J. H. Strobbridge; 5 lambs, 1st, E. W. Woolsey; ram and 5 of his lambs, E. W. Woolsey.

For French Merinos 7 premiums were awarded to Mrs. R. Blacow.

Sweepstakes—First, Columella, E. W. Woolsey; 2d, Sprightly, J. H. Strobbridge.

What Experience Teaches.

PUBLISHERS RURAL PRESS.—GENTS.—We have received your valuable paper regularly containing our advertisement. We must say that it is the best advertising medium in the State, as we receive more letters from your patrons than from any other paper in which we advertise. Yours, H. D. NASH & CO.

Manufacturers of the Improved Nash & Cutts Grain Cleaner.

WINTER SUPPLIES.—As the rainy season will soon commence, our readers will do well to make preparations to order their winter supplies. We publish in to-day's issue a complete price-current, issued monthly by Sbarboro & Co., the pioneer grocers of California, which may be compared with prices paid at country stores, and see what savings can be made. All goods from this old establishment are guaranteed, carefully packed and shipped free. Address Sbarboro & Co., 531 Washington street, San Francisco.

News in Brief.

THE epizootic has reached New York city. THE crop prospects in India are improving. THE Chileans again bombarded Callao August 31st.

GREAT damage is being done by floods in Texas.

HEAVY rains prevail in various portions of England.

THERE are several mild cases of varioloid at Stockton.

THE public debt was reduced \$12,000,000 in September.

SEVERAL turfmen are willing to give \$100,000 for Maud S.

EIGHT bodies have been recovered from the Hudson-river tunnel.

SOME of the Marquesans have revolted against the French authorities.

VENAGO, a large village in Switzerland, has been nearly destroyed by fire.

BELFAST is to be the next meeting place of the United Presbyterian Council.

MONSTER land meetings in Ireland. Parnell denounced the Liberal Government.

STRIKING workmen in Jagero, Russian Poland, have committed grave excesses.

ALL the fears in regard to the failure of crops are dispelled in most parts of India.

THE recent heavy forest fires which raged near Portland, Or., did great damage.

GALES and floods have caused great damage to the unharvested crops in Hamburg.

AN attempt to blow up the Czar's yacht Livadia at Glasgow has been frustrated.

THE Chinese in Peru are putting themselves under the protection of the British flag.

THE London and S. F. Bank has reduced its capital stock from £600,000 to £420,000.

A STEAMER which left Hamburg for New York Saturday brings \$1,000,000 in gold.

THE Oregon stage was robbed near the summit of Siskiyou mountain Thursday night.

THE Turkish Sultan and the Albanian chiefs reiterate their refusal to surrender Dulcigno.

THE miners at Corning, O., have compelled the saloon keepers to close their places of business.

THE railroad from Albany to Lebanon, Or., is finished, and trains will be running in a few days.

ABOUT 400 Chinese and white men have begun work on the railroad grade near Spokane, W. T.

THE track of the Southern Pacific railroad has reached the New Mexico line—140 miles east of Tucson.

JOHN ADAMS shot and killed Isaac Wilson Sunday night, Sept. 26th, in Knox township, Napa county.

A POWERFUL party in Norway are agitating separation from Sweden, and the establishment of a republic.

THE Cuban insurgent chief, Carrilio, with his remaining followers, have surrendered to the Spanish authorities.

THE revenue of the Government the past year amounted to \$334,000,000—over \$1,000,000 for each working day.

A NAVAL review on a more liberal scale than that of last year will take place in Hampton roads about October 15th.

DURING the ten years ended June 30, 1880, immigrants to the number of 2,812,177 arrived at ports of the United States.

LORD MOUNTMORRIS, a landowner on bad terms with his tenants, has been found murdered near Ballinrade, Ireland.

THE fastest time ever made by a pacer on a half-mile track was accomplished at Omaha this week by Mattie Hunter—2:16.

THE Circuit Court of Oregon has decided against the law prohibiting the employment of Chinese on the streets of Portland.

THE Burmese tyrant has arrested his mother and sister, with thirty other persons. It is rumored that executions have recommenced.

U. S. GRANT, Commander-in-Chief, has called a convention of the Union veteran soldiers and sailors, to meet at Indianapolis, October 7th.

THE Supreme Court has decided that there is to be no Municipal election in San Francisco this year; the present officials holding over.

JAMES G. FAIR, a member of the well-known "Bonanza firm," has announced his willingness to be a candidate for United States Senator from Nevada.

THREE women were poisoned at Wilkesbarre, Pa., not long ago by using cornmeal in which arsenic had been placed for the purpose of destroying rats.

PAYMASTER NELSON, of the United States Army, has been arrested and taken to New York from Kansas City for trial by court-martial on charge of embezzlement.

IT is stated that the French cable company has accepted the terms of the rival companies' agreement, subject to ratifications by French and American governments.

THE defeat of Ayoub Khan, according to reports from Simla, caused Amcer Abdurrahman Khan the greatest satisfaction, and has had the most quieting effect on the country.

THE upper portion of Plymouth Rock, which has laid for 46 years in front of Pilgrim Hall, at Plymouth, has been returned unostentatiously to its original place beside the Rock itself.

For Help or Employment

Call on C. R. Hansen & Co., a prompt, enterprising and reliable firm. Their New Female Employment Office, at No. 110 Geary Street, has never been excelled in this city. For help of all kinds, call on them, or write for information, or send your orders to the above address.



The Baby Boys.

Two little baby boys I own;
The elder scarcely walks alone;
His sunny hair and light brown eyes,
His earnest look of sweet surprise,
His funny ways and joyous shout,
I could not tell you all about
If I should try a year.

He creeps so fast to catch his toys,
And then he sets up such a noise;
His horse and dog, and book and bell,
He throws them all about pell-mell.
O Mother Goose! if you could see
This little boy, so full of glee,
Your sides would ache, I fear.

In hammock low, among the trees,
Rocked back and forth by passing breeze,
The baby swings, and coos to see
The gentle rustle of the tree,
The lights and shade, the leaves that fall;
The sunshine brooding over all—
'Tis Indian summer here.

Way over head, in the blue sky,
The downy clouds float softly by,
A lullaby fair Nature sings,
And through the air its music rings;
All things peaceful tenor keep;
My little one falls fast asleep,
His mother watching near.

Two baby boys! a God of love
Send us a gift from heaven above;
And like the shifting rainbow bright,
Tinging the drifting clouds with light,
Their souls, so fine and sweet, shine out,
Breaking through mist of grief and doubt,
And make my pathway clear.

—Boston Transcript.

Responsibilities of Mothers.

[Written for the RURAL PRESS by Mrs. E. J. S.]

To be a mother! how glorious, how sublime, how holy! What more beautiful and reverential sight than that of the mother as she clasps for the first time her new born babe to her bosom. Well might the angels hover near the sacred scene. She may have boasted of her own ability to treat and train the little bud of promise so helplessly nestling in her arms, but now she feels the need of guidance from a higher source. The darling babe; the center and the sun of all household attractions, how many hopes are embodied in thee? Mothers, as you watch the little life unfolding its beauties, and each tiny leaflet as it opens to your enraptured vision, do you realize how vast the work you have to perform in its development, so that it may best answer the purpose for which it was created? Do you know that its physical, mental and moral condition is somewhat in your hands? that you must reach out and forward to a more perfect physical development, and make the fountain of life pure, that the little ones may be all a generous Creator designed, and in every sense fit to be presented as "living sacrifices," holy and acceptable to God? The majority of people bestow not so much as a passing thought upon this most important subject, and it is heart-sickening to know of so many thousands of children who seem to be of no use except to suffer and cause suffering; to fill the world with serofula, insanity and consumption; with intemperance, theft and murder; to cause the widow's tears to flow over the recklessness of her son or the waywardness of her daughter, and parents' hearts to bleed as they give to Mother Earth the beautiful caskets of clay, which once contained the souls of their lovely babes—too frail for this rough world.

But some mother says, "Do you mean to tell us we can make them just what we desire them to be?" Yes, that is just what I am going to try to impress upon all mothers. They may be good or bad, healthy or diseased, beautiful or homely, just according as you educate yourself and earnestly practice it. You can mold them at your will. Your work commences ere the light dawns upon the little buds of immortality. Ere you press "the first kiss upon their brow," the elements for a long, useful and happy life, or the seeds that will cause an early decay, are there planted. Don't you believe it to be "the hand of Providence." It is your doings. Could all the mothers in our land realize this truth, and know how much they have to do in forming character, methinks this beautiful world would soon become devoid of nine-tenths of its wretchedness, misery and suffering. If you would have your children more perfect, make the tree good, and the fruit will be good. Purify your own life-current. Seek to increase your own life-power—for it is the greatest of sins to people the world with thousands of puny, deformed children. But while you—the mothers—are suffering with all sorts of impurities and weaknesses, how can we expect any but a sickly, short-lived posterity? How much pleasure should we derive from the material world if the birds, flocks and herds, trees, shrubs and flowers, that beautify the earth, were as diseased as our children? What would we think of a farmer who continued to raise, year after year, wretched, miserable-looking animals, or planted his orchard

with feeble trees, expecting healthy, fine fruit, or a gardener whose garden was full of blighted buds and flowers, and should cultivate them year after year, never seeking to know the cause of such inferiority? We should know he did not understand his business; that he knew nothing of the laws relating to the propagation of plants.

Just so is a mother's education deficient. Why do they not devote more time and attention to the subject of physical perfection? They have so long followed in the old-beaten track, ascribing all our physical infirmities and premature death to a wise but "mysterious Providence." We entirely ignore the fact that the growth and development of children is governed by laws as fixed and immutable as those which hold the planets in their orbits, or cause the rising and setting of the sun. Read of Bible history the story of Hagar and Ishmael. Think you, the mental condition of Hagar, before the birth of her son, had nothing to do with forming his character? or the mother of Samuel, had she been a wicked woman, would he have been the angel child he was? Or could Mary, the Mother of Christ, had she been a fretful, diseased, fashionable woman, given birth to such an embodiment of divinity?

In profane history we read of the Spartan mothers; and the great attention that was paid to their physical development, and the result, a strong, hardy, vigorous race. Why do we have now and then a brilliant intellectual star that eclipses all others, or so many mechanical, mathematical, artistical and musical geniuses? Why do we have so many libertines, drunkards and murderers? So many unhappy and inharmonious families of children? Ask the mothers and note the reply. Zerach Colburn, author of "Colburn's Mental Arithmetic," the most wonderful of mathematicians, whose mother was a poor woman, a weaver of bedspreads, one of which she was making for her own bed at his approaching birth, and so exercised her mathematical calculation to get just the figure she wanted in it, that she gave to the world a wonderful calculator. Notice the disparity of character in your children, and you will find that every influence of any kind brought to bear upon you before their birth has left its impress indelibly stamped upon them, and how many tears have been shed over poor unfortunates all for the want of knowledge. Remember that the plastic clay is molded by your hand while yet it is unconscious, and that if you would like your children redeemed from the physical degradation into which so many have fallen, you must set your standard high. Bestow half as much attention upon the formation of the character of your child while in its embryotic state, as you do upon the fashioning of its clothing, and your after care will be diminished tenfold. And what can be of as great importance as a noble race of men and women, and how will we get them unless we pay more attention to the education of mothers and daughters?

I have said that reformation must commence with the mother, but she has not all the work to perform. Man, who is called her superior, is responsible. It is his duty—if he wants beautiful children, that in after years will call him "blessed"—to make the mother's domestic surroundings pleasant and agreeable, and bestow upon her that care, love and sympathy which she so much needs, so his children may be models of goodness and love, heaven-sent blessings through all his life.

Calistoga, Napa Co., Cal.

To Gossips.—Think twice before you believe every evil story you hear, and think 20 times before you repeat it, especially if it is about a woman. Say to yourself, "This may not be true, or it may be exaggerated, unless you have proof of the veracity of your informant. People sometimes tell falsehoods, they often make mistakes, and they frequently 'hear wrong.' There is an auricular as well as an optical illusion. Take all these things into consideration before you ever believe. As for repeating the story, ask yourself if it is necessary. Then do it with the remembrance of the golden rule before you. Give the helping hand, not the downward push.

TRUTH WILL NEVER DIE.—The stars will grow dim, the sun will pale his glory, but truth will be ever young. Integrity, uprightness, honesty, love, goodness, then, are all imperishable. No grave can ever entomb these immortal principles. They have been in prison, but they have been freer than before. Those who enshrined them in their hearts have been burned at the stake, but out of their ashes other witnesses have arisen. No sea can drown, no storm can wreck, no abyss can swallow up the everlasting truth. You cannot kill goodness and integrity and righteousness. The way that is consistent with these must be a way everlasting.

THE WIFE'S CO-OPERATION.—No man ever prospered in the world without the co-operation of his wife. If she unites in mental endeavors, or rewards his labors with an endearing smile, with what confidence will he resort to his merchandise or his farm, fly over the land, sail over the seas, meet difficulty and encounter danger, if he knows he is not spending strength in vain, that his labor will be rewarded by the sweets of home! Solitude and disappointment enter into the period of every man's life; and he is but half provided for his voyage who finds but an associate for happy hours, while for months of darkness and distress no sympathizing partner is prepared.

Cornelia.

After months of earnest and somewhat thorough research we have amassed a surprising amount of facts, which prove beyond all possible doubt: First, that philanthropic endeavor on the part of women renders her more loyal and helpful in her own home; and, second, that almost every woman who has achieved national or world-wide fame as a true mother has not lived a secluded, domestic life.

I make this assertion now without the slightest reservation, because I have a wealth of evidence, in well authenticated facts.

Passing by hundreds of illustrious examples, let me call your attention to the model mother the pet of masculine orators, the typical woman, the great model ever set before the imagination of girl-graduates—Cornelia, the mother of the Gracchi.

Now, tell me, my good gentleman friend—honest confession, now—didn't you suppose that Cornelia was a sweet household divinity, somewhat majestic to be sure, but, nevertheless, a woman with no thought of a mission other than to her own children.

Well, then, remember that Cornelia, the mother of the Gracchi, was a thoroughly educated, philanthropic, strong-minded, eloquent woman, who gave public lectures on philosophy in Rome, and was even more fortunate in her disciples than in her sons. Cicero says: "Cornelia, had she not been a woman, would have deserved the first place among philosophers." We say had she not been a wise philosopher she could not have been so royal a mother. It requires a rare combination of intellect and heart to be a wise mother.

Mrs. Hale, in her carefully prepared biographical sketch of Cornelia, says: "The whole life of Cornelia presents a beautiful character;" and, from the facts which are in our possession, we draw these inferences:

1. Cornelia must have been educated in a very superior manner by her father, for in no other manner can we account for her knowledge and love of literature; nor, for the fact, that while yet young she was regarded as worthy the most virtuous and noble men of Rome.

2. She must have been from the beginning a woman of fixed principles and undaunted courage; for in no other manner can we give a solution to her rejection of the King of Egypt, her unremitting care of her family, the high education of her sons, and the great influence she held over them.

3. She must have cultivated literature and the graces of conversation, for how else could she have attracted to her home the men of letters, and won the compliments of distant princes.

It is the same—like causes produce like results everywhere. Earnest study and loving philanthropy enriches the heart of the mother, and blesses first and enriches most the home shrine, and thence overflows until it brightens and blesses the weary home-sick world.

Give us more mothers prepared to instruct the world in the true philosophy of life, and we will have more sons to be numbered with philosophers.

It was a grand inscription worthy the aspiration of every mother: Cornelia the mother of the Gracchi! But one can scarcely imagine one of those "Gracchi" boys commanding his mother to "keep silent" on any question of church or state.—Mrs. Harbert in *Inter-Ocean*.

How to Select a Husband.

It has been profoundly remarked that the true way of telling a toadstool from a mushroom is to eat it. If you die, it was a toadstool; if you live, it was a mushroom. A similar method is employed in the selection of husbands: marry him, if he kills you he was a bad husband; if he makes you happy he is a good one. There is really no other criterion. Some young men that seem unexceptionable, indeed very desirable, when they are single, are perfectly horrid as soon as they are married. All the latent brute there is in the heart comes out as soon as a sensitive and delicate being seeks her happiness in his companionship. The honeymoon lasts a very short time, the receptions and the rounds of parties are soon over, and then the two set down to make home happy. If she has married a society man, he will soon begin to get bored; he will yawn and go to sleep on the sofa. Then he will take his hat and go down to the club, and see the boys, and perhaps not come home until morning. If she has married a man engrossed in business he will be fagged out when he comes home. He may be a sickly man that she must nurse, a morose man that she must seek to cheer, a drunken man that she must sit up for, a violent man that she fears, a fool whom she soon learns to despise, a vulgar man for whom she must apologize—in short there are thousands of ways of being bad husbands and very few ways of being good ones. And the worst of it is, that the poor silly women are apt to admire in single men the very traits that make bad husbands, and look with contempt or ridicule upon those quiet virtues which make home happy. Men with very little personal beauty or style often make the wife happy—and sometimes quite the reverse. The number of ways of being a bad husband is almost as great as the number of ways of being ugly. No one can tell from the demeanor of a single man what sort of a husband he will be. However, she must marry somebody.

Outlandish Dress in England.

It is not surprising that a large crowd should have collected, that ladies were shocked and policemen scandalized, by the appearance lately in the Strand near the Vaudeville theater, at midnight, of a young man dressed in a suit of bed-chintz of various colors. A high-crowned hat completed the costume of this fantastic individual, whose eye-brows were painted black, while the lower part of the face was daubed with red, and who carried an umbrella in one hand and a rifle in the other, in addition to a sword and pistol in his waist belt. The young man was arrested, and when charged the following morning at Bow street with "disorderly conduct," his defence was that he had made a bet of five pounds with a friend, seemingly as brainless as himself, that he would walk from the Criterion to the Gaiety theater in any costume which his friend might prescribe without being molested by the police. Mr. Vaughan sternly reprehended the inopportune masquerader, and ordered him to find one surety in £20 for his good behavior for six months.

Sociologically, the offense of this silly youth was a dual one. He had not only caused an obstruction in a public thoroughfare, but he had committed that which, in England, is deemed a very flagitious offense. He had appeared in an unaccustomed garb. On the other hand, he might, with perfect immunity, at high noon as well as at midnight, in Regent street or in the Strand, at an aristocratic garden party or in the presence of royalty itself, appear in a costume somewhat like the following: A wooden cap with an eagle's feather and silver aigrette in the form of a thistle; a boy's jacket ornamented with many buttons; a short petticoat, fantastically chequered in "various colors;" bare legs; plaid worsted hose with a knife and fork at one garter and a spoon at the other; and hanging before him at his waist a goatskin pouch decorated with tassels or tails of black horse-hair. At his side he might have worn a broadsword, and in his belt a dagger and pistol. That is the Highland dress. When it was assumed by George IV, at Edinburgh, in 1820, the "garb of old gaul" excited much merriment, which rose to uproarious hilarity when Sir William Curtis, the banker, who was as fat and as vain as the King himself, appeared in similarly preposterous attire. Nobody laughs at the Highland dress nowadays. It is worn indiscriminately by officers in the Highland regiments, by gillies, by affluent English tradesmen who have hired shootings or fishings in Scotland, and by the children of conceited rich people. It is an uncouth and barbarous garb, but we have grown accustomed to it.—*Pall Mall Gazette*.

A MOTHER'S INFLUENCE.—More than one of the great men of this nation have, in their ripe age, carefully put it on record that they owed the self-control and steadfast principle by which they rose to honor, directly to a mother's influence, in the critical days of their youth. If any of us were asked what one thing chiefly saved him from waywardness and evil companionship, and has kept him to this day free from vice, I believe he would answer, "Under the grace of God, the reverence or the memory of a mother." Her appeal had power when all other influence failed. Her unspoken wish restrained us. Her purity and love made all that was base abhorrent. Her devotion was felt as a safeguard all along the walks of temptation. We could not wound or dishonor her. The mere remembrance of such a mother, though dead, has many a time been a man's life-long protection. And never till she dies do we know how powerfully her life has invested ours to shelter and purify it. It is a day of heart-searching to any man when he buries a true mother out of his sight. Then he sums up the blessing which he has received in her. And though he may be conscious that he discovers her worth only in part, he finds cause enough to wonder at the patience and faithfulness which have been spent on him. It would be strange indeed if some contrite tears should not flow, as he recalls the haste, the ignorance, the wilfulness, possibly the disrespect with which that unwavering love has sometimes had to bear. There's many a man of us who would gladly redeem one hour of that lost past, that he might speak some words of tender sorrow for neglect irreparable, or of fuller gratitude for a loving sacrifice, never realized till it was taken from us forever.—*San Benito Advance*.

A PERFECT HOME.—The most perfect home I ever saw was a little house into the sweet incense of whose fires went no costly things. A thousand dollars served as a year's living of father, mother and three children. But the mother was a creator of a home; her relations with her children were the most beautiful I have ever seen. Even the dull, common-place man was lifted up and enabled to do good work for souls by the atmosphere this woman created; every inmate of the house involuntarily looked into her face for the key note of the day, and it always rang clear. From the rosebud or clover leaf, which, in spite of her hard housework, she always found time to put by our plates at breakfast, down to the story she had on hand to be read in the evening, she has always been and always will be my ideal of a mother, wife and a home-maker. If to her quick brain, loving heart, and exquisite face had been added the appliances of wider culture, hers would have been absolutely the ideal home. As it was, it was the best I have ever seen.—*Helen Hunt*.

Chaff.

THE hen who had been putting in three weeks' time over a lump of chalk and a broken teacup, came off the nest yesterday to learn if there was any new gossip in the neighborhood.

A KENTUCKIAN went West not long since, without any especial purpose, but merely, as he said, "to get the hang of frontier life." He got it, and the horse was restored to its rightful owner.

DID you ever know a barber to own up that he had cut you? They never do it; they simply go for a chunk of alum, and casually remark: "Well, I guess I have shaved that place a little too close."

AT a crowded concert the other evening a young lady standing at the door of the hall was addressed by an honest gentleman, who was in attendance on the occasion. "Indade, miss," said he, "I should like to give you a sate, but the empty ones are all full."

CUSTOMER (to a vendor of watermelons): "Isn't a dollar rather a large price for a watermelon?" Vendor: "You wouldn't think so, mister, if you'd sot on top of a fence with a shot gun every night for three weeks, a-watching the patch."

BOB INGERSOLL has been converted. He stopped over night lately at a house where there were two heartless fiends practicing on the accordion. He says he throws up the sponge, and takes back all he ever said about there not being a place of infinite torture.

HE was smoking a cigar on a street car, and a lady took out her purse and handed him ten cents. "What's this for?" he asked her. "It's to buy a good cigar when you smoke in the presence of ladies," said she, as she looked around and received the encouragement of several of the female passengers. "Oh, keep it," remarked the brute, "and give me credit for it on next week's wash bill." She was going to the postoffice, but she alighted at Grand street.

Solid Sense.

Virtue in its unity demands no extraordinary powers, no remarkable talents, no superhuman efforts. It is possible to each and to all—the child may possess it as well as the wisest man, the unlearned laborer as well as the most profound scholar. The outward claims of duty vary with every varying circumstance and relation of life, but this inner claim of conscience to be loyal to them as fast and as far as they are discovered, is one and the same to every human being.

THE earnings and savings of industry should be for a purpose beyond mere savings and earnings. We do not work and strive for ourselves alone, but for the benefit of those who are dependent upon us. Industry must know, too, how to spend and how to save. The man who knows, like St. Paul, how to spare and how to abound, has a great knowledge.

WE can never have much confidence in the uprightness of others until we have discovered some degree of uprightness in ourselves. We are apt to suspect everybody, if we ourselves ought to be suspected, and just as apt to trust others when we ourselves can be trusted.

HAPPINESS is like manna; it is to be gathered in grains, and enjoyed every day. It will not keep; it cannot be accumulated; nor have we to go out of ourselves or into remote places to gather it, since it has rained down from heaven at our very doors, or rather, within them.

ONE had better sail boldly in almost any direction than drift without any direction at all. One had better sail in the maddest storm that ever troubled the sea of life, than lie on the sea and drift with any wind that blows.

Talent and worth are the only lasting grounds of distinction. To these the Almighty has fixed His everlasting patent of nobility; and these it is which make the bright immortal names to which all may aspire.

IT never yet happened to any man since the beginning of the world, nor ever will, to have all things according to his desire, or to whom fortune was never opposite nor adverse.

A cheerful temper is like a grain of musk; it imparts its fragrance to everything that comes in contact with it, yet it always remains the same.

IT is the easiest thing in the world to discover all the defects in a man when we do not like him.

A NEEDED PROTECTION.—It has just come to light that several years ago the Iowa Legislature passed a bill incorporating the Iowa Ministers' Mutual Protective Association, and providing that what person soever, without regard to age, sex, rank, color or previous condition of servitude, including Indians not taxed, should present any clergyman, of whatever denomination, Catholic or Protestant, be he settled as pastor of a church or employed in any capacity by any religious, educational, publishing or missionary institution or association, or merely lying around loose looking for a church, or bushwhacking through the country as a star evangelist, a so-called pair of embroidered slippers, whereof one slipper should be a number three, C last, embroidered in green and yellow and with a high, slim heel, and the other, its alleged mate, should be a number fourteen, D last, embroidered in red and blue, with no heel whatever, should be deemed guilty of an assault with intent to commit bodily injury, and should be punished by fine or imprisonment, or both, one-half the fine to go to the complainant.—N. Y. Mail.

Young Folks' Column.

Our Puzzle Box.

Numerical Enigma.

I am composed of 51 letters.
My 4, 7, 25, 41, 51 is a humiliating sense of fault or error.
My 6, 13, 10, 34 is to desire.
My 11, 29, 41, 23, 1 is a measure.
My 7, 20, 36 is a public resort.
My 2, 49, 24, 5 is to earnestly long for some future pleasure.
My 31, 3, 12, 15 is a journey.
My 8, 14, 16 is a mineral.
My 18, 21, 19, 43, 17 is quiet.
My 30, 32, 37 is a plant.
My 33, 27, 22 is a price for service rendered.
My 29, 35, 26, 44 is a Cuban coin.
My 46, 38, 40 is to pass from existence.
My 42, 25, 45, 48 is a favor.
My 47, 27, 50 is an affirmation.
My whole is a couplet from Gay.

UNCLE CLAUDE.

Decapitations.

1. Behead to shear closely and leave to possess.
2. Behead a kitchen vessel and leave a nocturnal bird of prey.
3. Behead a vision and leave a quantity of paper.
4. Behead a newly-married lady and leave a drive.
5. Behead a kind of fuel and leave to consume.
6. Behead a huge fish and leave to listen.

O. G.

A Dry Goods Store

Contains in stock the following articles:

1. Part of the human body, a dog, and principals.
2. Rude blows.
3. A bed, and heavy weights.
4. A narrow strip of land between two larger tracts, and fastenings.
5. A pipe to convey water, to commit error, and a grain.

OLD JOE.

Word Square.

1. A sign of a coming event.
2. A greater quantity.
3. A northern lake.
4. A necessity.

DICK N. S.

Word Curtailments.

1. Take a species of fruit from a command and leave the human race.
2. Take a machine from a border and leave to impair.
3. Take a color from aversion and leave a covering for the head.

CRPHA.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Forget-me-not.

DOUBLE ACROSTIC.—
H ea P
E r A
R ea R
P o O
E ve N
T o O
O rgas M
L e A
O s S
G emin I
Y e A

CHARADE.—Hum-bug.
CURTAILMENTS.—1. Bye, by. 2. Butt, but.
LETTER CHANGES.—Boy, coy, joy. Roy, toy.

"No Monkey, No Photograph."

JOHNNY, the darling of the house, was going to have his likeness taken. A picture of Johnny on his third birthday was demanded by friends and neighbors all around us; and so Johnny was to stand with his dog Fan for a picture that was to delight all hearts.

Mother and aunts took careful counsel together about his dress; as for Fan, all she needed was a new collar, and that having been purchased, and Johnny daintily arrayed, three of them escorted the twain to the artist's with much pride and satisfaction. Punctual to his appointment, the artist was waiting for Johnny, and he and Fan were placed in position, with all the cautions we usually give to children who are about to stand for their photographs.

As the artist was preparing to take his last survey before removing the cloth for the picture, he said, with a significant glance at his escort, which did not escape Johnny—"Look steadily at this spot on the wall, and a monkey will come out."

Next to dogs Johnny delights in monkeys; his black eyes sparkled and fairly danced as he waited eagerly, while the artist took another careful and satisfied survey. A picture of Johnny as he looked then would have been a priceless treasure.

When all was ready at last, and mother and aunts hoped that Johnny would neither move nor tire, and just as the artist was about to uncover the camera, Johnny asked, in his decided way, "Where's the monkey?—want to see the monkey?"

"Yes, yes," said the astonished artist, who had promised hundreds of children a sight of that monkey, and had never been called on to produce it before; "by and by you shall see the monkey."

"But," insisted Johnny, "want to see monkey first! Johnny did look, monkey didn't come."

The artist hesitated; Johnny looked from one to the other of the astonished group in his keen, searching way; in an instant he seemed to realize that the artist had been trying to deceive him; and then with an air of determination that made mother and aunts tremble for the success of the picture, Johnny sat down upon the floor beside Fan, with his arms around her neck, and said, "I tell you what it is, Fan; no monkey, no photograph," and Johnny kept his word.

Twenty times, at least, during the following hour, did mother, and aunts, and artist, try to persuade Johnny to resume his position, but Johnny was firm; he insisted upon seeing the monkey first, and as there was no monkey to show him, he came off conqueror.

Three sadder and wiser women escorted Johnny sorrowfully home, but not one of them could speak a word of reproof to him, for in their hearts they admired and respected the spirit he had shown.

When Johnny's grandma heard the story, she said in her quiet way, "That shows the folly of trying to deceive children; Johnny has learned his first lesson in falsehood to day. I hope this will be a lesson to you all." And it was; one they will never forget.—Western Rural.

GOOD HEALTH.

Symptoms of Consumption.

Cough is not an early symptom of consumption, necessarily, for there are many cases on record in which cough was not an observed symptom until within two or three weeks of death, and on examination the lungs presented a diseased mass, burrowed with cavities. Spitting blood is not an early symptom of consumption, necessarily, for about one-third of those who die of that disease do not spit blood at all. Among the very earliest symptoms of forming consumption are combinations of the following, not all, perhaps, observable in any one case: A quicker pulse than common, a paler face, easily chilled after eating, more readily put out of breath than common, less fullness of flesh than usual at the corresponding season of the year, an unusual feeling of unrest on getting up in the morning, a greater tendency to coldness of the hands and feet, every now and then a day passing without any action of the bowels, with a very bad taste in the mouth when first waking up in the morning, a cold is easily taken, is more frequent, and lasts longer and longer, until one cold runs into another, making the confirmed cough, so ominous of approaching ill.

It will be seen at a single glance, from these symptoms, that they all indicate one thing, and that one thing is at the bottom of every case of consumption—a want of vitality; that is, a want of general vigor of system, a constitution.

But of all the things named, it will be more practical to select the two which are seldom if ever absent, in any of the above combinations which result in consumption; hence it is important to be at some pains in stating them in their bearings. A quick pulse and a short breath pervade the disease from its earliest beginnings, during its entire progress, and down to its fatal end. Multitudes of lives might be saved yearly, if these two symptoms were promptly and wisely attended to. The importance of so doing, no language can adequately portray, and if it did, the people would not attend to it, with only here and there an exception. But a great truth is of small seed and of slow growth: yet that growth is certain, and its spread uncontrollable—the more so, as education becomes more general.

The pulse beats about 68 times in every minute of healthful adult life. The range is from 66 to 72. When it is below 66, there is something at fault; when it is over 72, during all the hours of the 24, there is always disease, and if it continues so for weeks and months, there is the strongest ground for apprehension that consumption is approaching. A pulse steadily over 80 beats in a minute, for weeks together, is a forerunner of consumption.

Whatever may be said of auscultation, of sounding, of expectation, there is in none of these a guide as sure as the condition of the pulse, with the aid of a competent interpreter. It is said that the physicians among some of the Orientals are not allowed to see their female patients, the hand only being put out through the bed curtain, and by feeling the pulse, prescriptions must be made. If the powers of life are being pressed to death, the full, soft, slow pulse tells it in an instant; if active, and actual destruction of organic life is taking place in the body, the inflammatory pulse, quick, wiry, angry, spiteful, at once raises the note of alarm. Every physician knows how gratefully the pulsation, as of woolen yarn beneath his finger, strikes upon his perceptions, on some urgent call, and how troubled if it gives the feeling of a quick vibrating small wire. The multitude of shades of difference between these carry with them their varied impressions, all highly instructive.—Hall's Journal of Health.

TO CURE FITS OF SNEEZING.—A correspondent of the British Medical Journal says: "During the recent rapid change of temperature I caught a severe cold in my head, accompanied by almost incessant sneezing. My unfortunate nose gave me no rest. The slightest impact of cold air, or passing from the outside air into a warm room, equally brought on a fit of sneezing. In vain I snuffed camphor and pulsatilla; the light catarrh still triumphed over me. At length I resolved to see what the maintenance of a uniform temperature would do toward diminishing the irritability of my Schneiderian membrane, and accordingly I plugged my nostrils with cotton wool. The effect was instantaneous: I sneezed no more. Again and again I tested the efficacy of this simple remedy, always with the same result. However near I was to a sneeze, the introduction of the pledgets stopped it at once. Nor was there any inconvenience from their presence, making them sufficiently firm not to tickle, and yet leaving them loose enough to breathe through easily."

DOMESTIC ECONOMY.

Dining-Room Hints.

Aunt Addie writes the Country Gentleman a long essay on dining rooms from which we shall take the following hints for the consideration of our housewives:

If possible, the dining-room should be the most attractive room in the house—perhaps not quite the sunniest spot to be found, although the sunshine must by no means be banished; but it is said that a subdued light is all that is necessary or really wanted, to complete the perfection of the dining-room. It must be decidedly noted for its bright cheerfulness and its look of perfect cosiness. It may not be the finest room the house affords, and the furniture may be of the simplest character, but a little individual taste may be [exercised in its adornment.

The dining-table linen may not be of the finest and richest that foreign looms send out to us, but there is nothing that can hinder the spotless purity of the whiteness of tablecloth and napkins. The tablecloth should be folded in the most accurate manner, and I prefer the simple squares to the more elaborate and showy diamond-shaped formations; but this is a mere matter of taste and choice for each lady to determine for herself. Let the tablecloth have a small quantity of starch in it, sufficient to have it come from under the iron with a highly finished glossy surface. The napkins should never have any stiffness in them. Under the cloth place a piece of canton flannel the width and length of your table. This is now deemed a necessity. It imparts a heavier, richer look to your tablecloth, besides absorbing any spots of gravy that may be spilled, which would also injure the appearance of the table; besides, it saves the noise of the dishes in being removed. The handsomest table mats are those made of coarse white cotton, and of these there should be distributed as many as there are dishes to be disposed of.

At the right hand of the plate place a spoon with the bowl turned downward, at the left hand have the fork with the tines reversed, and at the head of the plate will be found the knife, with the napkin on the right of the spoon. The goblet, or tumbler, must be on a line with the knife at the right, while the saltcellar, if individual ones are used, will be at the left. Should large salts be used, as they sometimes are at dinner, let them be placed on the corners of the table, diagonally, opposite each other, with salt spoon laid on each.

Have the prettiest dishes you can afford. If plain porcelain, let them be of the thinnest texture procurable. If china is used let the ornamentation be of the most delicate character, with the very smallest hair line of gilt on the edges of cups, plates, etc. Your glassware may be of ordinary pressed glass, but have it perfectly plain and thin, remarkable only for its clearness and its sparkle. Have your silver washed in pure hot water, innocent of soap, if you would have it retain its new look. Polish it with a soft towel.

My Little Fruit Drier.

EDITORS PRESS:—I got a tinner to cut in two in the middle a sheet of galvanized iron two ft. by seven, turn up the edges and ends of one piece two inches, and of the other piece three-fourths of an inch, like bake pans; cost, \$2.60. I also have frames with bottoms of muslin, and four six-penny nails driven in for legs, to set in the stove oven, doors left open. When I have more fruit in the house than is needed by the family, and not sufficient to pay to market, I take the covers from one side of the stove, put one end of the deeper pan on and support the other end with two sticks nailed together with a cross-piece. In this pan I put half an inch of water and covered it with the other pan, in which is placed fruit or vegetables, as I may chance to have, to dry. Were flies troublesome, I would place a frame of mosquito netting over the fruit. When done cooking, I take off all the stove covers and shove the pan over the whole top of the stove, and keep a small fire, or set the pan in the sun.

I have not yet had my drier long enough to determine its real value. For a person who raises a thousand acres of wheat, or who has an extensive fruit orchard, to fritter away his valuable time with this little affair, would be wicked waste; but for the small farmer who raises his own fruit and vegetables, as nearly every farmer, small or great, should do, I think that, in the absence of something better, this drier is a very good thing. It inculcates a good doctrine. It was once said by One who could, by a mere exercise of the will, instantaneously produce unlimited quantities of provisions: "Gather up the fragments, that nothing be lost." Now, it seems to me that this is a principle sadly lacking in many families in this State. Too many of us are ready to labor and earn; too few willing to give that time and attention to our earnings to save them. Economy is quite as important as industry; I sometimes think more so. Where both these sister virtues are combined, we almost invariably see prosperity and happiness.

Santa Barbara, Cal.

S. P. SNOW.



DEWEY & CO., Publishers.
A. T. DEWEY. W. B. EWER.
Office, 202 Sansome St., N. E. Corner Pine. St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.
ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch..... .2.00 5.00 14.00 40.0

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STROM

SAN FRANCISCO:
Saturday, October 2, 1880.

TABLE OF CONTENTS.

EDITORIALS.—A Wonderful Ruin in Arizona; Early American Farming, 209. The Week; The Heated Term in Politics; The Planting Season, 216. New Highways to Europe; Meeting of State Horticultural Society, 217. ILLUSTRATIONS.—Exterior View of Casa Grande in Arizona, 209. Geographical Position of California in the Commerce of the World, 217. QUERIES AND REPLIES.—Bots Again; Cure for Self-Sucking Cow, 218. PATRONS OF HUSBANDRY.—Shall We Go to the State Grange? The State Grange Meeting; The Grangers' Bank; Officers of the California State Grange, 212. CORRESPONDENCE.—San Bernardino's First Fair; Tulare Crops—Single Track Railway, 210. HORTICULTURE.—Scale Insects on Orchard Trees, 210-11. THE VINEYARD.—Raisin Making at Home and Abroad, 211. Destroying the Phylloxera, 218. AGRICULTURAL NOTES from the various counties of California, 212-13. NEWS IN BRIEF on page 213 and other pages. MISCELLANEOUS.—Notes from the State Fair; Sheep Premiums at Golden Gate Fair, 213. HOME CIRCLE.—The Baby Boys (poetry); Responsibilities of Mothers; Cornelia; How to Select a Husband; Outlandish Dress in England; A Mother's Influence; A Perfect Home, 214. Chaff; Solid Sense; A Needed Protection, 215. YOUNG FOLKS' COLUMN.—Our Puzzle Box; "No Monkey, No Photograph," 215. GOOD HEALTH.—Symptoms of Consumption; To Cure Fits of Sneezing, 215. DOMESTIC ECONOMY.—Dining-Room Hints; My Little Fruit Drier, 215. THE SWINE YARD.—Selecting and Rearing Brood Sows, 218. THE FIELD.—The Wheat Crop of 1880, 218.

Business Announcements.

Agricultural Implements—Baker & Hamilton, S. F.
Norman-Percheron Horses—R. J. Merkeley, Sacramento.
Short Horn Cattle—M. Wick, Oroville, Cal.
Ayrshire Cattle—Geo. Bement, Redwood City, Cal.
Short Horn Cattle—Col. C. Younger, San Jose, Cal.
Laud and Water Fowls—T. D. Morris, Sonoma, Cal.
Poland-China Swine—L. N. Scott, Lincoln, Placer Co.
Poland-China Swine—Elias Gallup, Hanforth, Cal.
Thoroughbred Goats—John S. Harris, Hollister, Cal.
Adams' Pillow Sham Holder—G. W. Waggoner, Oakland.
Feed Mill—Rusby & Mery, Chico, Cal.
Buggies and Wagons—Joseph F. Hill, Sacramento, Cal.
Stock Feeder—J. B. Trupper, Petaluma, Cal.
Self-Feeder and Elevator—A. W. Lockhart, Sacramento.
Employment Office—C. R. Hansen & Co., S. F.
New Pension Laws—E. H. Gelston & Co., Washington.
Marble Works—Aitken & Fish, Sacramento, Cal.
Adjustable Fruit Gatherer—T. M. Lash, Sacramento.
Davis Sewing Machine, S. F.
Roses—Dingee & Conard Co., West Grove, Chester Co., Pa.
Pioneer Grocers—Sbarboro & Co., S. F.
New Champion Shot Gun—E. T. Allen, S. F.
Guns, Pistols, etc.—A. J. Plate & Co., S. F.
Currant Plants—Chas. R. Hunter, East Saguinaw, Mich.
Strawberry Plants—H. Nyland, Bouldin Island, Cal.
Zimmerman Fruit Drier—Linforth, Rice & Co., S. F.
Seeds—Geo. F. Silvester, S. F.
Hats—C. Herrmann, S. F.

The Week.

The State fair last week was notable in many respects. Many of the classes of exhibits were fuller than ever before, and reflected great credit upon our State in manifestation of agricultural progress. Such was the show of live stock. The horses, the horned cattle and the sheep and swine were all noticeable because of their great numbers and the excellences displayed by individual animals and the studs, herds and flocks to which they belonged. We have notes of some of these exhibits which we find it utterly impossible to present in this issue, and must restrict our mention to the list of premiums awarded, which may be found in another column. In point of attendance and general interest, so far as an observer could judge, the fair was also a success. The fruit show was creditable, and we hope next week to give the list of prize-takers. Sacramento was in gala attire, and her streets assumed metropolitan traits. The greeting to the President doubtless called forth thousands, and thus added to the general success of the occasion. The address made by Mr. Hayes in answer to his welcome showed that our State had won another admirer.

There is something in the air to-day which makes men on the streets and in the offices and stores speak to their fellows of rain. Surely the impression is one of approaching rainfall. We trust it may still be restrained. And yet let the warning be heeded and everything be done to avoid loss from damage to exposed property, a little forethought and exertion will throw a shelter over that which cannot be hauled beneath fixed roofs.

The Heated Term in Politics.

There is still remaining a round month in which the fires of political conflict must burn ere the election will bring quiet and a return to calmer moods and methods of thought. At present, the presidential issue seems paramount in nearly all circles, and, as usual, there is discernible a tendency to obscure the points involved in the election in clouds of personalities and imputations of evil. There is one style of personality which should prevail, and that is the recognition by the elector of personal worth and truth in the candidate to whom he gives his vote. It is of course impossible for the voter in most cases to have an exact knowledge of the men whom he approves for the higher places of trust, either in National or State government. Comparatively few of us can know the men whom the whole country will vote for or against. But there are steps leading up to the naming of the higher candidates, and the lower ones are under our direct supervision. There rests with the people a weight of responsibility in the choice of the town and county delegates, because generally the men are fully known. If every precinct should see to it that its political representatives were worthy of the trust placed upon them, one would see a higher character in the State and national nominating conventions, and the ultimate result would be that none but those worthy of trust would be put forward for the people's suffrages, and none but the worthy would be elevated to official station. It is now, for the most part, too late to urge this safeguard for this year's practice, for already the nominations have generally been made, and there remains but to choose between them. The principle is, however, of lasting application, and, therefore, fit theme for comment. We have seen this year indications here and there that the best interests of society have not been served, and the reason must be that the better elements of the population have neglected to make their influence felt in the primaries, where the machinery of nomination is first set in motion. So long as this is done, there will be unworthy candidates put forward, and their elevation to office will be a menace to the prosperity and well-being of their districts and of the country at large. If it could be assured that none but worthy men could get the support of nominating conventions, the results of elections would be less hazardous than they are at present.

But if the nomination has been allowed to go by default of effort on the part of those whose voice should be always for integrity and honesty, there is still the test of the election which can be made to approve the good and reject the evil if the people insist upon this issue. It is manifestly wrong to place the best interests of the community in unworthy hands simply because the honors of the organization with which you act have been secured by a man whom you would not trust with the management of your private affairs. It has been proven time and again that no amount of general truth in the principles of a party will reclaim the evil man from the evil tenor of his ways, and it has not yet been shown in practice that a man who is unfaithful in a few things becomes faithful when trusted with great affairs. It is not the experience of the people that a man with an evil history, or begirt by questionable surroundings, turns his back upon his record and his belongings when he is endowed with position. Rather had there been growths of evil and glaring misdeeds when the evil nature was given the opportunity for expansion. Therefore, it behooves all who have the best interests of their communities at heart to exercise the fullest diligence in ascertaining the character of the men who invite their support, and to allow no glamour of party to obscure the blot of personal unworthiness. It is a noble maxim that "they serve their party best who serve their country best;" and if a man truly consults the interests of the party which awakens his loyalty, he will rebuke it and purify it, and ultimately strengthen it if he resolutely refuses to follow a leadership which belies the principles he holds and an integrity he advocates. Let it be clearly seen that a party cannot elect an unworthy man, and our politics will advance a day's journey toward purity in a moment's time. Upon the individual voter rests the burden of securing this result for his own well-being, and for the permanence of republican institutions.

There is yet time to look this matter over coolly. The party organs are sounding their tocsins and clarions, and the clangor is too apt to drive sober thoughts from the mind. But there should be a proportionately strong determination to cherish them. If a candidate is unworthy your confidence as a man, he is not qualified for a leader of true men. If he is pledged by personal interests to advocate the schemes of the few as against the promotion of the general good, he is unfit for a popular trust. If he is the blind advocate of a class, he is not able to discern the interests of the whole people. These are all matters which the elector should study with the fullest light he can attain. It is because the farmers of the United States have not seen and crushed the evil men and the mercenary men in all parties that their vast and beneficent interests have been so many times driven to hardship. It is high time for an awakening and the casting of the balance of power which is vested in our agricultural

population upon the side of honest and economical administration of public affairs and the promotion of the general good, and not of private interests. If this be done, our agriculturists can perpetuate the prosperity of a country which agriculture has made prosperous.

The Planting Season.

We are advancing rapidly toward the planting season. The air begins to feel like a shower, and pleasant as it would be to have a dust-drenching rain, it is to be hoped that it will not come at once, for there are great interests and properties which are still uncovered, save by the brooding sky. But the advancing season must suggest haste toward protection, for the downfall is not at this date generally long delayed. With the first heavy rain will come the sprouting of the wild seeds, the awakening of the pastures, and the myriad charms of a California spring. Then too, will come the planting season, in field and garden and orchard; and the beginning of another twelve months of work will be greeted with pleasure by the industrious. There is one thing which those who are used to the marked seasons of the Eastern States, and their alternating periods of activity and repose which they occasion, cannot fully understand with reference to California. They cannot realize that a man, who has will and water, can find some profitable outdoor work to do every month of the year. As they have often to fight the elements to get in the seed at the limited season which should include the sowing, they cannot appreciate the fact that we have half the year in which many seeds and plants can be safely confided to the soil. So, too, they have to put forth the sickle when the rain cloud still is in sight, and rush the grain to cover in an hour, while we often have four months of harvest without a threat of danger. The length of the planting season is a great boon to the grower of many crops. It enables him to catch up with his work and to carry out many plantings which would be otherwise quite impossible. The advantage of a succession of growths of the same variety of seed need not be enlarged upon. One feature of the long planting season in this State is the longer duration of trade in seeds, trees and plants. Our Eastern seedsmen who advertise for California trade are often, doubtless, surprised at the orders they get for seed for "immediate planting," which continue to reach them during half the year. The length of our planting season will explain it to them. They need not be surprised to find their trade beginning in October and continuing until April, and during all this period they should not fail to keep their desirable things in the planter's view.

There are many reasons to expect an active trade this fall and winter in nearly all kinds of useful and ornamental plants and trees. The increasing prosperity of the people is leading to a general disposition toward home adornment, within and without. The hosts of new and beautiful houses, both small and great, which are fast replacing the rude shelters of early settlement, must have an environment of leaf and bloom. The new wells and new ditches are yielding water to dooryards hitherto dry, and the shrub and flower must follow. Added to these facilities for garden is the wider appreciation of gardening in its esthetic aspects, which is the result of the earnest tributes to the beautiful which have been read by all eyes and heard by all ears.

The disposition toward the planting of useful growths is also very active. There will be a most notable increase of our orchard and vineyard area this winter. The demand for certain kinds of fruit trees began to tell seriously upon the stocks in the local nurseries two months ago, and since then there has been a continual cry for trees which yield the fruit the canners most desire. The stimulus to fruit growing given by the canners this year has been greater than our horticulture ever felt before. We have had passions for certain things before it is true, but none which covered so wide an area of the State at once as the present fever to plant for the canneries. Some believe that this haste to a certain thing will outreach itself, but it seems to us that though there will not be any duration of such prices as were paid this year, there will remain a steady demand for the best canning varieties, for the world seems to be the market for the product. But though this is so, there should not be any blind devotion to canning fruit growing, else trees will be planted in unfavorable locations, and the disappointment which has attended many of our earlier "rushes" will return in the present case.

Vine planting will be pursued beyond any measure that can at present be made. Already there have been contracts for cuttings of certain favorite grapes, which will clean up nearly all the prunings of large vineyards. There is a disposition also to make many trials of the resisting vines in the phylloxera districts. In short, there is discernible on all hands a disposition to plant permanent growths this year. Large fruits and small fruits are all sharing in the accounts of new plantations which are hinted to us in conversation and correspondence, and we expect that all trustworthy propagators, both at home and at the East, will find the California trade very satisfactory this year, if people succeed in finding out what good things they have ready for introduction.

QUERIES AND REPLIES.

Bots Again.

EDITORS PRESS:—I noticed in your paper of September 11th, a prescription for bots by Mr. Wm. A. Jordan, of New Hope; and I think that I know one that is just as good, if not better. Keep the horse from all kinds of food for one day; at night give him a small quantity of warm bran mash, made as usual, and directly after, a ball made of 1 scruple of calomel, 1 scruple of turpeth mineral and as much crumb of bread and honey as will form the mass. Next evening give him a pint of castor oil and half a pint of linseed oil. The animal is then to be fed as usual for two or three days, and the same plan again to be employed.

In the fall, when the horses are first taken from grass, bots may often be expelled by giving them brine (4 or 5 ounces of salt to 1 quart of water) following a drench of sweetened milk. Oil of turpentine is also a powerful vermifuge; 4 ounces may be given in a pint of gruel, fasting previously. An almost certain cure for bots is the *nux vomica*, called vulgarly "dog-buttons." Rasp the whole of one of the nuts. Let it cool to blood heat, and then drench this horse with it, having, about half an hour before, bled him in the mouth so that he would swallow the blood, which draws the worms into the stomach from the mucous membranes, into which they fasten themselves. —RAOUL DUBERNET, San Francisco.

Cure for Self-Sucking Cow.

EDITORS PRESS:—I see in your paper that some one wants to know how to stop a cow from sucking herself. I use a halter and a bit, just as you would use it on a horse. The cow eats just as well, and thrives the same as without the bit. I never knew one to suck herself with it on. There are a good many around who have tried it, and it proved good. —S. RAUCLIFFE, San Jose.

PRESERVING TIMBER IN GROUND.—In speaking of the well-known methods of preserving posts and wood which are partly imbedded in the earth, by charring and coating with tar, it is said these methods are only effective when both are applied. Should the poles only be charred without the subsequent treatment with tar, the charcoal formation on the surface would only act as an absorber of the moisture, and, if anything, only hasten the decay. By applying a coating of tar without previously charring, the tar would only form a casing about the wood, nor would it penetrate to a depth which the absorbing properties of the charcoal surface would insure. Wood that is exposed to the action of water or let into the ground should first be charred, and then, before it has entirely cooled, be treated with tar till the wood is thoroughly impregnated. The acetic acid and oils contained in the tar are evaporated by the heat, and only the resin left behind, which penetrates the pores of the wood and forms an air-tight and waterproof envelope. It is important to impregnate the poles a little above the line of exposure, for here it is that the action of decay affects the wood first, and where the break always occurs when removed from the earth or strained in testing.

INFLUENCE OF LIGHT ON SIZE OF LEAVES.—M. Ch. Flahault, in the *Annales des Sciences*, brings forward additional observations to support his view that under equal conditions the leaves of plants of the same species are larger in proportion as we go northward, these relatively higher dimensions being due to the duration of light of relatively feeble intensity. In cases where the chlorophyll is formed in the absence of light, it must be formed at the expense of the materials stored up in the tissues. The importance of these reservoirs of nutriment is still greater in the case of flowers. Thus, of hyacinths, both red and blue, M. Flahault found no difference in the color of the flowers grown in the light or in the dark, the color being manufactured from the stores of material in the bulbs.

KEEPING ONE COW.—The Orange Judd Co., of New York, have published a valuable little book, entitled "Keeping One Cow." The work presents the individual experiences and advice of acknowledged authorities, and is designed to show that every family should have its own cow. The list of contributors embraces Henry E. Alvord, of Massachusetts; Prof. D. D. Slade, of Harvard College; Mr. P. S. Norris, of New York; Mr. George D. Duffie, of Alabama, and other writers of prominence. Mr. Orange Judd adds a chapter from his individual experience. Col. Mason C. Weld and Prof. Manly Miles have edited the volume, selecting the articles from nearly 100 upon the subject which were submitted to them. The articles contain a host of useful hints on cow keeping.

COMPETENT judges assert that there is no more beautiful wood for ornamental cabinet work than the curled pine of Florida. It is eagerly sought after by European furniture makers, and much of it is shipped from Pensacola. It is said to be difficult to work, and must be handled by the best mechanics with the best tools; but the results obtained amply repay the care and skill expended on it.

New Highways to Europe.

We have of late referred to matters pertaining to our outlet for produce to the European markets. As the production of our State, and of the Pacific coast generally, is now being largely increased and diversified, the subject of transportation routes becomes more and more important. The present facts that charters for grain to Liverpool are inordinately high and grain wretchedly cheap, are enough to awaken interest in any movements which promise in the future to multiply our outlets, and consequently increase the chance of shipping produce at a reasonable rate.

The advance of the Southern Pacific railway eastward through Arizona, the speedy connection with roads coming westward, and the promised off-shoot from the main line to New Orleans or Galveston, or some other point on the Gulf of Mexico, are all matters of general interest. The idea held by some that the new approach to the gulf will facilitate the shipment of California grain to England, by rail to the gulf and by ship across the Atlantic, offers a route in competition with ocean vessels around the Horn, which is certainly worthy of contemplation. It seems quite possible that a regular line of steamers from this gulf port to England would find abundant traffic in grain eastward and immigrants and merchandise westward to return a good profit to the ship owners. The new railways through the lower latitudes of the country will open up a vast domain to settlement and lead to the development of many mining and agricultural enterprises. If grain can be handled and transported from this State to the gulf with anything like the facilities and cheapness with which it is taken from the new grain fields of the Northwest to the Atlantic ports, it will surely be a great factor in deciding how to get our massive grain crops to the consumers with much less outlay for transportation.

The map which we give on this page will be useful to students of our situation, with reference to our foreign markets. From the slightest comparison of distances it appears how expensive in point of distance and time is the present route around the continent of South America. Although the line is not drawn on the map, the reader can easily trace it from our grain fields to the Gulf of Mexico, and thence across the Atlantic. It will be seen that there is but a comparatively slight deviation from a straight line in the proposed route. If those who will have the management of the new line will but employ a generous and wise policy, they can make their highway of inestimable advantage in developing the country through which their line runs, and in enhancing the prosperity of the terminal State of California. The possible effect of the new route to the Gulf of Mexico was made the subject of remark by Hon. H. M. La Rue, President of the State Agricultural Society, in his annual address delivered last week at Sacramento. He said:

When the great wheat-growing valleys of California are connected with New Orleans by rail over the level grades of the southern route, the commercial lines to the final market for our wheat will be shortened by 10,000 miles. We will then have a constantly operative means of transportation at what I have reason to hope and believe will be reduced rates. The average inland tonnage on our grain now is about \$8.50 per ton. The average ocean tonnage to Liverpool is about \$13 per ton, aggregating \$16.50 per ton from the station or landing to the ultimate market. By this Southern Pacific railroad the pro rata of ocean to rail transportation will be reversed. The tonnage rate from New Orleans to Liverpool will not exceed \$5 per ton. Thus leaving \$11.50 per ton as the pro rata to rail transportation, and without increasing the aggregate rate. If expectation in this direction is well founded, the wheat product of California will possess higher advantages in the market than hitherto enjoyed. This completion of this southern route will introduce the now wanting element of competition with the long voyages around Cape Horn. It will also enable the shipper to receive quicker returns. Its further advantages will be found in this opening of markets for the orchard and dairy products of southern California, and it is within the range of possibilities to ship green fruit and fresh beef to the English market by that route. At this time fresh beef is shipped from points on the Missouri and Mississippi rivers by way of New Orleans to England, and the time from Sacramento by rail to the Crescent City is shorter than the time from Kansas City to the same point by water.

We also introduce this map to bring to the notice of those who have not already consulted their atlases, how notable a cut-off is the Isthmus canal, which is now being urged and is awakening much popular interest in this State. A glance at the geography of the enterprise, as shown upon this map, will do more to display its advantages than a host of statistics, although these are of great value in enforcing the importance of the object lesson in the map. The canal does not offer so speedy a relief as the proposed gulf route, but it should, nevertheless, be regarded as a positive need of our industrial growth, and must be in part the measure of the same. This view is being earnestly advocated by those who are best informed of our present and future productive capacity. A committee of the San Francisco Board of Trade has given the canal and its possibilities prolonged and diligent study. They issued a supplementary report last week, mainly to meet the errors of Eastern writers, who claim that the business of the canal would be small, etc. They give the following figures of the wheat trade of this State and Oregon this year:

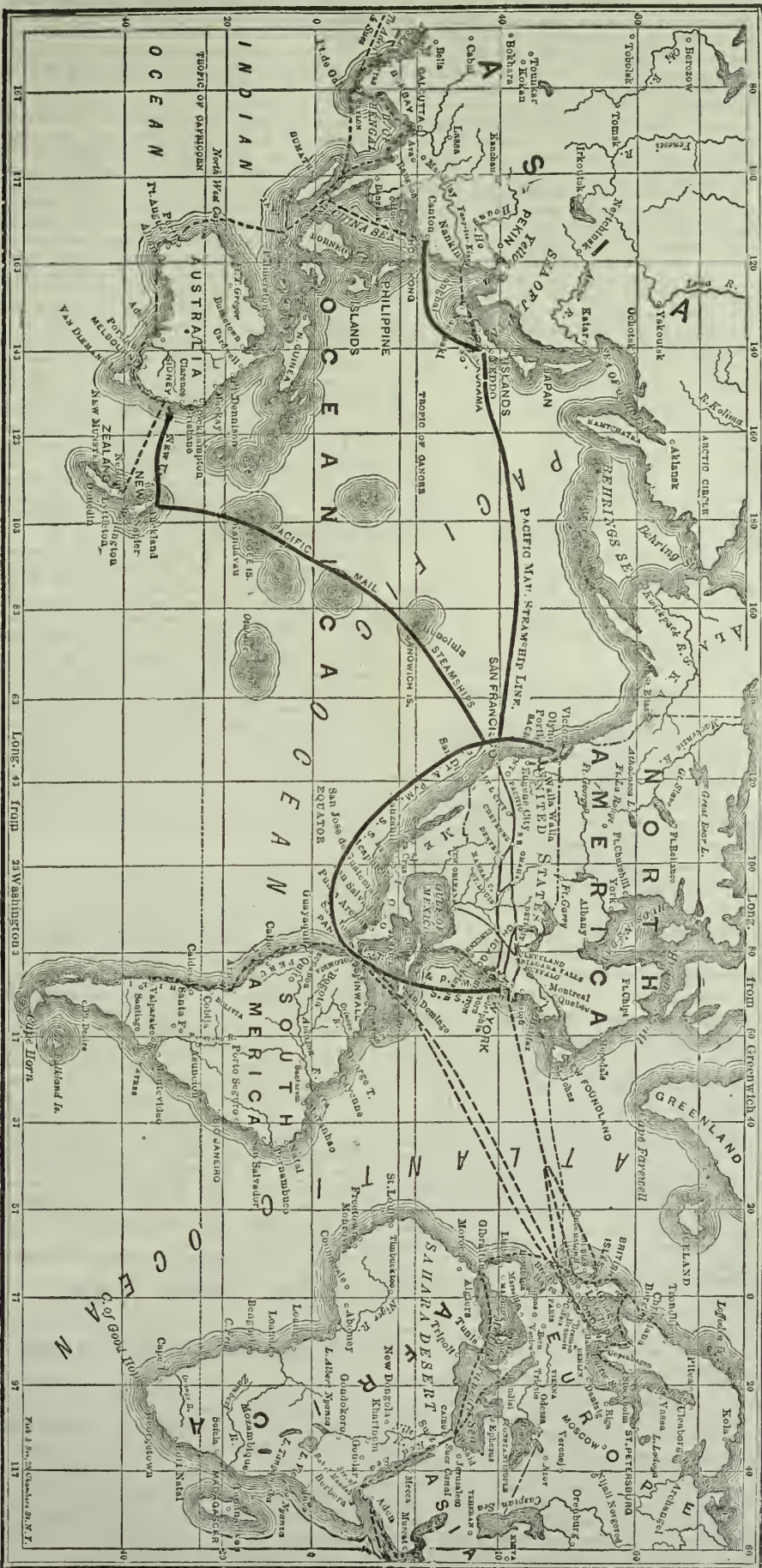
A fair estimate of the wheat surplus of this State this year places it at 900,000 tons, which alone would require, allowing passages both ways, an aggregate shipping tonnage of 1,800,000 tons. An examination of the San Francisco Custom House statistics for 1879 shows that during that year there arrived from Australian ports vessels aggregating 125,456 tons. With this exception, our wheat tonnage would all have used a canal both ways, making 1,874,544 tons, an excess of nearly 50,000 tons over the

estimate given, on our wheat alone. Oregon has a surplus of about 200,000 tons of wheat this year, which, on the same basis as the California requirements are estimated, would add 375,000 tons more, making a total of about 2,000,000 tons for the export trade of California and Oregon alone. Our producers stand to-day face to face with this great fact. Oregon and California have only one-fifth the necessary tonnage available for this purpose. This deficiency involves loss of time and expense; both ruinous to the producer. Were the Inter-Oceanic canal open, we could more easily obtain tonnage, and at the same time save, on a moderate estimate, some \$6,000,000 on this year's wheat crop alone.

And who will undertake to fix the limit of our production? The President of the California State Agricultural Society, in his annual address (Sept. 21, 1880), "estimates from reliable data this year's wheat crop at 1,000,000 tons." He deplored "the disadvantage of California farmers, in that their wheat has to go to Europe via Cape

isolated position, and rely upon long and expensive means of transportation. The world is the market for our diverse and rich productions, and barriers of distance and time must be swept away. The future of our favored territory is a grand subject for contemplation, but it should be cherished with no idle rapture. Every stirring thought should be father to an act, until the longed for results shall be realized.

A GRASS NOT INJURED BY OVERFLOWS.—We learn from a letter of D. A. Richardson, of Maysville, Kentucky, that the meadow fescue or English blue grass (*Festuca pratensis*), is be-



GEOGRAPHICAL POSITION OF CALIFORNIA IN THE COMMERCE OF THE WORLD.

Horn, arriving there after the Atlantic and Black Sea ports have supplied the immediate demand," and declared the great problem of the future to be "transportation and market." He further states "that with the cultivation of available lands now unused, the possibilities of the wheat production of California in the near future, are 3,000,000 tons per annum." If this be true of California, what may we expect from the development of Oregon and Washington Territory? With this light before us, how futile the idea that an inter-oceanic canal will lack tonnage to secure pecuniary success? Let us consider our rapidly-increasing wine, wool and other interests. Freed from the fetters of expensive transportation, our whole coast would feel new life.

We place all these facts prominently before our readers that their bearing upon our future may be discussed by all, and a general influence be exerted toward the promotion of enterprises which are of such signal importance. We cannot longer afford to occupy a comparatively

ing found of much value as pasture grass in his State. It is a perennial grass producing a large growth of roots penetrating the earth 12 or 15 inches; nor do overflows seem to affect it, but add to its vigorous vitality. It will grow where clover will not, and if, as is confidently anticipated by those who have grown it, it restores worn-out lands, its value can scarcely be estimated. An intelligent and observing farmer says, he noticed his young mules, in November, walk over a rank growth of rye that had not been grazed, to graze on the stubble of English blue grass, where it had been cut for seed, in the inclosure. Such a plant might prove of advantage in some locations in California. Has any one of our readers ever tried it?

Meeting of State Horticultural Society.

The State Horticultural Society met Friday afternoon, Sept. 24th, in Young Men's Christian Association Hall. In the absence of the President, Vice-President Lewelling took the chair.

The following members were elected: H. L. Carr, Santa Rosa; Thomas Meherin, San Francisco; J. H. Barbour, San Jose; Henry A. Runyan, Washington St., San Francisco.

Prof. Comstock exhibited several specimens of scale upon willow, walnut, apple and other trees. One specimen of scale on orange came from Australia.

W. H. Jessup, of Haywards, exhibited a specimen of plum, which he desired to have classified. It was a prolific bearer and a very good fruit. He only knew it by the term "The Bulgarian."

G. P. Rixford thought that the name might be a very appropriate one, as Bulgaria is remarkable for its plums. The classification was referred to a committee composed of Messrs. Lewelling, Rock and O'Connor.

A specimen of currant bushes affected with the borer was shown. Nests of grubs were found in examining the shrubs, and it was desired to know how the borer propagated. The matter was referred to Prof. Comstock.

As the next meeting, which will be held Oct. 29th, will be the annual meeting, at which the election of officers will take place, there were a number of nominations made, as the constitution requires a month's notice of all nominations.

The regular subject of plum and prune growing was introduced by W. H. Jessup, of Haywards, in a comprehensive essay, of which we will present the chief parts next week.

Prof. J. Henry Comstock, entomologist of the U. S. Department of Agriculture, made an address upon the subject of scale insects in orchards, of which an outline is given on page 210 of this issue. Prof. Comstock's remarks were illustrated by specimens lately gathered from California trees and by outline drawings of some of the new insects found. The drawings were made by Mrs. Comstock, who is also a skilled entomologist. Prof. Comstock's remarks were heard with deep attention, and his researches will be of general value. It is to be hoped that he can give our State another visit next year, as he wishes to do, with the idea of giving more attention to scale insects on deciduous trees.

In the discussion which followed Mr. Jessup's essay there arose question as to the success of different fruits in different localities in this State. It was moved that a committee be appointed to draft a circular of questions, to be sent to fruit growers, with a view of eliciting valuable information as to what fruits thrive and produce best results in their experience. Messrs. Webster, Trumbull and Rixford were appointed, and in due time the circular they prepare will be issued by the Secretary of the society.

It was noted that all the members of the committee appointed at the last meeting to prepare a report recommending the best size and style of boxes for plums, packages for prunes, and the best plums and prunes for general planting, were all absent, and there was no report forthcoming. On motion the Secretary was instructed to write to the members of the committee calling attention to the work placed upon them and asking them to report at the next meeting.

A paper upon silk culture was read by Mrs. T. H. Hittell, of which we may give parts hereafter. The society then adjourned until the meeting of October 29th.

A NEW POTATO DISEASE.—A new potato disease is announced from Ireland. It is produced by the growth of a fungus, but one quite different from that producing the common blight, as known in Great Britain and this country. Specimens of the diseased tops or haulms were sent from Ireland to a competent English authority on fungi, and he gives a description of the pest, with illustrations, in the London *Gardeners' Chronicle*, of August 28th. It seems that the chief seat of the disease is inside the stem; and if the stem be split open, there appear white nodules or lumps, as large as a small bean. If the white nodules be rubbed with the finger they are found to be brown or black bodies with a white coating, which, if examined with a microscope, is seen to be the mycelium or thread-like roots of a fungus, which seize hold upon the substance of the potato haulm and destroy its vitality. When the disease is well on its way the haulms are in most wretched condition, cracked, blistered, corroded and utterly exhausted, the leaves reduced to tinder and the mycelium of the fungus traversing the plant in every direction, within and without. We trust this new disease of the potato may not be found in this State, for the old blight is certainly evil enough for growers to contend with, but if any of our readers should discover anything in their potato tops at all resembling the appearance we have described, we should be pleased to have specimens at once for examination.

ARTHOZOIC CLUB.—At the meeting of the "Arthrozoic" Club, Sept. 8th the following officers were chosen, to serve the ensuing term: President, Dr. H. Behr; Vice-Pres., W. G. W. Harford; Sec'y, A. T. McCreery; Treasurer, L. E. Ricksecker; Librarian, J. W. Mailliard.

Raisin Making at Home and Abroad.

(CONTINUED FROM PAGE 211.)

and pack a box of the best raisins. Another good reason is that the American market demands but few of the higher grades of fruit. The London Layers and loose Muscatelles are the most sought. As a full description of their modes of packing would take much time to go into detail and be of no practical advantage, I will pass them with a few remarks.

The fruit is, as I said before, taken immediately to the place for assorting. A skillful workman takes each bunch in succession and grades them according to their size and condition. When a bunch contains two or more grades (as they usually do), it is cut up so that each can be put in its proper place. Each kind is carried to workmen who are packing that particular class. Although the raisins never hold out to the weight which they are supposed to represent, I noticed the workmen were careful to weigh each form as they were put into the box. They are packed in forms of six lbs. each, using common paper, which is replaced in the warehouses by a more fancy article, at the option of the purchaser. The loose Muscatelles are those single berries which may be on a bunch of superior class, which their strict grading requires to be cut out, hence they are usually of a better size than their price would seem to warrant.

Faults of California Raisins.

I will mention some of the faults of our raisins. I do not take into consideration any of those products made from all kinds of grapes which are sometimes called raisins, but only those produced from the Muscatel: First—They are not evenly dried, some of them being cured too much and others not enough. This can be obviated by going over them at the proper time, as mentioned before. Second—They are too small. Not enough attention is paid to pruning closely. They are not properly thinned when there is an overcrop. The fashion of allowing a vine to produce 50 or 60 lbs. is pernicious. Where the size of the berry is small, do not allow it to bear so much another year. The Spaniards take off much of their fruit. They even clip off a part of a bunch when they think it is too large. We had better have less berries than such small ones.

It is sometimes urged that we cannot afford to take the pains that the people of Europe do; that labor is too high. It is too high for many of their operations, but at the same time it never pays to do work poorly. There is time wasted upon every farm which, if properly applied, would go far towards making up the difference between European labor and ours. Our land can be worked at less expense by using horses to plough instead of hand labor. Our crops can be gathered at small expense, because we can use the wagon in place of the hand basket. Surely we ought to be able to give our vines the proper pruning and thinning they need. Nevertheless, when we look back and see what a marked improvement there has been in our raisin interest during the past four years, we do not feel like finding fault with our pioneer raisin growers. They, like all others who have been connected with the grape interest, have had much to contend with.

Corinth and Sultana Grapes.

There is another class of fruit that is destined to be very prominent in our products. I refer to the seedless varieties of grapes. At present they have not been largely planted; nor have they been, as a rule, a success. I will describe the different varieties, and endeavor to show why they are not more successfully grown in this State. The true currant of commerce, known as the Zante currant, is a black variety, very productive, but has never been grown successfully, except on the Ionian Islands of Zante and Cephalonia, and the southern coast of the Gulf of Corinth from Patras to Corinth. On the northern side of this gulf it is a partial or generally a total failure, as it is also in other islands near. In this State it has never been tried with the same treatment that it receives in the Morea; that is, flooded in the winter and pruned long, but it has usually been pruned like the Mission grape and grown in vineyards with other varieties. We have, therefore, no right to say it cannot be grown profitably. The man who can grow the Zante currant successfully has a fortune. The white variety of currant is quite common here, but is too small and too poor a bearer to pay for cultivation. The Sultana is the most promising of all the seedless kinds. It is of good size; is productive, and finds a good market. It is bound to supersede the Muscatella in many branches of cookery. I find that the demand increases in a greater ratio than the supply, which is at present limited. It did not attract much attention until last year, and, consequently, has not been planted largely. When its good qualities are known it will be planted more extensively.

The Outlook.

As the question of our ability to make raisins successfully has been fully answered by the amount and character of those put on the market last year, we will now consider the chances for a market.

I believe it is generally conceded that our products have quite shut out the foreign brands, except, perhaps, a few of the choicer grades. Our production more than equals the consumption; our vineyards are constantly increasing; the time has come when we have to seek other markets where our fruit will come in direct competition with that of Malaga.

If we call our best raisins nearly equal to London Layers our average would be about equal to layers. The price of Malaga fruit has been very low since 1875 on account of the depression in business which naturally followed the close of the French and German wars.

We quote, however, the prices of layers in the New York market: In 1875, \$2.15 per box; in 1876, \$1.90; in 1877, \$1.60; in 1878, \$1.85; in 1879, \$1.65; in 1880, \$2.25. It would be hardly right to estimate upon the average of these years, as some of them represent seasons of great depression.

The vineyardists of Malaga complained greatly of the low price of their fruit, stating that the culture was not profitable, that a few years like 1877 and 1878 would bankrupt them. The phylloxera has commenced its ravages there, and, as the vineyards are old and worn, most of them on the hillsides, we may soon expect to hear of a decrease in product and a consequent rise of prices. We may not be able to find a market in the Eastern and Middle States, as they are more exacting in quality, but in the Southern and Western States, and also in the territories, our field is large.

I will not make any estimate upon the profits of the business—there are possibilities in the future beyond my foresight. Those who have made raisins know better what the cost of production is. The present railroad charges are one and a half cents per pound. I see no reason why they cannot be sold in the Chicago market with a profit to the producer.

In order to show the magnitude of the raisin business I will give some statistics from official sources.

REPORT OF RAISINS FROM MALAGA TO THE UNITED STATES:

Year.	Boxes.	Bbls.	Fraile. (60 lbs.)	Value.
1869.....	1,343,005	25,552	20,134	
1871.....	1,227,323	650	26,175	\$2,329,430
1874.....	1,107,533	586	32,806	2,202,637

ENTERED FOR CONSUMPTION.

Year.	Bbls.	Value.
1876.....	32,221,085	\$2,425,277
1877.....	32,419,637	2,109,334
1878.....	32,931,736	1,904,806

Year.	Bbls.	Value.
1876.....	20,911,061	\$356,426
1877.....	17,152,684	749,488
1878.....	17,941,352	776,327

Duty, 2½ cents @ lb.

CURRANTS.

Year.	Bbls.	Value.
1876.....	20,911,061	\$356,426
1877.....	17,152,684	749,488
1878.....	17,941,352	776,327

Duty, 1 cent @ lb.

Destroying the Phylloxera.

(The following paper was read at the last meeting of the Orthozoic Club by Dr. H. Behr, and furnished for publication in the RURAL PRESS.)

The habits of the phylloxera are at present understood well enough, but still we have no remedy (or, rather, we have too many) against the ravages of this destructive insect, to which its different modes and forms of existence afford a greater protection than to any of its congeners. In itself, a subterranean existence is a considerable protection at least against man and bird, both very powerful factors in the destruction of other insects; but in the case of the phylloxera, to this immunity is added the circumstance that the insect can exist through an indefinite number of generations without sexual intercourse, multiplying all the time not by pairs but by individuals, and enjoying the privilege of a hidden existence, while the winged sexual generations of other aphidians and psyllids are exposed to all the dangers that decimate their short aerial life. If the phylloxera, like other aphidians, were bound to rejuvenate her race once a year by a sexual generation, the period of the appearance of this generation could be watched and used for wholesale destruction of the breeding generation. Sticky substances like molasses, in the neighborhood of a strong light or big fire, whose ascending current of air would absorb millions of the powerless, tiny insects. Unfortunately, the period in which a generation takes to its wings is arbitrary, or at least the laws that regulate the appearance of the winged insects are at present but imperfectly understood.

The success that followed the application of sulphur in the destruction of the oidium, encouraged the students of chemistry to attempt the discovery of an agent equally powerful in the destruction of insect pests, as the sulphur was in the destruction of the fungus pest. Unfortunately, all the preparations recommended were too expensive to be used on a large scale, and nearly all of them destroyed not only the phylloxera, but also the vine, which object, without chemical preparations, could be attained in a much more simple and less expensive way.

It is true nature itself will restore the equilibrium in her usual way. The devourers of the phylloxera will multiply with the abundance of their food, as the phylloxera herself has multiplied on account of the extension of viticulture; but that process is much too slow, and it is the present generation of vintners that wants our assistance.

It has been observed that several of the native grapevines of America do not suffer by the phylloxera. If we can save our vineyards by grafting the different varieties of *Vitis vinifera* on the recommended American species, it is better. We have not yet the experience of a time long enough to pronounce a decisive opinion, but think it rather probable that these grafts for a long time, perhaps forever, will enjoy an immunity from phylloxera. At any rate we have to try this method before we proceed to the

heroic remedy, which, when rigorously executed, will free us from the insect pest. The remedy is a simple one, but it requires great energy, and at the same time concerted action.

Wherever an infected spot shows itself in a vineyard, that spot has to be quarantined; that is, the infected vines must not be touched (the tearing up of infected vines has done a vast deal to spread the pest), but the surrounding apparently healthy vines must be destroyed. Like the amputation of a gangrenous limb, the knife has to be inserted in the sound flesh.

Anybody that has observed the destructive process of the phylloxera, will have observed that the devastation spreads from a center in concentric circles pretty much like a ringworm. If he examines the crippled vines, with their seared leaves, in the middle of the infected spot, he will find scarcely any phylloxera on the roots, but he will find plenty in the apparently healthy vines of the circumference.

Now, it is time to act, and no more time for temporizing until the peripheries of different centers will touch each other, and the ringworms of the destructor be confluent into a great irregularly-shaped ulcer. A big fire must be built on the center of the infected spot, nourished by the tops of the apparently healthy circle of vines around the spot. Care must be taken that no infested vine escapes destruction; better to destroy the innocent vines than suffer that a single infected one should carry the pest to other parts. Large land owners, no doubt, will get rid of the pest in one or two years; smaller vintners have to act in concert—they have to come to an understanding and act simultaneously. This method, which of course requires momentary sacrifices, will save the remainder of the vineyards.

To prevent an invasion of the winged phylloxera, hedges on the boundary line of the purified vineyard will prove a sufficient protection, only the hedges must be thick enough. *Ulex Europæus*, *Acacia verticillata* (Kangaroo island *Acacia*), our *Prunus ilicifolia* will serve that purpose, and perhaps best of all the different species of *Cupressus*.

May be some lucky chemist will yet discover a remedy that destroys the phylloxera, spares the vine and is to be had at a price that is accessible to all. But, unfortunately, discoveries are a matter of chance; we never find what we work for—sometimes better things, sometimes nothing at all. Saul looked for his father's mule and found a kingdom. So our chemists may make the most valuable discoveries that do not help any thing to the vintner or help him when it is too late. Therefore, it is better not to wait too long. When the grafting of native vines fail, face the enemy at once and fight him with the weapons that at present are at our command. I know the method of action requires sacrifice from our other wine suffering vintners, but better destroy a part than to risk all.

RESISTING VINES.—The Sonoma Index says: One year ago Mr. J. Dresel, on the Napa road, planted 12 acres in vines of the Taylor and Clinton varieties, imported from Missouri. This new vineyard was in a district particularly infested with phylloxera. Recently he took up a number of these vines and found that, although they were completely covered with insects, they had inflicted no injury to the vines, but the latter were as vigorous and healthy as any in the country. Should this experiment prove as successful in other cases as it has in the present, its value cannot be estimated; it will at once dispel all fear of the phylloxera, and give an impetus to the viticultural interest of Sonoma valley which will make us the great grape producing center of the Western Hemisphere. Wm. McP. Hill and others intend to send to Missouri for a carload of cuttings of the above varieties. Mr. Hill expects to establish a nursery of these vines and furnish stock to vine growers in this vicinity.

THE SWINE YARD.

Selecting and Rearing Brood Sows.

The Berkshire Bulletin, organ of the Berkshire Swine Breeders' Association, has the following: A brood sow should be a good milker. However good in other respects, if deficient in this, she should hardly be retained as a breeder.

An abundance of milk for the first eight or ten weeks of their existence is the best preparation young pigs can have to fit them for profitable growth in after life. It is not always possible to decide with certainty whether or not a young sow will prove to be a good milker; but as with cows so with pigs—we may learn from observation and trial to know in some degree, judging from their general appearance, what to expect. Much will depend upon the dam and grand dam in this regard. Milking qualities in swine are as surely transmissible to progeny as in cattle. Thus it is as true of swine as of cattle, that this trait may be greatly improved by retaining only good milkers for breeders, as well as by feeding them when young with a view to their development as milk producers rather than as fat producers. For this reason, spring and early summer litters are usually the best from which to select young brood sows. They can be kept through the summer almost entirely on grass, which, if abundant and in variety, will make them grow nicely, and at the same time the ex-

ercise required in grazing will keep them in good health and thrift. By the time cold weather comes on, and corn is to be fed, they will have become nearly old and large enough for service. But even after this, continued care must be taken that too much corn or other fattening food should not be given them. We must, however, bear in mind that at this period all animals naturally lay up fat, which afterward goes to enrich the milk. Hence, while they should not be allowed to become over-fat, they should yet be so fat as to supply this demand of nature, and to retain the general health and vigor of the system.

When they have dropped their first litter, the most they will need for five or eight days will be cooling drinks and very little rich food. Wheat bran scalded and then thinned with cold water, to which may be added a handful of ship-stuff or middlings, may be given. In ten days or two weeks the richness of the food may be gradually increased, great care being taken, however, both as to the quality and quantity, that these changes may not injure the health of the sow, or so affect her milk as to cause scours in the pigs. It is a very common mistake in feeding sows having young pigs to give them too much strong food when the pigs are quite young.

It is not until the pigs are some three or four weeks old that they really begin to tax the sow heavily. Then it is that the sow should be liberally and regularly fed on good, nutritious milk-producing food, and at the same time the young pigs should be taught to feed by themselves at a trough out of the reach of the sow. If thus managed, both sow and pigs are benefited. The strength of the former is kept up, and her disposition to produce an abundance of good, rich milk is so encouraged as to fix this as one of the best traits of her nature, while the pigs, by the extra feed given them, make a corresponding rapid growth, and that at a comparatively small cost.

Young sows brought up in the manner suggested, and thus cared for with their first litters, may be depended upon to do as well or better with their next, provided they have anything like fair treatment. In case, however, a sow fails to prove herself a good milker, after a fair trial, they should be replaced by one of better promise, unless for some special purpose it is thought best to retain her.

THE FIELD.

The Wheat Crop of 1880.

For the purpose of informing our readers of the current estimates of the wheat crop in this country and Europe we quote from a circular issued September 1st by Henry Clews & Co., of New York, who are bankers and interested in wheat only in its possible effects upon the securities in which they deal. We have no means of knowing whether the estimates are correct or not, except in the warranty of the firm publishing them. We quote:

A fair balancing of estimates warrants the conclusion that the wheat crop of the whole country will afford an increase of 35 to 40 million bushels over that of 1879. What the crop of other countries may be best indicated by the estimates presented at the great Vienna International fair, whose annual reports are accepted as authority the world over, and which have just come into our hands. The following are the estimates of that body of the wheat crop of the several countries; 100 being regarded as representing an average crop, and the approximations to that standard being expressed by the percentages specified.

	Per Cent.	Holland.....	Per Cent.
Germany.....	100	Great Britain & Ireland.....	90
Prussia.....	100	Russia.....	90
Saxony.....	125	Estonia.....	75
Bavaria.....	120	Courland.....	80
Franconia and Suabia.....	115	Poland.....	105
Southern Bavaria.....	100	Podolia.....	120
Palatinate.....	100	Central Government.....	60
Baden.....	115	Southern ".....	100
Württemberg.....	95	Bessarabia.....	110
Mecklenburg.....	100	Roumania.....	125
Denmark.....	100	Servia.....	100
Sweden and Norway.....	100	Hungary.....	97½
Italy, Upper.....	130	Cisleitha.....	105
" Central.....	100	Austro-Hungary.....	97½
" Southern.....	115	Egypt.....	100
France.....	90		
Belgium.....	105		

The estimates for Russia are very low, and indicate a complete failure of both the wheat and rye crops. But the fair's estimates for last year's crop were even lower than these; and yet Russia has made a considerable export of wheat within the last 12 months. These returns, taken as a whole, must be regarded as implying an average crop for the whole of Europe; and an average crop in Europe must cause the consumptive demand upon the United States to fall very materially below that of the past year. What England and France may take from us to fill up their depleted stocks and what on speculation, to be carried over to next year's supply, are matters of very uncertain calculation. The quantity to be exported for that purpose, however, is likely to depend very much upon the price of wheat being temptingly low; and the question is a very pertinent one, whether, in the event of low prices for wheat, the railroads would not have to make liberal concessions on freight charges in order to draw it out of farmers' hands.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

A. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Seraphin Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horns, Durhams, and pure bred Cotswold Sheep.

HORSES.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

R. J. MERKELEY, Sacramento, Cal. Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

J. B. HOYT, P. O. Address, Birds Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rangs, \$30 and \$40 each. Ewes, \$40 per head. Also cross-bred Rams from Choice Merino Dam and Shropshire Sire; price, \$20 and \$25 each. Also 1/2 Shropshire and 1/2 Merino Rams for sale.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co. Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanforth, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

BEES.

JOS. D. ENAS, Sunnyside, Napa, Cal. Breeds pure Italian Queen Bees. Imported Queens furnished.



STRAW BERRIES
RASPBERRIES
BLACK GOOSE
A superior stock of all the old and choice new kinds. The largest collection of Strawberries in the U. S. Headquarters for the Cuthbert Raspberry. 5 New White Grapes. Illustrated catalogue, giving cultural notes, harvest descriptions and fair prices, FREE.
J. T. LOVETT, Little Silver, Monmouth Co. N. J.

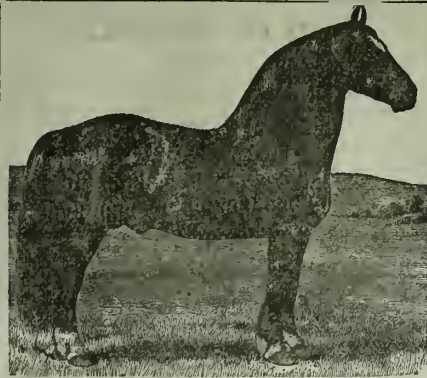
MENZO SPRING,

Manufacturer of the Best

Improved Artificial Limbs.

OFFICE AND ADDRESS:

9 Geary Street, Junction of Market and Kearny, S. F.



Lakeside Stock Farm.

HOLSTEIN CATTLE.

Clydesdale Horses, Hambletonian Horses.

Largest Importers and Breeders of HOLSTEINS in America. Also large Importers and Breeders of CLYDESDALES, and Breeders of HAMBLETONIAN HORSES. Send for Catalogue. SMITHS & POWELL, Syracuse, N. Y.

If orders for a sufficient number of animals to fill a car are received within two months, arrangements will be made for sending a carload, thus making freight on each animal very reasonable.

PATREY'S

Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. EMMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 18, 1880.
MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAHN.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four cent one with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
L. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
O. J. CRESSEY.....Stanislaus Co
SENECA BOWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES OF DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

Rent paid two and a quarter years buys one.

BEST CABINET OR PARLOR ORGANS IN THE WORLD; winners of highest distinction at EVERY WORLD'S FAIR FOR 13 years. Prices, \$51, \$57, \$60, \$54, \$105, to \$500 and upward. Also for easy payments, \$5 a month or \$6.33 a quarter and upward. Catalogues free. MASON & HAMLIN ORGAN CO., 154 Tremont St., Boston; 46 East 14th St. (Union Square), N. Y.; 149 Wabash Av., Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO.

60 Chromo, perfumed, Snowflake & Lace cards, name on all 10c. Game Authors, 15c. Lyman & Co., Clintouville, Ct.

Stock Notices.

HALF-BREED JERSEY CALVES FOR SALE.

From First-Class

AMERICAN DAIRY COWS.

Deliverable at 837 Howard Street, San Francisco, or at San Bruno Station S. P. R. R.

Price, when Dropped..... \$5.00
Or at 50 cents less at JERSEY FARM, San Bruno.

R. G. SNEATH.

EUGENE AVY,

320 Sansome St., S. F.

Wholesale Dealer in



Sheep

— AND —

WOOL COMMISSION MERCHANT.

SHEEP and LAMBS always bought at regular market prices. BUCKS constantly on hand. Liberal advances made on Consigned Wools. Wool Bags and Ranch Supplies furnished at LOWEST RATES.

Full Blooded Berkshires.

I HAVE A GOOD NUMBER OF

FIRST-CLASS BERKSHIRE PIGS,

Both Sex. They are from IMPORTED PREMIUM STOCK—Full Pedigree and Registered. They are really choice and

WILL BE SOLD CHEAP.

ADDRESS, OR CALL ON

GRANT I. TAGGART,

No. 460 Eighth Street, Oakland, Cal.

THE IMPROVED

EVAPORATORS

For Making

SUGAR,

SYRUP

AND

APPLE

JELLY.

Make the best syrup and sugar with less fuel and labor than any other apparatus. Will condense sweet cider into delicious Jelly at the rate of four barrels per hour. Agents wanted. Send for descriptive circulars.

VT. FARM MACHINE CO.,
BELLOWS FALLS, VT.

B.K. BLISS & SONS' HAND BOOK.

A COMPLETE GUIDE FOR THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.

34 BARCLAY ST. NEW YORK.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. F. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 409 Washington St., Boston, Mass.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apisary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Lands for Sale and to Let.

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 15 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

FINE ORANGE ORCHARD FOR SALE.

Three Miles South of Los Angeles.

174 56-100 ACRES,

Comprising 68 acres of ten-year old trees, 5,800 in number, now just beginning to bear. Irrigated from surplus city water at a cost of \$60 per annum. The remainder of the land, 106 56-100 acres is of the finest quality of

DEEP, SANDY LOAM,

The very best of land for Orange, Grape, Olive or General Cultivation. The tract is surrounded by streets, and lies favorably for subdivision. The orchard can be cultivated at a total cost of \$1,800 per annum, and within two years will pay a handsome interest on the investment, which with good management will soon afterwards reach 20%, 30%, and 50% per annum on the sum for which it now can be bought.

For Sale at Foreclosure Prices.

A rare opportunity for a Fortune.

C. T. HOPKINS,

No. 318 California St., S. F.

Sheep Range For Sale.

About 3,169 acres of deeded land, four cabins and corrals; plenty of good water. Has a frontage of four miles on Elder Creek, and is situated in Tehama county, in T. 25 and 26 N., R. 6 W., M. D. M.; will keep 6,000 Sheep. I have a good summer range which I will let go with it. For further particulars apply at the ranch.

G. M. LOWREY.

P. O. address, Red Bluff, Tehama County, California. March 24th, 1880.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberry. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

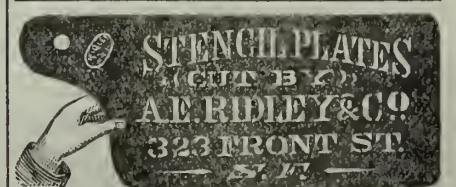
Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.



STENCIL PLATES
AL RIDLEY & CO.
323 FRONT ST.
The two largest, most productive—Mt. Vernon Seedling and Kirkwood, each yielded in 1880 at the rate of 10,000 quarts per acre, and averaged in market 19c per quart. 40 acres Strawberries and Raspberries. Kieffer's Hybrid Blight-Proof Pear. "Forty Years' Experience in Pear Growing," telling how to avoid the Blight. "Forty Years' Arizona Small Fruits," telling what and how to plant. Either sent by mail for 15c; both for 25c. Catalogues of Fruits and Flowers free. WM. PARRY, Cinnaminson, N. J.

Quinine and Arsenic

Form the basis of many of the Ague Remedies in the market, and are the last resort of physicians and people who know no better medicine to employ for this distressing complaint. The effects of either of these drugs are destructive to the system, producing headache, intestinal disorders, vertigo, dizziness, ringing in the ears, and depression of the constitutional health. AYER'S AGUE CURE is a vegetable discovery, containing neither quinine, arsenic, nor any deleterious ingredient, and is an infallible and rapid cure for every form of Fever and Ague. Its effects are permanent and certain, and no injury can result from its use. Besides being a positive cure for Fever and ague in all its forms, it is also a superior remedy for Liver Complaints. It is an excellent tonic and preventive, as well as cure, of all complaints peculiar to malarious, marshy and miasmatic districts. By direct action on the liver and biliary apparatus, it stimulates the system to a vigorous, healthy condition.

FOR SALE BY ALL DEALERS

IMPORTANT additions are being continually made in Woodward's Gardens. The grout walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. Jas. CAVEN, Propr.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Sept. 29, 1880.

There is more activity in the Wheat market and prices show a disposition to improve. Were it not for the high freight rates the market would doubtless show some buoyancy in sympathy with the feeling abroad. There is, however, rather more selling and prices have advanced a small figure.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice	Cal. Wheat.
Thursday.....	9s 4d@9s 8d	
Friday.....	9s 4d@9s 8d	
Saturday.....	9s 4d@9s 8d	
Monday.....	9s 4d@9s 8d	
Tuesday.....	9s 4d@9s 8d	
Wednesday.....	9s 4d@9s 8d	

The Foreign Review.

LONDON, Sept. 27.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: There has been less rain, but the weather was dull and damp and unfavorable for threshing, which has prevented the completion of the harvest in the north. In consequence of the yield of Wheat upon threshing being unequal to any anticipations, sellers have lately assumed a firmer attitude, which was also favored by the moderate amounts of imports as compared with those at the opening of the season. Monday's advance, despite liberal offerings, has been well maintained, while all descriptions of old Wheat have again improved. The old Red Winters are now held for 50s. 6d. quarter against 46s. 3d. weeks ago. There is a general conservative demand, both from town and country millers, which shows how large an admixture of sound dry Wheat is necessary to utilize the English growth. The Continental demand does not appear to be satisfied yet. Several cargoes of Wheat and Maize, off coast, have been taken for France and Holland. The arrivals at ports of call have been small. There has been a steady demand for Wheat for the United Kingdom and Continent, and prices continued to improve. Red Winters closing 6d. to 9d. and Australians 3d. to 6d. higher. Maize was in fair request, and advanced 3d. In Wheat for shipment, Calcutta continued in good demand, and advanced fully 6d. American Reds were more sparingly offered at prices above buyers' ideas. The transactions in Maize were very limited. Barley was quiet but steady. Sales were: English Wheat, 52,118 quarters, at 39s 5d. 1/2 quarter, against 14,188 quarters, at 40s 6d. 1/2 quarter, during the same week last year. Imports into the United Kingdom, during the week ending Sept. 18th, were 1,823,551 cwt of Wheat, and 109,015 cwt of Flour.

Freights and Charters.

There are reports of spot charters of iron ships to Cork or U. K. at 75s, but the nominal rate is about 71s. The following are the latest charters, prior to arrival: British iron ship *Bacchus*, 1,250 tons, Wheat to Cork, £3; British iron ship *Hereford*, 1,513 tons, Wheat to Cork, £3; French bark *Carriote*, 775 tons, Wheat to Cork or Continent, £3; *City of Glasgow*, £3 2s 6d.

New York Dried Fruit Markets.

NEW YORK, Sept. 26.—Foreign Fruits are quiet, pending arrivals of new Fruits. Prices of Raisins are nominal. Prunes are easier, under lower prices by cable; new, to arrive, 5c; 1879 crop, 5 1/2c.

The Oregon Markets.

PORTLAND, Sept. 23.—Inactivity in the local Wheat market continues, with no prospect of immediate improvement. A few small sales are reported to-day at \$1.35 1/2 cwt, but all were minor lots from farmers who required the proceeds for current expenses. Nearly every warehouse is filled with Wheat, and storage is at a premium. Arrivals from Walla Walla and the valley continue heavy. The British iron bark *San Luis*, 591 tons, has arrived; is held at 70s, and will, without doubt, be readily taken at that figure.

Eastern Grain and Provision Markets.

NEW YORK, Sept. 26.—Business is progressing in the main satisfactorily, and the volume of home trade is equal to expectations. In some departments the movement is greater than at the corresponding period last year, even though there is a marked absence of the speculation that was then so rampant. Broadstuffs are in moderate demand, and with a fair degree of activity in Wheat, prices have fluctuated daily but not widely. The market seems to have an undercurrent of weakness, which is expected to develop on October 1st, if deliveries of all that is lying in canal boats' nominal deliverage is delivered on that day. Barley is steadier for Canada-fed four-rowed State; sales of choice a 9d and premium at 95¢@96¢, to arrive. Provisions are dull and weak.

NEW YORK, Sept. 23.—The markets generally are fairly active and prices are steadier. Wheat is active at 1 1/2¢ higher. The demand was both English, Continental and

from the Mediterranean. Barley is held higher and no business. Provisions dull and steadier.

CHICAGO, Sept. 25.—The Grain markets were not particularly active this week, and fluctuations, while offering a fair speculative margin, were not sufficiently marked to induce buyers or sellers to operate very freely. The week opened pretty strong all round, but prices gradually tapered down until to-day the lowest prices of the week were reached. The receipts of the week have been moderately larger than for past weeks, although not half as large as at this period last year. The price of Wheat at this date in 1879 was, however, about \$1.05, which may partly account for the heavier receipts then. Corn receipts have remained at their magnificent volume, nearly 3,000,000 bushels having arrived, against less than half as many last year. The firm tone of foreign advices alone sustains the home quotations under this tremendous strain of production and shipments from first hands. The sales of the week were, for the November option: Wheat 91¢@93¢; Corn, 40¢@42¢; Oats, 25¢@26¢; Pork, \$12.70@13.15; Lard, \$7.80@8.00. Provisions have remained firm, under the influence of the strong cornering that is going on, and the fact of hogs having come in more moderately has also tended to strengthen the market. The closing feature, was, however, of general weakness. The closing cash prices were: Wheat, 90¢@90 1/2¢; Corn, 39 1/2¢@39 3/4¢; Oats, 29¢; Rye, 32¢; Barley, 75¢; Pork, \$17.75@18; Lard, \$7.55@7.87 1/2.

Eastern Wool Markets.

NEW YORK, Sept. 26.—Wool is in a trifle better demand, and prices are steady. Sales embrace 6,000 lbs Spring California at 28¢@34¢; 63,000 lbs ditto, and 25,000 lbs Fall, private.

PHILADELPHIA, Sept. 23.—Wool is quiet and steady, prices slightly in buyers' favor; Oregon fine, 26¢@28¢; new Mexican and Colorado fine, 16¢@23¢; medium, 25¢@28¢; coarse, carpet wool, 19¢@21¢; pulled extra Merino, 33¢@38¢; super, 35¢@40¢.

Boston, Sept. 25.—The Woolen market is steady and firm, with a fair demand from manufacturers and full prices obtained. Holders are more indifferent about selling, except at full current rates. A large number of buyers have been in the market, and some are disappointed at not being able to purchase at the concessions made for a few small lots some weeks ago. California Wool is in good request, and pulled Wool more active. There is no change in combing and delaine fleeces. Sales include Ohio, Pennsylvania and West Virginia X, XX, XXX and No. 1, at 44¢@45¢; Michigan X and No. 1, 38¢@45¢; Wisconsin and Indiana X, XX, and above, 39¢@42¢; New York X, 33¢@37 1/2¢; combing and delaine, 44¢@47 1/2¢; unwashed combing and delaine, 32¢@37 1/2¢; Eastern and valley Oregon, 33¢@37 1/2¢; Texas, 20¢@31 1/2¢; Territory, 27¢@32¢; Georgia, 35¢; unwashed and unmerchandise fleeces, 23¢@25¢; tub washed, 50¢; Spring California, 35¢@37 1/2¢; Fall California, 39¢; superfine and X pulled, 34¢@39¢; secured, 40¢@50¢; Montevideo, 34¢; Australia, 32¢@45¢; Merino pulled, 67¢. The total sales for the week were 2,077,250, of which 1,805,050 were domestic.

The London Wool Sales.

LONDON, Sept. 25.—At the Wool sales to-day 5,900 bales were sold, chiefly New Zealand and New South Wales. The bidding continued brisk, and prices were firm to the close. Out of 285,000 bales offered during the series, all was sold except 34,000 withdrawn.

BAGS—There is a fair trade doing at the same rates as last week. The feeling is firmer, owing to the continued demand.

BARLEY—Barley is beginning to move freely overland at the shockingly low level to which the best Brewing and Chevalier have fallen. We note sales: 2,000 sks coast Chevalier, \$1; 400 do light Brewing, 85c; 600, 430 and 200 do choice Coast Feed, 80c; 500 and 400 do good do, 77 1/2c; and 5,000 do choice Bay Brewing, for overland shipment, 92 1/2c; 5,000 sks coast Chevalier, 90c, also for overland; 950 sks, Coast Feed, 77 1/2c; 1,000 do choice, 80c 1/2 cwt.

BEANS—There is no change. There are now no dry Lima Beans on hand, and consequently there is no price to quote. The price will have to be established when the first of the new crop arrives.

CORN—Corn is unchanged, and nothing is selling except occasional small lots.

DAIRY PRODUCE—Butter is still in the ascendant, and there have been sales of fancy reported at 40c. The bulk of the strictly choice, however, goes at 37 1/2c, or a fraction above. Cheese is now rated at 15c for the finest California.

EGGS—Fresh California Eggs have been a little more abundant, and the rate has shaded off a trifle, although some strictly choice reach 37 1/2c.

FEED—Corn Meal is reduced. Hay ranges from 7.50¢@12.50¢, generally the latter for choice Wheat. The receipts have been quite large of late, but prices have been sustained by the extensive purchases for winter use by city horse owners and stable men.

FRUIT—There is very little new in the Fruit market. The sales run along with but little variation in value, and supplies are not excessive.

FRESH MEAT—Live hogs are doing 1c better 1/2 lb, the range being 41¢@43¢ 1/2 lb.

HOPS—There are large receipts and numerous sales, although some lots are still held above the market. The range for choice California Hops is 10¢@22c. We note sales of 240 bales at 20¢@21c; a part of them being Washington Territory Hops, which are now arriving.

OATS—Unchanged. We note sales of 1,000 sks Feed at \$1.20; 500 sks do, \$1.22; 400 sks good Humboldt Feed, \$1.35.

ONIONS—Reds are unchanged; Silverskins range higher, being from \$1.12@1.25.

POTATOES—There is no change, except in Sweet; which are selling from 60¢@75¢ 1/2 cwt.

PROVISIONS—The demand for Meat products of all descriptions is very active, and prices well maintained at quotations, which are advanced from last week's rates.

POULTRY AND GAME—There is no change in Poultry or Game Ducks. Quail are doing a little better.

VEGETABLES—Our list shows a few slight changes. Canteloupes are doing much better this week.

WHEAT—Our quotations are advanced 2 1/2c per cwt, which seems to be the measure of the present rise so far.

We note sales: 250 tons common Shipping, \$1.27 1/2; 3,800 sks good Milling, \$1.40; 4,000 cwt off grade at \$1.20@1.25; 500 sks poor superfine, \$1.12 1/2; 250 and 214 sks choice Milling, \$1.42; 100 tons choice Shipping, \$1.37 1/2; 80 tons and 830 sks good do, \$1.35; 400 tons and 1,000 sks fair do, \$1.30; 60 tons No. 2, \$1.27 1/2; 300 do to a shipper, \$1.25@1.27 1/2; 125 do poor Shipping, \$1.25; 125 do and 500 cwt Coast, \$1.22; 200 tons off, to a shipper, \$1.20@1.25; and 300 sks Odessa, \$1.10 per cwt.

WOOL—We drop most of our Spring Wool quotations, as the stock is now well cleaned out. Anything there may be back will come within the range we retain for Spring Wool. In Fall Wools there is absolutely no change during the week, and the market is reported quiet by all dealers.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Sept. 29, 1880.

FRUIT MARKET.		PEACHES.	
Apples, basket.....	40¢@75¢	do pared.....	18¢@20¢
do, box.....	37 1/2¢@1 00	do, sliced.....	8¢@10¢
Apricots, bx.....	1 00	do, peeled.....	9¢@11¢
Bananas, bunch.....	2 50@4 00	Plums.....	5¢@6¢
Blackberry's chat.....	2 50@5 00	Pitted.....	14¢@16¢
Cherry Plums, bx.....	30¢@40¢	Raisins, Cal, bx.....	15¢@17 1/2¢
Citrons, Cal, 100.....	—	do, Halves.....	1 75¢@2 00
Cocoanuts, 100.....	7 00@8 00	do, Quarters.....	2 00¢@2 25¢
Crab Apples, bx.....	50¢@60¢	do, Elgths.....	2 25¢@2 50¢
Figs, black, bx.....	50¢@1 00	London Layer bx.....	—
Grapes.....	—	do, Halves.....	2 25¢@2 50¢
Cornicob.....	1 00¢@1 25¢	do, Quarters.....	2 50¢@2 75¢
Sweetwater.....	40¢@60¢	do, Elgths.....	2 75¢@3 00¢
Muscats.....	50¢@75¢	Zante Currants.....	8¢@10¢
Rose Peru, bx.....	40¢@60¢	VEGETABLES.	
Big Hamburg.....	40¢@60¢	Asparagus, bx.....	—
Tokay.....	60¢@85¢	Beets, cwt.....	1 00
Limes, Mex.....	16 00¢@18 00	Beans, String.....	—
do, Cal, box.....	1 75¢@2 25¢	Cabbages, 100 lbs.....	40¢@50¢
do, large, box.....	8 00¢@7 00	Canteloupes, crt.....	75¢@1 25¢
Lemons, Cal, bx.....	3 00¢@3 50¢	Carrots, sk.....	—
Sicily, box.....	8 00¢@9 00	Cauliflower, doz.....	—
Australian.....	5 00¢@6 00	Chile Peppers, sk.....	50¢@60¢
Nectarines, box.....	1 00¢@1 50	Cucumbers, box.....	25¢@40¢
Oranges, Cal, bx.....	3 75¢@4 75¢	Egg Plants, bx.....	50¢@75¢
do, Tahiti.....	30 00¢@35 00	Garlic, New, lb.....	4¢@5¢
do, Mexican.....	—	Green Corn, doz.....	10¢@18¢
Peaches, bx & bsk.....	75¢@1 50	Green Peas, lb.....	2¢@3¢
Pears, box.....	40¢@50¢	Lettuce, doz.....	10¢@—
do, Bartlett.....	75¢@1 75¢	Mushrooms, lb.....	—
Pineapples, doz.....	6 00¢@7 50	Onions.....	—
Plums, bx.....	50¢@1 00	Raspberries, cwt.....	—
Prunes, German.....	1 75¢@1 25¢	Strawberries, cwt.....	8 00¢@10 00
Quinces.....	1 00¢@1 25¢	Sugar Cane, bble.....	—
Raspberries, cwt.....	—	do, fat, tn.....	8 00¢@10 00
Strawberries, cwt.....	8 00¢@10 00	Summer box.....	25¢@35¢
Sugar Cane, bble.....	—	Tomato, box.....	35¢@40¢
Apples, sliced, lb.....	7¢@8¢	Sacramento.....	35¢@40¢
do, quartered.....	7¢@8¢	Stockton.....	35¢@40¢
Apricots.....	17¢@19¢	Bay.....	—
Blackberries.....	—	Turnips, cwt.....	50¢@60¢
Citron.....	27¢@28¢	White.....	50¢@60¢
Dates.....	9¢@10¢	Watermelons, 1/2.....	100¢@7 00
Figs, pressed.....	7¢@8¢		
do, loose.....	4¢@6¢		

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.

CASH ADVANCES Made on CONSIGNMENTS

DALTON & GRAY,
Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

— AND —

DEALERS IN HAY, GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

503 & 507 Sansome St. (Niantic Building), S. F.
Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth St., bet. Julian & Empira, San Jose, Cal.
Branch House in Honolulu, H. I.



Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

Price Current for October, 1880.

ISSUED MONTHLY BY

Sbarboro & Co., Pioneer Grocers,

(Established in 1855.)

531 WASHINGTON ST., San Francisco.

SUGARS.

Crushed (A) 1/2 lb.....	11¢@11 1/2¢
Granulated White (dry) 1/2 lb.....	11¢@11 1/2¢
Golden 1/2 lb.....	11¢@11 1/2¢
Light Brown 1/2 lb.....	8 1/2¢@9¢
Brown 1/2 lb.....	8¢@8 1/2¢

COFFEES.

Costa Rica Green, No. 1, 1/2 lb.....	15¢@16 1/2¢
Old Gov. Java, 1/2 lb.....	22¢@25¢
F. only Roasted 1/2 lb.....	22¢@25¢
Fresh Ground 1/2 lb.....	22¢@25¢

TEAS.

Black Oolong (choice), 1/2 lb.....	25¢@50¢
Black English Breakfast 1/2 lb.....	50¢@1 00
Mixed Green and Black 1/2 lb.....	50¢@75¢
Japan (natural leaf), 1/2 lb.....	25¢@50¢
Green Young Hyson, 1/2 lb.....	75¢@1 00
Green Gunpowder, 1/2 lb.....	75¢@1 25¢

CANNED GOODS.

Oysters, (cans) 1/2 dozen.....	\$1 25¢@2 75
Lobsters, 1/2 dozen.....	2 00¢@3 50
Clams, 1/2 dozen.....	3 00¢@4 00
Assorted Pic Fruit, 1/2 dozen.....	1 75¢@2 00
Assorted Table Fruit, 1/2 dozen.....	2 75¢@3 00
Green Corn, 1/2 dozen.....	1 75¢@2 50
Salmon, 1/2 dozen.....	1 45¢@2 50
Jams and Jellies, 1/2 dozen.....	3 00¢@3 50

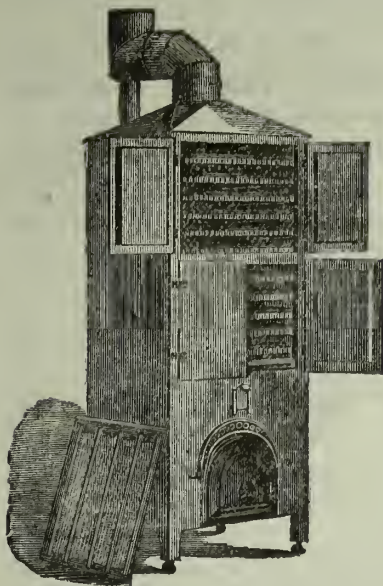
EXTRACTS.

Assorted Flavoring, 1/2 dozen.....	\$1 50¢@2 00
------------------------------------	--------------

MISCELLANEOUS.

Soap, 1/2 box.....	80¢@90¢
Starch, 1/2 box.....	75¢@1 00
Syrup (golden), 1/2 keg of 5 gallons.....	50¢@75¢
Salt, 1/2 sack (50).....	50¢@60¢
Rice (choice table), 1/2 lb.....	07¢@08¢
Yeast Powder, 1/2 dozen.....	1 50¢@2 00
Green Tartar, 1/2 lb.....	40¢@50¢
Spices, assorted, 1/2 dozen bottles.....	1 50¢@1 75
Kerosene, 1/2 can, 5 gallons.....	1 00¢@1 75
Bird Seed, 1/2 bushel.....	05¢@06

Awarded at Fifteenth Industrial Exhibition—1880.



LOCAL AGENTS WANTED.

C. HERRMANN, 336 Kearny St., near Pine.

414 & 416 CLAY ST., San Francisco.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

JOSEPH F. HILL,
MANUFACTURER OF FIRST-CLASS
Buggies, Farm & Freight Wagons.
OF ALL DESCRIPTIONS
Cor. Thirteenth and J Sts., Sacramento, Cal.
 Repairing promptly attended to

Pay Cash in advance—\$3 a year for the
Rural Press. Credit rates, \$4.

Music Books for Schools.

THE WELCOME CHORUS.—(\$1. or \$9. per dozen.) By W. S. TILDEN.
This is a new and superior HIGH SCHOOL SONG BOOK with advanced elements, and a great variety of music, secular and sacred, to be sung in one, two or four parts. Mr. Tilden's previous works have been highly approved.

SONG BELLS.—(50 cts.) By L. O. EMERSON.
No more attractive SONG BOOK has for a long time appeared. It is not graded, and will do for any class. Great variety of songs, subjects selected with great skill, and music is of the best.

Introduce our new SABBATH SCHOOL SONG BOOK, **WHITE ROBES**, (30 cts.) at once to your Sunday School. No better book exists!

Books for Music Teachers for the Fall Campaign. All are good and practical books. Do not fail to examine them.

EMERSON'S VOICE OF WORSHIP (\$1.), for Singing Schools.

PERKINS' TEMPLE, (\$1.), for Singing Schools.

JOHNSON'S NEW METHOD FOR SINGING CLASSES, (60 cts.)

JOHNSON'S PARLOR ORGAN INSTRUCTION BOOK, (\$1.50.)

N. E. CONSERVATORY METHOD FOR PIANO, (\$3.)

Also, subscribe now for The Musical Record, (\$2.), a Weekly Musical Paper with all the news.

Any book sent post-free, for the retail price.

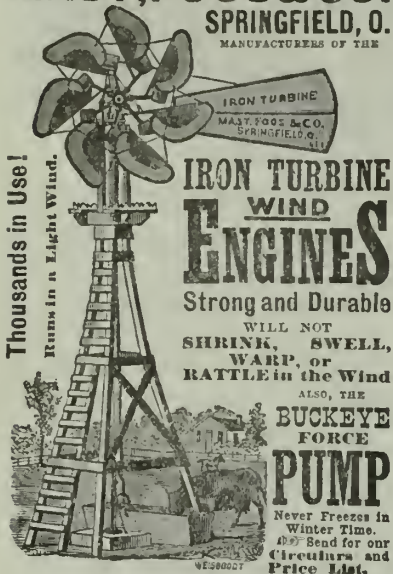
OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE BUCKEYE FORCE PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

To D. E. GOLDSMITH, General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

L. P. DECEN.

MANUFACTURER OF



Also Water-Proof Leather Belting.

NO. 10 FREMONT ST., near Market, SAN FRANCISCO

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlour and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address, TAYNTON & DERRICKSON, Clayton, Contra Costa County, Cal.

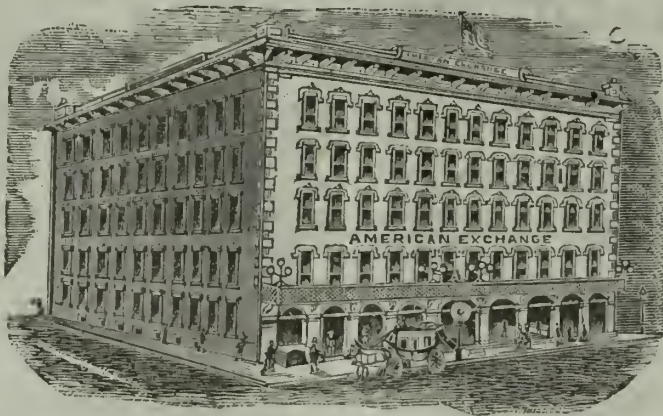
50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.

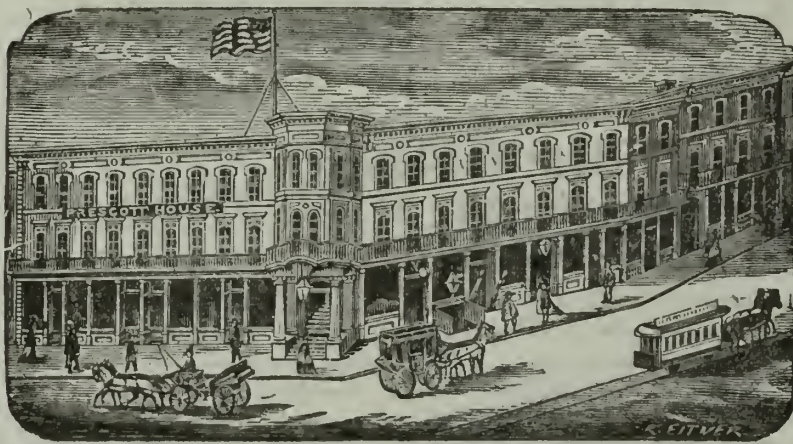


The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

RICHARDS & SNOW,

SUCCESSORS TO BARKER & SNOW,

IMPORTERS OF

IRON PIPE AND PLUMBERS' STOCK.

Sole Agents for the Yale Lock Mfg Co.,

AMERICAN TACK CO.,

AND FOR THE SALE OF AMOSKEAG AXES.

406 & 408 MARKET ST., S. F.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouse, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layres Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F

50 Perfumed, gilt edge & chromo Cards, inelegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct

M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOK & GREGORY

PACIFIC RURAL PRESS.

A first-class 16-page Illustrated Agricultural Weekly, filled with fresh, valuable and interesting reading. Every farmer and ruralist should take it. It is immensely popular. Send for a sample copy.

DEWEY & CO., Publishers, S. F.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

AND NOT WEAR OUT. SOLD by Watchmakers. By mail, 50 cts. Circulars FREE. J. S. BIRCH & CO., 38 Dey St., N. Y.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street, Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '83 we have given special attention to diseases of the brain and nervous system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

W. E. CHAMBERLAIN, JR.

THOS. A. ROBINSON



Life Scholarships, \$70.

SEND FOR CIRCULAR

HOPE FOR THE DEAF

Garnett's Artificial Ear Drums

PERFECTLY RESTORE THE HEARING and perform the work of the Natural Drum. Always in position, but invisible to others. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address JOHN G. RAYMOND & CO., S. W. Corner 6th & Race Sts., Cincinnati, O.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.



Lowest prices ever known on Breech-Loaders, Rifles, and Revolvers. OUR \$15 SHOT-GUN at greatly reduced price. Send stamp for our New Illustrated Catalogue (B) P. POWELL & SON, 239 Main Street, CINCINNATI, O.

Engraving

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco at favorable rates.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes.

Positively self regulating with no coiling or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to **MATTESON & WILLIAMSON,** Stockton, Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street, San Francisco.



Windmills!
HORSE POWERS!
TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

TRADE



MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to **FALKNER, BELL & CO.** Sole Agents, 430 California Street, S. F.

50 Elegant, All New, Chromo & Scroll Cards, no 2 alike. Name nicely printed, 10c. Card Mills, Northford, Ct.

SECURE PATENTS



Through **Scientific Press** Patent Agency.

OUR U. S. AND FOREIGN PATENT AGENCY presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library containing official American and foreign reports, files of scientific and mechanical publications, etc. All worthy inventions patented through our Agency will have the benefit of an illustration or a description in the MINING AND SCIENTIFIC PRESS. We transact every branch of Patent business, and obtain Patents in all countries which grant protection to inventors. The large majority of U. S. and Foreign Patents issued to inventors on the Pacific Coast have been obtained through our Agency. We can give the best and most reliable advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and Circulars free. **DEWEY & CO., PATENT AGENTS.**

A. T. DEWEY. W. B. EWER. GEO. H. STRONG.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

In consequence of spurious imitations of

LEA AND PERRINS' SAUCE,

which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and see Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

To be obtained of **CROSS & CO.,** San Francisco.

RECORD OF SUPERIORITY.

1878—AWARDED
J. H. STROBRIDGE,
First Premiums:

Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes..... 22.50
Pen 5—Ewe Lambs..... 22.50
Pen 3—Ram Lambs..... 22.50
Yearling Ram (1st and 2d)..... 35.50
Two-year-old Ram..... 22.50
Ram and five of his Lambs..... 30.00

Sweepstakes:
For best Ram of any age or breed,
and five of his Lambs..... 75.00



1879—AWARDED
J. H. STROBRIDGE,
First Premiums:

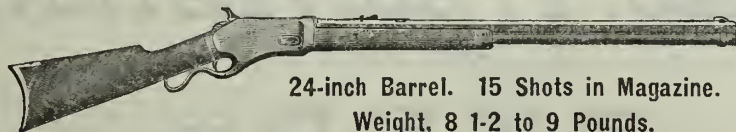
Pen 5—Breeding Ewes.....\$22.50
Pen 5—Yearling Ewes..... 22.50
Pen 5—Ewe Lambs..... 22.50
Two-year-old Ram..... 22.50
Yearling Ram..... 22.50
Ram and five Lambs..... 30.00
Pen of 3 Ram Lambs..... 22.50

Sweepstakes:
For best Ram of any age or breed..... 75.00

THOROUGHbred SPANISH MERINO SHEEP.

We offer for sale this season 100 head Superior Rams, Yearlings and two-year-olds. Also 100 head Yearling Ewes and 50 head aged Ewes. These sheep are all free from disease. Are LONG STAPLED, WHITE WOOLED and HEAVY SHEARERS. Have a faultless constitution. Are larger and in better condition than any flock of Thoroughbred Spanish Merino Sheep in the State. Prices the same as last year. Orders by mail promptly filled. Our Ranch is only 14 miles from Oakland by rail. Trains running each way every few hours. **J. H. STROBRIDGE,** Haywards, Alameda, Co., Cal. E. W. PEET, Agent.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,
416 Market St., San Francisco.

SEEDS.

ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.
POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

Brown Leghorn Eggs.

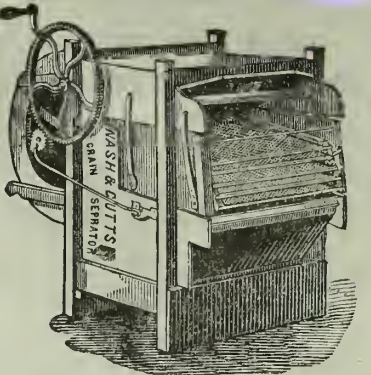
BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR,** 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

SADDLES, HARNESS, WHIPS, LEATHER.

W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

STILL AHEAD!

Trade Mark.
"The Improved Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly. Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, cheat, barley, oats cracked wheat, etc., in a satisfactory manner, but is also successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

906 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific coast.

4th. We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

OIL PORTRAITS.

—The Best—

At **Lussier & Hill's New Studio,**

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

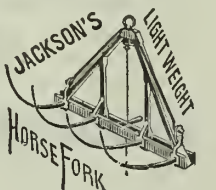
P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Felling Derricks, Hauling Straps, Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. **WINDMILLS** for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address **BYRON JACKSON, Prop'r.**



DO

NOT FAIL to send for our Price List for 1880. Free to any address upon application. Containing descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address **MONTGOMERY WARD & CO.,** 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

580 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wheats. Apply to **A. SCHULLER,** 209 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best **GOPHER TRAP**

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$9 per doz. Address, **G. W. JOLLY,** Paraiso Springs, Cal. Pat. ap'd for



YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. **STEVENS BROS.,** Northford, Conn.

The Best FORCE FEED CRAIN DRILL in the World!

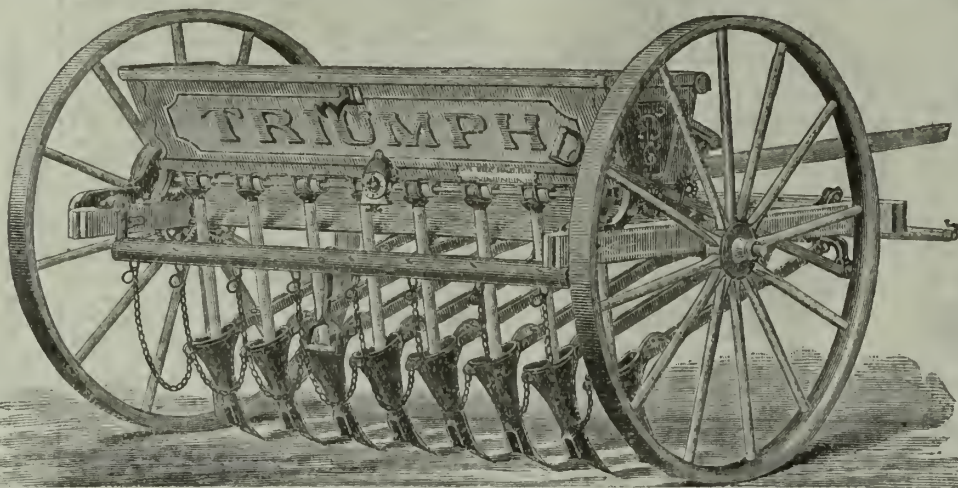
DRILLS FROM ONE PECK
TO ANY QUANTITY PER ACRE

Does Not Crack The Grain.

IMPROVED BUCKEYE TRIUMPH.

The Triumph Grain Drill possesses many features of merit peculiar to it alone, to which we invite the careful attention and consideration of every farmer contemplating the purchase of a Grain Drill.

It has been rightly named the Triumph, for, wherever introduced, it has triumphed over all competitors, and taken the lead as the most regular grain sower, and most reliable Drill in the market, and in those sections where most generally introduced, and therefore best known, have its sales most rapidly increased. This increase can not but continue, for the perfect satisfaction which the Triumph has in all cases given, makes every farmer owning one an advertiser of its merits. We can with confidence and pride refer to thousands who are using it, knowing that they who have practically tested it, and are most thoroughly acquainted with it, are its warmest friends and admirers.



THE MOST REGULAR GRAIN SOWER IN THE MARKET.

BY COMPARISON

THE TRIUMPH

WILL BE FOUND TO BE

Inferior in no Respects,

Equal in all Respects,

SUPERIOR IN
Many Respects to any Drill Made.

Price, Weight, Etc., of Buckeye
Triumph Drills.

9 Hoe, 8 inch....	Weight.....	\$105 00
11 Hoe, 7 inch....	"	\$120 00
13 Hoe, 7 inch....	"	\$130 00
15 Hoe, 7 inch....	"	\$150 00
17 Hoe, 7 inch....	"	\$175 00
19 Hoe, 7 inch....	"	\$195 00
21 Hoe, 7 inch....	"	\$205 00

IMPROVED GEM SEED SOWER.

SOMETHING NEW.

Advantages of the Gem Belt.

The Gem Belt has two valves that supply the Distributor with grain—one for each side of the wagon; therefore one may be closed when sowing by a fence, ditch, or land that is not to be sown.

The Distributor of the Gem whirls around horizontally, and throws the seed with great force to the right or left, but does not throw it up or down.

The Gem does not throw the seed up into the air, to be blown about by the wind, but throws it sharply to the right or left.

The Distributor of the Gem Belt Sower is run by a quarter-turn belt, as shown in the engraving, instead of gearing.

The advantages gained on the chain are, smoothness of movement, noiselessness while running, durability of the fast running parts, and the evenness with which it sows the grain.

The Gem sows blue-stoned grain perfectly. The Gem sows about 60 feet wide.

Prices—No. 1 Gem, to run with chain and bevel gear, weight 132 lbs., \$30; No. 2 Gem, to run with belt gear, weight, 154 lbs., \$35; No. 3 Gem, to run with all gears, weight, 165 lbs., \$40. No. 3 only made to order.

The Gem Seed Sower can only be obtained from us, as we are the sole manufacturers.

AHEAD OF THEM ALL!!

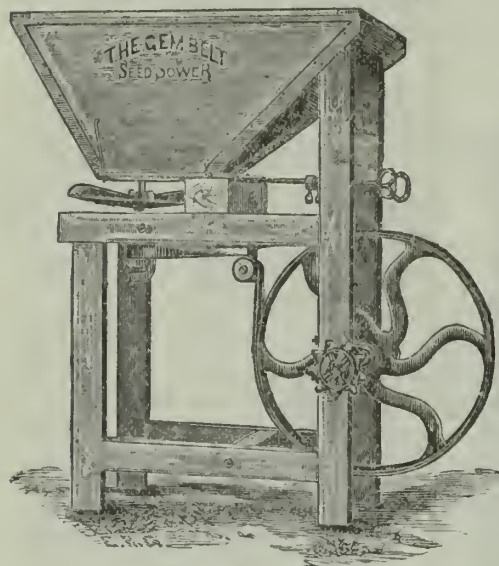


CHILLED PLOW.

IS THE LIGHTEST DRAFT PLOW EVER INVENTED.

Hardest CHILLED IRON PLOW Manufactured.

Combine all the excellencies of any Plow in use. It obviates all the objections made to any other Plow, and will scour in soil where all steel Plows and other Plows hitherto proved a failure. The Mold Boards and the wearing parts of these Plows are made of Chilled Iron, as repeated tests have demonstrated, to the satisfaction of all, this its great strength and susceptibility to a fine polish gives it a great advantage over all other materials in any kind of soil. Send for Circular.



NO. 2 GEM BELT SOWER, \$35.

BAKER & HAMILTON, San Francisco, Cal.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 percent, per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

Baling
Fencing
Telegraph
Telephone
Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

CEO. F. SILVESTER,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

GREAT REDUCTION IN PRICES

Seed Warehouse, 317 Washington St., San Francisco.

LASH'S

ADJUSTABLE FRUIT GATHERER.

Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. Also, sole agent for Pacific Coast of HECOR FORCE PUMP, with patent stone cylinders, making them acid proof. The best pump yet invented.

T. M. LASH, 601 N St., Sacramento, Cal.

AUTOMATIC

STOCK FEEDER!

FOR HORSES AND CATTLE.

A simple contrivance for saving time and labor, and Feeding regular. The Clock and Trap complete, ready set in barn for use, \$15. Each extra Stall, \$5.

J. B. TUPPER, Agent.

Petaluma, Sonoma County, Cal.

A. J. PLATE & CO.,

Guns, Pistols, Sporting Goods

MILITARY GOODS AND REGALIA,

HAVE REMOVED

From No. 510 Sacramento and No. 325
Montgomery Street, to

Nos. 418 and 420 Market Street.

The Cheapest way to Obtain Currant
Plants. Five Dozen Cuttings
for One (\$1.00) Dollar.

On receipt of one dollar I will send by mail, post-paid, One Dozen Cuttings of each of the following five varieties, with instructions for planting, viz.: Cherry, Victoria, Red Dutch, White Grape and Black Naples. The cuttings do best planted in the fall, but can be planted in the spring, or any time during the winter when the ground is not froze.

CHAS. R. HUNTER,

Drawer 218, East Saginaw, Mich.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.



Volume XX.]

SAN FRANCISCO, SATURDAY, OCTOBER 9, 1880.

Number 15

The Lesson of a Tragedy.

Last week we made a few general remarks concerning the importance of nominating only good men for public office. The evil of doing otherwise is seen in the recent tragedy in Santa Barbara. A man was there named for an important trust. His record and characteristics were such that a newspaper published in the interest of his own party, was forced to call attention to his unfitness. The candidate shot the editor without warning, and is now in prison on a charge of murder; while his victim, a worthy man, now lies in his untimely grave, and his family are without husband and father. It was murder most foul. The provocation which was a pretext for the deed, was only such temperate statement of truth as editors must make in the interest of the common good, which they must serve if they are true to their calling. It was devoid of aggravation or of sensational phases which sometimes goad a man against his will to murderous deeds. It was a temperate accusation of unfitness, which any man is entitled to hold and urge when the claimant for public office has in truth the characteristics attributed to him. The candidate, according to all we hear of his history, was a man given to hawls; a man who had time and again outraged the good sense of the community; a man wholly unfit for any position of public responsibility or trust. He has given new proof of his unfitness. He has murdered a worthy citizen; he has brought shame upon the fair name of the place which gave him a home. The county has been saved the curse of such a man in public office, but at what a price! No man can estimate the value of an upright, industrious man. He who robs the community of such a one is an enemy of every interest of the community.

Where rests the blame for the Santa Barbara murder? Principally upon the murderer of course, and his expiation must come. But behind him stands the organization which consented that he should be a leader in an issue for an important office. The character of the man was well known. His life has shown that he had no regard for virtue, for honor or for human life. There ought to be such scrutiny and unyielding opposition to unworthiness, that such a man would never dare to present himself for nomination to public office; or if, hardened in his evil course, he dared face the community, there should be such interest and disposition on the part of the people that his claim would be summarily dismissed. If such men can be crushed in the primaries, as they would be if citizens discharged their duty to themselves, we should never see the fatal rising of an unclean man, and the public service would never be blotted by the robberies and murders which now play so prominent a part in political affairs.

Some of the most valuable lessons are most dearly bought. Let not the present one pass unnoticed. The county has escaped the domination of a wicked man, and no one knows what outrages might have prevailed during the career of a man with such murder in his heart. Every county, every township, every village should take warning, and resolve that no public interest shall be intrusted to such hands. Evil in individuals must be made odious if we are ever to eliminate evil from public affairs. Let there be from this time henceforward a new code adopted in the naming and electing men to office, and a standard of integrity and purity elevated. If this be achieved, the life of the murdered man at Santa Barbara will not have been laid down in vain.

THE CUZCO CORN.—Our agricultural notes contain items of the growth of this new corn in two parts of the State. One account speaks of the grain as a failure; the other as a success. This is as might be expected for the plant will not be found to depart from the rule of adaptations to certain conditions of sun and soil. The tallest Cuzco we have heard of is reported from near Gnerneyville, Sonoma county, where a stalk stands 19 ft. high, 14 inches between joints, and 4 inches in circumference. The ears are defective.

LOW DOWN MUSCATS.—We met Mr. Blowers, of Woodland, the other day with a package of Muscatels, which he had gathered to illustrate his belief that the true way to secure a thin, tender-skinned grape for a good raisin, was to grow the grapes as low down as possible; quite near the ground. He and his grape-growing friends who have visited his vineyard have made special examination this year, comparing the

TRANSPORTATION.—Transportation topics continue to be full of interest. It is now announced by telegram from the East that the Atchison, Topeka and Santa Fe Railroad Company has just completed 35 miles of a new road in New Mexico, from Succorro to San Marcial, and expects to have enough more completed by January first to make connection with the Southern Pacific railroad. This will bring into operation



TALL PANIC GRASS—*Panicum Virgatum*.

grapes grown high up and exposed to the wind with those grown below and sheltered. The result has always been a verdict in favor of the low-grown clusters. They are just about as sweet, possibly not quite so musky, but their tenderness of skin has been very noticeable. All the grapes of the Muscat family may be grown low down, as the nature of the vine takes kindly to such treatment.

DURING September over 12,000,000 bushels of grain was shipped from New York for Europe, employing 300 vessels.

another overland road, and it seems quite likely that the winter travel will turn that way to avoid the snow blockades of the northern route. Another year it is announced will give us a through line to the Gulf of Mexico, and the Northern Pacific enterprise is taking on new vigor, and may ere long stretch through. Beyond this is the Canadian Pacific which the Government is pledged to build, and for which capital is now being secured in Europe. De Lesseps is still pushing his Panama canal, and at last accounts had formed a syndicate with \$50,000,000 in its pockets. Thus matters go along.

Tall Panic Grass or Switch Grass.

We give on this page an engraving of a grass which will be recognized by many of our readers who hail from the prairie States, as it forms one of the leading factors in prairie pastures, especially in the low moist localities. It is one of the large family of "panic grasses", and specifically is *Panicum virgatum*, and is usually called "switch grass" by the farmer. It is a tall perennial grass, from three to five ft. high, and growing mostly in clumps or bunches. It is a good pasture grass and is relished by stock. It also makes good palatable hay when cut young, but it speedily becomes woody if left too long.

The analysis of the composition of tall panic grass, as made by the chemist of the Agricultural department at Washington, shows that it is not of very high nutritive value as compared with many other grasses. In our last note upon a pasture grass we instanced the difference in chemical composition between *Sorghum Halapense* and *Sorghum nutans*, two grasses of the same genus, showing the great superiority of the former. A similar variation in quality exists among the panic grasses. It may be seen by comparing the crab grass (*Panicum sanguinale*), which we lately illustrated with the one which we present this week, as follows, taking account only of matter acknowledged to be nutritive:

	Crab Grass.	Switch Grass.
Oil.....	2.87	1.75
Sugars.....	9.88	9.61
Albumenoids.....	9.99	4.58

The deficiency in albumenoids or flesh-forming materials is quite noticeable. However, although the analysis of a grass is one element in its value, there are many points of habit of growth, adaptation to peculiar situations, amount of yield, etc., etc., which must always be taken into account when judging a foreign plant.

CALIFORNIA STOCK FOR CENTRAL AMERICA.—There are now and then indications that California will be looked to for the supply of improved stock which the progress of agriculture in the countries around the Pacific ocean will demand. Already we have sent thoroughbred stock to the coast of Asia, the Sandwich Islands, to Mexico, and probably beyond. We have a fine supply, as any appreciative visitor to this year's fairs must have seen. In Short Horns and Jerseys among the horned stock, we are rich, in sheep we are well supplied with as good Spanish and French merinoes as can be found anywhere, and there are small hands of the famous English long and middle woolled sheep of creditable quality. In horses, California stands out well toward the front. The thoroughbred, the trotter, the draft horse breeds, and the splendid compromise animal for the road and the field—all these are being bred with great care and skill, and California is destined to produce as fine horses as the world has ever seen. The latest indication that our progress in the production of fine stock is attracting attention abroad, is found in the fact that the following foreign dignitaries and representatives are now in the State attending our fairs: Captain Louis Goeniz, of the man-of-war "Contra Costa;" Hon. Samuel Piza, coffee merchant, Nicaragua; Gen. Miguel M. Guardia, Secretary of War and Navy, Costa Rica; Yan-naria E. Asroyya, coffee merchant. These gentlemen came to this State a short time ago in the interest of blooded stock for their own country. From what we hear, we infer that they are making their examination thoroughly. We trust they may find satisfactory animals, and make way for a market in Central America for our finely bred stock.

WINTER IRRIGATION.—Winter irrigation seems to be fast winning its way in the San Joaquin valley. It is found that a thorough saturation of the ground during the season that rain naturally falls, is better than the application of water in the summer. Winter irrigation for the growth of cereals is becoming the rule in Stanislaus county, says the Modesto News: spring and summer irrigation for wheat having been entirely done away in the section about Hill's Ferry.



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Miner's Peak, Tulare County.

Distant View of Mount Whitney—Grand Mountain Scenery.

[Written for the Press by J. W. A. Wright.]

This sketch will give the readers of the Press a brief account of the ascent of Miner's peak, in the high Sierra, near Mineral King mining district, Tulare county, with an outline of its surroundings and its relations to more noted peaks and domes which form, in its immediate neighborhood, the highest mountain masses in the United States outside of Alaska.

This huge "saw-tooth" is distinctly seen in the clear days of winter and spring, or any cloudless morning, between daybreak and sunrise, from any point in Tulare and Fresno counties for about a hundred miles along the line of railroad. It is like an immense tomb capping the mountains. Its top appears but little, if any, lower than the highest of the numerous peaks that are so clear-cut against the morning horizon, for the reason that peaks really higher are from 1 to 15 miles farther east, or more distant. From Hanford this fine peak is 64 miles in a straight line, about 10° north of east. From the town of Mineral King it is in full view about three miles in a straight line to eastward. Its summit can be reached by several routes, according to the object to be accomplished. By the most direct routes, up the deep and very picturesque gorge known as

Monarch Canyon,

You must travel not less than five or six miles to reach its lofty top. Of this distance you can ride about three miles, if you wish, but you have a trail for little more than the first mile. With a safe guide there is no very precipitous or dangerous climbing such as friend Lemmon so graphically describes in his ascent of Mount Shasta; but it is tough, wearisome work, riding or walking. This fact can be at once appreciated when you remember that in three miles horizontal distance from town you make a mile or more in perpendicular height; for the town-site being about 7,500 ft. above sea level, the top of

Miner's Peak

is scarcely less than 5,500 or 6,000 ft. higher. Could we have had a good aneroid in that very interesting mountain region, its altitude could be given more definitely, but, much to our regret, we were disappointed in getting one, as we intended. The only means by which we could approximately estimate its height, were: First, comparing it, when on its summit, with Kaweah and other peaks that were known to be 14,000 ft. high and upward; and second, its great elevation above the last trees we passed—*pinus contorta*, or hack-ma-tack. Near Mammoth City these trees disappear at altitudes of 11,000 ft., as we found from barometrical and other measurements last summer. A degree of latitude and more farther south, as Miner's peak is, these pines are likely to flourish even above the altitude of 11,000 ft.

As our party, which made the ascent July 27th last, all agreed that the perpendicular height of the summit above the last timber must be at least 2,000 or 2,500 ft., we concluded that 13,000 or 13,500 ft. make a fair approximation for the altitude of Miner's peak. The entire ascent from Mineral King flat and hack is made in from 10 to 12 hours' climbing, allowing an hour or two to spend on the summit and enjoy to the full

The Magnificent Panorama of Mountain Scenery

That is unfolded on every side. My six companions, on the day in question, were all Tulare county men. They were Joe. C. Palmer (who served in the Union army during the war under Gen. George S. Evans) and W. B. Wallace, well-known mountaineers and prospectors, with Jacob Rynerson, Wm. D. James, Wm. E. Wild and Spicer Jackson, of Visalia.

After an expenditure of muscle and breath and will that none can appreciate until they have tried it, we were all gathered between 3 and 4 p. m. in a cosy little niche on the summit, formed by massive granite slabs. These great rock masses, of almost every form and size, were piled upon each other in utter confusion for the last 1,000 ft. and more in elevation, and the last mile of our rough route. A few moments of rest and the thrilling view of the grand scenery around us soon removed entirely all the feeling of exhaustion and occasional giddiness, with which we were almost overcome at times by the extreme rarity of the atmosphere and the very hard climbing during the last mile among the trackless rocks, and over the coarse yielding sand into which these myriads of granite masses are constantly crumbling, by the action of the elements, without ever seeming to become fewer or smaller.

Immediately around us, within a circuit of four miles, were at least five yawning abysses, with bare, craggy, precipitous sides, and beyond them deeper and more gradual depressions, the bottoms of which lay from 2,000 to 6,000 ft. below us. The town and valley of Mineral King were in full view to westward, nestling serenely, and bewitchingly in the profound calmness of the bright mountain sunshine.

The Impressive Stillness of Death

Reigned supreme everywhere around us; broken only by our own voices and the low, whirring among the rocks of a brisk breeze from the northwest, varied occasionally by the sudden crash and roar of loosened rocks that dashed down some deep chasm near us, and reverberated with startling echoes from numberless precipices. In the deep gorges nearest us, we counted on all sides nine lakes from 200 yards to half a mile long. Their emerald-green waters were usually half concealed with ice and snow, and broad snow patches covered the rocky terraces and ravines around them. Looking far to westward and southwest, over a barren rocky ridge, two or three miles from us, with peaks whose tops were only from 500 to 2,000 ft. below us, we could faintly see the broad Tulare plains, the dark lines of timber along King's, Kaweah and Tule rivers, the lighter-colored spots of our grain fields, the dull-whitish surface of Tulare lake, and the outline of the Coast Range, dimly appearing through the dense haze that enveloped everything in that direction. A mile or two southwest of us were two fine granite peaks but little lower than our point of observation. Their white, precipitous sides, devoid of timber, were separated from us by a wild, deep gorge where one or two picturesque lakes, encased in snow, find an outlet for their waters through the Kern.

On its north side, Miner's peak breaks off into a broad, sheer precipice full 3,000 ft. to the surface of

Cliff Canyon and Columbia Lake.

This rough gorge, with its deep, mysterious-looking lake, covering perhaps more than 100 acres, is simply superb. The whole view for at least three miles in that direction is the wildest of the wild. It is weird, awe-inspiring, fascinating. Your eyes, once turned there, seem riveted to its unique features by an indescribable charm. Beyond the terrace-like bottom of Cliff canyon, scarcely a mile across, is still another gorge, an impenetrable canyon, so narrow, deep and precipitous, that the eye seeks in vain to fathom its depths, as you peer into it, from the apex of Miner's peak. The profound impression made upon you by the misty yet transparent atmosphere, the unmeasured, uncertain depth, and the tomb-like silence of that vast mountain solitude, as you feast the eye upon its varied features, its rock masses of many colors—unclad above except by snow, yet densely covered with pines, and firs and cedars along their bases; all this and much more leave

Indelible Memories.

Second only to those that remain through life, with all who have once looked into Yosemite valley from Glacier point. By common consent of our companions on this excursion, we named its lake Columbia, not only for the usual pleasant associations with the name, but especially in commemoration of the exquisitely beautiful buff or light yellow columbines first found by us in making the ascent at altitudes of about 12,000 ft. These charming flowers and rich purple primroses (*primula*) were found in company around the edges of many granite boulders, blooming luxuriantly in the dry and sterile looking granite sand. By those who have explored this grand canyon more fully than we could then do, I am informed that the water of Columbia lake empties into the Kaweah; while the stream in the deep gorge beyond feeds the Kern.

But now look far eastward beyond the sharp, isolated, butte-like peaks, of which Kaweah peak, three or four miles to northward of us, is the highest, and estimated by our State geologist as more than 14,000 ft. Stretching for miles in that direction, and north and south along the line of drainage of the Kern are the high table lands of that fine river and its many tributaries. This broad, elevated valley is densely and uniformly covered with part of that inexhaustible timber belt that stretches from the sources of the main Kern, on the western slopes of Mt. Williamson, for nearly 70 miles towards Kernville, which is about 55 miles very little east of south from Miner's peak. Due east of us, the main stream is only about 7 miles distant. In its vast forest, but little explored as yet, hunters can find all the deer and bear they want. The streams abound with the finest mountain trout, which camping parties of ladies and gentlemen catch by thousands every summer. The mountain sheep, or "big-head," frequents the higher cliffs. But, see the vast rocky range beyond! What have we there? Why, the very highest of our high Sierra in plain view. There are

Mts. Whitney, Tyndall and Williamson.

Yes, at last we are looking with certainty on those celebrated peaks. In straight lines—as all these distances are given—Mt. Whitney, with its altitude of 15,000 ft., is 16 miles slightly north of east from us. Tyndall, 14,386 ft., is about 7 miles, a little west of north from Whitney; and Williamson, 14,300 ft., with its sharp, minaret-like pinnacles, 1 or 2 miles farther north: that is, about 20 miles northeast of Miner's peak. When we first saw the great summit ridge from the crest of the range we were on, dark clouds were settling around these highest peaks, and a thunder storm raged for an hour or two, though our sky was clear; but it passed away before we descended.

The Form of Mount Whitney,

Thus seen from the west, is so peculiar, and its predominating height is so evident, that it is easily identified and remembered. Its appearance is that of a half dome. From the base of

a much lower dome, to southward—which forms the brow, while Whitney forms the huge Roman nose of an upturned face—there is a gradual curve to northward, where its highest point is. Its northern face appears precipitous, dropping off suddenly in three distinct, regular steps—with the symmetry of a design from some huge, rough-ashler. From the commanding point of Miner's peak any unbiased observer can clearly see that Mount Whitney, as here described, towers far above any neighboring peak, the only peaks approximating its altitude being the high, sharp peaks to northward, known among scientists as Tyndall and Williamson. It is quite probable that one of the last named peaks, or a neighboring one, is the so-called Fisherman's peak—if not Mt. Whitney itself—which several amateur mountain measurers have guessed was possibly higher than the grand peak which has come to be known as Mt. Whitney.

Mt. Brewer, 13,880 Ft.,

A long, narrow peak, shaped somewhat like a chisel, is about 16 miles almost due north from Miner's peak. Six miles north of it is Mt. Gardner (14,000 ft.), and four miles farther north is Mt. King (14,000 ft.). Mt. Silliman, distinctly seen from the Tulare and Fresno plains as a long saw-tooth peak (11,623 ft.), is only about 13 miles from Miner's peak. The ridge running southeast from Silliman, 10 miles to Mt. Kaweah, and thence in a curve northeast 17 miles to Mt. Williamson, forms a huge V, and is part of the boundary line between Tulare and Fresno counties. Beyond it, you are overlooking the various divides drained by King's river. Slightly west of north, 44 miles, is Mt. Goddard, 14,000 ft.—essing 43 miles, westing 12—on the northern and eastern slopes of which the south fork of San Joaquin river has its sources. In the same direction and 90 miles distant is

Mt. Lyell, 13,217 Ft.,

On whose southeastern and western slopes the main San Joaquin and its north fork rise, while its northern glaciers feed the Merced. To Owen's lake, due east, is 27 miles; to Independence, northeast, is 30; to Mammoth City, 28 miles west of north, is 80 miles; and to San Francisco—northing 90 miles, westing 210—the distance, as the crow flies, is about 225 miles. To the nearest point on Tulare lake southwest is 55 miles; to the crest of the Coast Range mountains beyond it, 90 miles; and following in the same line to the

Nearest Points on the Pacific Ocean,

About 140 miles. These nearest points are Moro Rock in Estero bay, and San Luis Landing, nearly 20 miles farther south, in San Luis bay. Slightly north of west, it is 180 miles to the nearest point on Monterey bay. To Santa Monica, due south, is 165 miles. Considering these last figures, coupled with the facts, first, that the top of Miner's peak is about 2½ miles above sea-level; second, that many depressions in the intervening Coast Range, from 90 to 100 miles distant, are little more than 3,000 ft. in altitude; third, that from a height of 13,000 ft., the line of vision commands a radius of about 140 miles of the earth's surface; it seems barely possible, that, late on the afternoon of our clearest days, the glistening waves of the Pacific may be seen, if you look southwest from the top of Miner's peak, by their reflection of the rays of the departing sun, especially if the state of the atmosphere will aid by its mirage. Some mountain climbers of that region assert positively that they have seen such sparkling surface beyond the dark outlines of the Coast mountains.

Best Route to Mt. Whitney.

Though Mt. Whitney is but 18 miles in a direct line from the town of Mineral King, it cannot be reached in less distance than 50 miles, and by moderately good trails most of the distance. Ten days should be allowed for the entire trip there and back. You go southeast through Farewell gap, and down the Little Kern to the main river, up the west bank of the latter to a point above a lake covering some 90 acres, and called, as yet, Kern lake. There you cross the main Kern and follow up Whitney creek to our highest mountain. The latter creek you cross on a natural bridge just above its mouth. For most of the way you follow the Hockett trail, between Tule river and Lone Pine. This is the route of all routes from the west to Mt. Whitney and all its curious surroundings.

Hanford, Sept. 22d.

San Bernardino's First Fair.—No. 2.

EDITORS PRESS:—On Saturday, the third and last day of the fair, I went over the Santa Ana river to have a look at the live stock, and see the ladies ride. The entries, except of horses, were few; but those few, choice. J. W. Waters, Jr., exhibiting the only Durhams—3 bulls, 10 cows and 3 calves—got away with 11 premiums, including sweepstakes for the best herd, the best bull and the best cow. His herd, now numbering about 50 head, comes of a car-load shipped hither from Illinois in 1877, and then pronounced by the *Bulletin*, "the finest herd ever brought into the State." It includes representatives of the following families of Short Horns, viz.: Western Ladies, Multifloras, Bride, Wileys, Young Marys, Lees, White Rose and Zelia. At its head are the two bulls, "Mason Prince" and "Wiseton Duke." The latter, when two years old, weighed 2,200 lbs., and now, at four, is guessed to be 400 lbs. heavier. A majestic creature!

The Devons comprised two cows, a bull and a

bull calf, representing four successive generations and drawing as many premiums. The old cow was bought of Jesse D. Carr by Dan. Rathbun, the exhibitor, who testifies that they do excel in beef and butter-making qualities, and "beat any cattle in the world for picking up their living on the ranch."

The Jerseys' sole representative and palm bearer was J. H. Stewart's "Duke of San Jose," bred by C. B. Polhimus. He is grandson of the imported "Prince Albert" and "Queen Victoria," five years old, girths 6 ft. 10 inches (tight), and is supposed to weigh about 1,700 lbs.

P. Filance's five Shropshires enjoyed an ovine monopoly and the ram won a blue ribbon. They are, as pastoral readers may know, "an interbreeding of the Cotswold and larger-boned sheep of England, to produce an animal that will fatten well and yield the most mutton and wool."

Of Poland-China swine, J. H. Stewart showed 3 premium pigs, 9 weeks old, which measured 3 ft. and 6 or 8 inches from tip of snout to root of tail; and Morse Bros.' 3 boars, 2 sows and 6 pigs took 3 premiums among them.

At the parade of stock appeared a score of horses. The stallions, sleek and spirited, were led by the superb thoroughbred "Sacramento" (by "Rifleman," dam "Bonnie Bell"), with five of his colts, including "Lady Fleet." After him came "Inca," a splendid trotter, with two colts. Of the three draft horses entered as such, while "Prince" and "Jurupa Chief" gained the awards, Parish Bros.' magnificent black Norman stallion, "Deacon," took my fancy. He is 16½ hands, weighed 1,600 lbs. last spring, and has a beautiful, fine face and gentle eye. What a contrast with his massive dignity was the little "Wild Rose" (by "Crighton") a bright sorrel four-year-old, whose lithe slenderness would almost make one think she must have some greyhound in her! Mr. Stewart's pair of mules in harness completed the procession.

After lunch the windward side of the dusty track was lined with a throng of vehicles—one-horse and two-horse, covered and open, single-seated and double-seated—and saddle horses uncounted, to witness the races. Through the kindness of officers and committee men, who both upon the grounds and at the hall proved invariably courteous and obliging, your reporter found himself elevated upon the judges' stand for the first time in his life (and he must express the hope it may be the last time, although "Hank Wagoner," and the *Press* and *Horticulturalist* were beside him).

The most interesting feature of that afternoon's performance, and the only one I would ever care to see repeated, was the contest, by six ladies and a child of about 11, for the elegant side-saddle offered as a special prize "to the best and most graceful lady equestrian in the county," expressly barring Mrs. Ginevra Sweet, an illustrious broncho-tamer, whose famed skill might have palsied competition. It appeared a wise provision to choose all three judges from outsiders, two being Los Angeles and the other from San Diego county. We grant they had a delicate matter to decide in, and think we appreciate their embarrassments, but we still feel indignant at the cowardly way in which they sought to dodge responsibility by hastily giving away the prize to the little "girl with the blue dress on," after the crowd had yelled sufficiently for its own satisfaction. The child rode passably and deserves no blame for having had the saddle adjudged to her, but these judges seemed to lose their wits and not see how to reach a just decision. In bringing the trial to an end so hastily and snatching at a mere shift to disarm criticism, we submit that they scandalously shirked their duty. Yet we say this with no malice, commiserating their inexperience and hoping that they will do better next time. We knew not one of the contestants, but venture to add that while the senora and the *pinto* were eminently worthy, the rider of that sidling, prancing, pirouetting gray had our special sympathy.

Before the fair closed finally, I went once more to the lighted theater, which was cheerful, as on two previous nights, with its varied adornments, eddying stream of visitors and occasional strains of music by the band. Among those attending from other counties we met Wm. Niles, the well-known poultry breeder, representing the sixth District Board of Agriculture, of which he is general superintendent; and Geo. Rice, of Carter & Rice, publishing *Semi-Tropic California*.

In one of the alcoves on the left side of the hall was a brilliant exhibit of blankets, flannels, overshirts and yarns, of diverse hue and superior quality, manufactured by Wm. Gamble & Son at the San Bernardino woolen mill. This was highly commended by everyone who noticed it.

The remaining alcoves were occupied by displays of hardware, silver ware, millinery, candy, sewing machines, etc., while the opposite (right hand) wall was covered with framed pictures, designs in hair, shell-work, etc., about 100 in number and arranged four deep. Space is lacking to describe these, however briefly; and the same holds good of the abounding specimens of elaborate fancy needlework, evincing ambition and industry which calls for better direction and wisecracking criticism. It does seem a pity, nevertheless, for a county agricultural society to foster toilsome frivolity and confound the relative worth of labors by offering the same premiums for the best fancy chair-cushion and the best peck of white wheat or alfalfa seed, for

five barrels of winter apples and for a lamp-stand mat, or a tanning collar and 10 lbs. of dried nectarines.

On the stage at the inner end of the room was a large circular carp tank, with a small fountain playing in the middle. The fish, from J. H. Pettit's ponds, on Colton avenue, ranged from small fry of three weeks old up to scaly swimmers 14 or 15 months from spawn, approaching half a yard in length and three pounds in weight.

One remarkable object, that should hardly pass unmentioned, was a section of grapevine, four years old and some 11 ft. long, crowded from end to end with thick clusters of white grapes, which I took for Fieber Zagos. This was from J. L. Sansevain's, half way out toward Cucamonga.

One exhibit, or pair of exhibits, in the department of fine arts was so extraordinary that I must refer to it. It consisted of two stout walking-sticks of orange wood, on which were neatly carved, in low relief, hundreds—literally, hundreds of animals—beasts, birds, reptiles, fishes and insects, each one by itself, colored with considerable delicacy, if not strictly true to nature, and having its name printed alongside. This unique sculpture was executed by a shepherd boy in his teens as a tribute of gratitude to a friend who had presented him with a valuable work on natural history. The plates in the donated volume furnished his models. That boy, J. D. Batz, should not be left to tend the flock.

Among the coarser and strictly useful manufactures were bricks from the Colton and the San Bernardino yards of H. Goodsell, Sr., who, by the way, is a staunch old patron and admirer of the *RURAL PRESS*.

Van Dorin & Lehman showed three vehicles of their own make, a farm-wagon, a grocer's delivery wagon and a two-horse carriage.

In the side-room, along with articles referred to last week, was a display of doors, blinds, moldings and other mill work, by W. J. Linville, to whom were awarded half a dozen premiums.

The mineral exhibit, too, was highly spoken of. No judge of such things myself, I will simply say that it embraced an assortment of ores from the Mojave, Mint, Trojan, Lone Valley and Ivanpah districts, of many colors—rich greens and purples and golden browns—catching the eye among shades more subdued. There was marble, smoothed on one side, from Morris & Henderson's ledge in this county, and coal from Tay & Lawrence's mine, east of the Cajon Pass.

Now that the faith, enterprise and persistent efforts of those who started and engineered the movement have produced results so tangible and creditable, despite the many hangers-back and the comparative fewness of those actual farmers and fruit-growers who took hold with a will and contributed of their produce, congratulations are common, and there is manifest a general hopeful waking up. If this first attempt, with support so scattering, has achieved such success, what may not be done in the light of experience and by rallying in full ranks? Already are suggestions rife and consultations held about "what we ought to do another year." It is commonly agreed that a spacious pavilion will be needed, as well as proper stock grounds nearer town and wholly divorced from the jockey element.

I hope the managers will be wise enough to use their present opportunity—"strike while the iron is hot," and let it cool in the shape which is likely to prove most available in 1881. N. E. BOYD.

San Bernardino, Sept. 22, 1880.

SAW-MILLS.—The art of preparing timber has been greatly simplified in modern times. The old practice in making boards, was to split up the log with wedges, and, inconvenient as the practice was, it was no easy matter to persuade the world that the thing could be done in any better way. Saw-mills were first used in Europe in the fifteenth century, but so lately as 1555, an English ambassador, having seen a saw-mill in France, thought it a novelty which deserved particular description. It is amusing to note how the aversion of labor-saving machinery has always agitated England. The first saw-mill was established by a Dutchman, in 1663; but the public outcry against the new-fangled machine was so violent, that the proprietor was forced to decamp with greater expedition than ever did Dutchman before. The evil was thus kept out of England for several years, or rather generations, but in 1768, an unlucky timber merchant, hoping that after so long a time the public would be less watchful of its own interests, made a rash attempt to construct another mill. The guardians of the public welfare, however, were on the alert, and a conscientious mob at once collected and pulled the mill to pieces.

PROPOSED OCEAN TELEPHONE.—A Cincinnati company is negotiating with the cable companies for the lease of a line for eight days for the purpose of testing experiments for telephone communication with Europe. It is believed that the new French line will be secured. The arrangements, it is thought, will be completed in a few days. The process upon which the proposed work is to be done is based upon the Orangbough invention of 1863 and the recent Klemm patents. The tests will be made from New York city. Only the combination of the two systems mentioned will be tested, to the exclusion of the Bell, the Edison, or any of the instruments now in active use, as the new company claim that they are actually infringing.

HORTICULTURE.

Plums and Prunes.

At the September meeting of the State Horticultural Society a paper on plums and prunes, by W. H. Jessup, of Haywards, from which we make the following extracts: Plums and prunes are among the most delicious fruits that man is blessed with. There is no place on earth where they attain the perfection that they do on this coast, and no place is this fruit so free from attack of destructive insects or disease. Let us see to it that our orchards are kept free from their pernicious presence. For if we have a climate favorable to fruit, we have one just as favorable for the growth and increase of insect pests.

In order to bring this subject before you in a comprehensive manner, I will consider it by sections: First, condition of the market; second, best mode of planting; third, selection of trees, and best stock to work on; fourth, best varieties to plant; fifth, pruning, cultivation and disease.

The first question asked by a man when he contemplates planting an orchard is, will it pay? Is there not danger of over-supplying the market. I unhesitatingly answer no. There was a time when there was danger of glutting the market, when we were raising fruits only for a fresh market. That is all changed now, thanks to the canners and improved methods of drying. Nevertheless there are several things to be observed: First, raise nothing but the best and choicest variety of fruits; second, cure and put it on the market in the neatest and best possible manner, and lastly do not go crazy over great results, and increase our supply faster than our merchants can build up their trade; but in this there is but little danger, if we pack our fruit in a proper manner.

Our market has totally changed within the last few years. Then we only had sale for fresh fruit, the process of canning was in its infancy, with but a limited and slow growing demand; but now it has attained enormous proportions, and will continue to grow to this end. Then again at that time the most of the orchards were too small to pay for drying; there were no conveniences for drying except in the sun, and there were but few who had trees enough to justify the necessary expense of putting up a drier.

We must always bear in mind that our fruits must be put up in a neat, clean and merchantable manner. We often hear men complain that they can't sell their dried fruit, or that it won't pay to dry fruit. Is it strange that our dried fruits have not met with a profitable or ready sale? Any man who has observed the condition of our dried fruits the past few years (with but few exceptions) would wonder that much of it could be given away. Some of it sun-dried, some dried in ovens, some in improvised driers; some neatly handled, but most of it slovenly, and nearly all of it put up in an improper manner, every man following his own taste or convenience—and so it comes into the market in one heterogeneous mass, packed in anything from a herring box to a dry-goods box, and from a nail keg to a gunny-sack, and much of it strong enough and active enough to leave the store without the assistance of a porter. It has happened, too, that the man who has put his fruit up with care suffers with the rest, for but few growers who put up good fruit have enough to fill an order of any one variety; so to fill an order it must be done with a mixed lot, the good sharing the common fate of the bad.

Planting.

Great care should be taken to have the ground in good condition, well cultivated and leveled; the holes dug broad and deep, then filled up with good, well pulverized top soil to the proper height to allow the collar of the root to be just under the surface of the ground. The roots should be carefully and neatly dressed, all the little dry rootlets trimmed off with a sharp knife. A healthy, vigorous tree will soon reproduce others.

The bottom of the hole should be formed in a mound-like fashion, the tree placed on the top with the roots radiating as much as possible in all directions. Then fine pulverized soil should be sifted or placed with the hand among the roots and gently pressed. The roots should always be separated by a layer of earth.

But one of the most important matters in tree planting is the distance they should be planted from each other. I observe a great tendency all over the State to overcrowd the ground, a practice which has no profit in the end and has a tendency to make the tree attain an upright spindling habit, with a poor coat of small shriveled leaves. Some contend that they must have the ground shaded to retain the moisture. My opinion is that that is just what they don't want. The earth wants the direct rays of the sun. Cultivate the soil and it will catch and hold the moisture and let the radiating heat in the earth do the work of stimulating the trees and ripening the fruit. Then, again, light is another great essential requisite of vegetation in maturing the wood and ripening the fruit, which cannot be done where the trees are crowded together like a jungle. Close planting also is liable to cause a stagnation of air, especially in low valleys, and this is not desirable.

Selection of Trees and Best Stocks.

Now is the time to make your selection of trees. Go yourself to the nursery, or send a good reliable man. In your selections choose good, healthy, vigorous, stocky plants, with an inclination to throw out a low branching head. It is much easier to get the head up than it is to keep it down within profitable bounds in view of gathering the fruit. Do not buy, take nor plant a sickly tree, and if you have one in your orchard, the sooner it is taken out and a healthy one put in its place the better.

The stocks to work the plum on seem to be rather mixed, as nearly every one has their own opinion. Some advocate the apricot, some the peach, while many contend that the plum is the most natural stock on which to work its kind; but the great objection to the plum root is its persistent propensity for suckering, especially in our strong valley lands where the soil is so liable to harden in our long, dry summers, adhering tightly to the roots, then cracking open, tearing and wounding the roots and causing them to throw out a more abundant crop of unsightly suckers than they otherwise would. A slovenly orchardist would not be annoyed at this, but it would annoy the life out of a man who prides himself on having his orchard look neat, clean and trim. Some favor the Myroholan. As far as I have observed, it does not sucker, but is liable to throw out sprouts round the collar of the roots. My preference would be the peach. It is contended that it is a short-lived tree; but even with that objection I would prefer it, as while it does live the tree appears to be more productive and vigorous than on the plum stock.

Best Varieties to Plant.

Here is a question of considerable importance to growers. Are we not all adrift in the endless varieties we are cultivating?—many of them unsuited for canning, drying or the local trade; many of them small, inferior and unprofitable. They did well enough when we were raising for a local trade and varied taste, but since the introduction of the canneries and improved methods of drying things have changed.

Were I going to plant out an orchard of plums with a view to canning and drying, I would not plant over 15 or 16 varieties, and in small orchards one-half the number would suffice. I would choose them with especial reference to their adaptability for canning and drying, and their size, quality and productiveness, and such fruits will answer for the local trade as well or better than the more inferior varieties. Of the colored varieties I would recommend the Columbia, Victoria or Sharp's Emperor, Pond's seedling, Quackenbush, Duane's purple, Bradshaw, Smith's Orleans, Coe's late red and Ickworth's Imperatrice. The two latter, because of their excellent quality and lateness, are profitable for a market plum.

Of the light varieties, the Jefferson, Yellow Egg, Washington, Coe's Golden Drop, Reine Claude de Bay, Huling's Superb, McLaughlin, Green and Imperial Gages and the General Hand a fine plum, but in some localities a shy bearer.

The varieties of choice drying prunes are few, and may be classed as follows: Petite Prune de Agen or "petty prune," Prince Englebert, Fellenburg, and what is called the Bulgarian, a fine large prune and prolific bearer.

Pruning and Cultivating.

In selecting our trees we do so with a view to their regular and prolific-bearing qualities. I think none will deny the fact that all prolific-bearing trees are more or less liable to exhaust themselves and become feeble and sickly, producing small inferior fruit. There are two ways that this can be avoided—one by thinning off the fruit and the other by pruning. By judicious pruning we can check the bearing propensities of a tree, increase the size of the fruit, and size and abundance of its foliage, and thus protect the tree from the scorching rays of the summer sun. There is no tree in the orchard so sensitive to heat, and so easily injured by it, as the plum. A plum, I think, should be pruned in such a manner as will give the limbs size and strength to bear up its load of fruit and give it rather an upright habit, with an open, round spreading head. This can always be accomplished by the time it is seven or eight years old, after which it requires but little pruning, except thinning out. In forming the head of a young tree the top should be trained low enough down to protect the stalk of the tree from the hot rays of the sun—say from half-past nine A. M. until half-past three P. M.—and as the top expands the lower limbs can be gradually removed to admit of easy cultivation.

In pruning I would recommend only the use of the saw and knife. I never would permit pruning shears to be used on one of my trees. The knife and saw should always be kept sharp and in good order, as good, sharp tools are nowhere more useful nor profitable than in the orchard.

In many orchards that I have visited lately I find a great lack of what I consider proper pruning. Long, straggling limbs have been allowed to grow, and when in fruit they bend over to the very ground with their great weight of fruit, forming a half circle, with the lateral branches also drooping, leaving the entire upper surface exposed to the burning sun. The plum cannot prosper in a dry, hot climate like ours with that kind of treatment.

Nothing can be said against the cultivation of our orchards. As a rule they are superbly cultivated.

We are peculiarly favored in this country in

having so few insect pests and diseases in our plum orchards. We have no curculio, and with proper care we may keep our orchards free from their destroying attack. It is true that we are troubled occasionally with the green aphid, which is easily combated, but the scale insect is a more difficult customer to deal with. I think much could be done in checking the increase of that pest by open planting and thinning out the trees, and letting in plenty of light and air. Such insects always seek dark, shady places. They rarely trouble trees that are opened up to the light and air.

Methods of Drying and Packing.

This is a question of the most vital importance—in fact our success depends on the manner of putting our fruit on the market, as I remarked before.

It is easy to be seen what profits can be made from a good plum orchard of eight years old. If properly tended to, the trees will yield from 8 to 10 tons to the acre. An average yield of dried pitted fruit is 20 lbs. of dried to 100 lbs. of green. There has been a great deal said and written about the best drier; some advocating one patent and some another. They are nearly all good if properly handled. I doubt if there is a man in the universe that can tell the fruit of any one from the other if put up by the same man. The best drier is the one that will turn out the most fruit in the shortest time.

The great secret is in properly classifying and packing our fruits, in order that they may be put upon the market in a way to command a remunerative price. We must establish a uniform system of packages and properly classify them, with each class plainly marked on each package. There might be a difficulty in doing this in small orchards, as it is natural for every man to think that his No. 1 is as good as his neighbor's No. 1, when, in fact, it might not be as good as the neighbor's No. 3. I think the better plan would be to establish a packing company and let them receive and grade the fruit, then the man making the best article would get the best price.

Fruit should be packed as soon after drying as possible, in clean, close-fitting boxes, to keep it out of the way of moth. Care should be taken to keep your fruit house clear of the fruit moth. My fruit house was literally alive with the moth, and every crack and crevice of the ceiling was full of their larvæ when I took it four years ago, and I lost all my dried fruit the first year by them. The next year I made quick work of them by sprinkling a plentiful supply of pyrethrum or hühach.

Plums, if possible, should be dried in the orchard, as they should be thoroughly ripe to make good fruit, and in that condition the extra handling and transportation would greatly injure the fruit. All large orchards should be provided with a good drier, and the prunings of any large orchard will be more than sufficient to furnish heat to dry all the fruit. The smaller growers could unite in a neighborhood and put one up on the co-operative plan. In this way all odd lots, and those that are too ripe to send to market, could be dried. Our canning companies have no difficulty in selling their fruits, and let us use equal care and neatness in putting up our dried fruit, and any merchant in the East or Europe will tell you that there will be no trouble in disposing of all that we can make, at paying prices.

In the article of dried prunes there has been a great deal said and written about the French process of curing them, and a great deal of time lost in trying to hog or steal the secret. I assume that there is nothing in the curing of the prune to make it as good or better than the French article, that some member of our own society cannot discover if he only sets himself about it with a will. In proof of this, one of our own citizens, in fair competition with France, Germany and the whole world, got away with the great Paris medal at the World's fair, in Paris in 1878, for the best dried fruit including prunes.

The Prune Interest.

The importance of the prune interest can readily be understood when we consider the enormous quantity imported into and consumed in the United States. In 1870 there were imported into the United States 4,000 tons, valued at \$439,036; and we find by reference to the "Report of the Bureau of Statistics," for the year ending June 30, 1879, that there were imported into the United States, for that year, 29,150,469 lbs. of prunes, and at the close of the year only 6,749,166 lbs. remained in hand, while 22,403,303 lbs. had been withdrawn for consumption; total value, \$1,216,202. There were duties paid on quantity withdrawn, \$224,033.03, and quantity in bond, \$67,471.66, making a total of \$291,504.69 duties paid.

It is easy to be seen from the foregoing figures the importance of the field that is opening up to us, not only to supply our own wants, but to supply other countries. It remains for us to decide whether we will avail ourselves of the advantages that we have. Is it worth the experiment? I think it is; and I think the State could not do better than to offer a reward for the best method of curing prunes; the method, with all necessary instructions, to be given to the public.

A NOVEL HORSESHOE.—A Berlin manufacturer is making a horseshoe of iron and hemp that is receiving considerable favor among the Germans. The shoe is of malleable iron carrying a deep wide groove, into which tarred hemp rope is firmly wedged. The rope is so thick that it protrudes beyond the rim of iron. The shoe is very light, and is said to be serviceable.

PATRONS OF HUSBANDRY.

State Grange Meeting.

Eighth Annual Session.

The Grange was opened by Worthy Master B. R. Spilman, in due form, at Odd Fellows' Hall, Oakland, at 10 A. M., Tuesday, October 5th.

Officers present—Master, B. R. Spilman; Overseer, S. T. Coulter; Steward, T. T. Hooper; Assistant Steward, E. W. S. Woods; Chaplain, J. Russell; Treasurer, J. V. Webster; Secretary, Amos Adams; Pomona, Mrs. P. H. McGrew; Flora, Mrs. O. Clark; L. A. Steward, Mrs. T. T. Hooper; Executive Committee—P. H. McGrew, Alameda Co.; G. W. Hancock, Sacramento Co.; C. Gratton, Stockton. Absent—Lecturer, Jeanne C. Carr; Gate Keeper, W. L. Overheiser; Ceres, C. H. Ivens.

After pleasant fraternal greetings among old and new members, and the appointment of a Committee on Order of Business, the Grange adjourned to 1 P. M.

Afternoon Session.

The committee's report on the following order of business was adopted: Providing that there be two daily sessions, from 9 A. M. to 12 M., and from 1:30 P. M. to 5 P. M.; also evening sessions at 7 P. M. That Tuesday be devoted to the good of the Order; Wednesday morning, election of member of Ex-Committee, and to fill any vacancy, and the installing of officers; Wednesday, visit to State University; evening, informal discussion. Thursday, morning and afternoon, open meeting; evening, general business. Friday morning and afternoon, general business; evening, conferring the fifth degree and Feast of Pomona. Saturday, morning, general business; afternoon, closing of the Grange; evening, Grangers' Love Feast.

Committees Appointed.

The following is a list of committees appointed by the Worthy Master: On Order of Business—J. C. Steele, J. H. Gardner, G. W. Colby, J. F. Deming and Sister H. G. Deming. Good of the Order—J. Strentzel, D. W. Taylor, M. W. Hall, and Sisters S. H. Dewey and S. T. Coulter. Appeals—C. Gratton, H. A. Smith, and Sister H. G. Deming. Legislation—Wm. Johnson, J. H. Gardner, J. M. Fowler. Finance—J. C. Steele, Wm. Ennis, T. T. Hooper, I. W. Whittaker, Sister L. A. Clark. Co-operation—H. W. Johnson, A. D. Hunter, J. S. Collins, Sisters N. G. Babcock and Kate McGrew. Resolutions—H. C. Jones, B. F. Bobo, G. Wilson, Sisters William Johnson and Clara Deming. Officers' Reports—H. A. Logan, George Rice, Sister H. L. Carr. Constitution and By-Laws—P. H. McGrew, G. W. Hancock, Sister D. W. Taylor. Special Committee on Master's Address—J. V. Webster, I. C. Steele. —Fossett. On "Open Meeting"—I. C. Steele, Wm. Johnson, B. F. Bobo. Feast of Pomona—C. McGrew, Sisters H. G. Deming, S. T. Coulter, Kate McGrew, Nellie G. Babcock, S. H. Dewey, J. S. Collins; Organist, S. T. Coulter.

The Master's Annual Address

Was listened to with marked attention, as follows:

Brothers and Sisters:—Another year of peace and general prosperity has passed, and we the representatives of the Order of Patrons of Husbandry of California, are again permitted by our Divine Master to meet in this the eighth annual session of the California State Grange. And according to the requirements of a usage as old as our Order, it becomes my duty, as your presiding officer, to submit for the information and consideration of our fraternity generally such facts and suggestions as occur to me looking to the advancement of our cause and the accomplishment of the purposes of our organization, and also submit for your consideration, as our chosen representatives in this the legislative branch of our State organization, such suggestions and recommendations relating to the business which must necessarily engage your attention during the present session as seems to me to be necessary and proper.

Since our last annual meeting we have been favored with good health and blessed with an abundant harvest; prices rule very low from the fact we have neglected education and co-operation in our Order. If we desire to ever accomplish any of the objects for which our organization was instituted, it must be done, by co-operative efforts. Much of the future prosperity depends on this: There is not a promise made by the organization, nor a reform desired by its members but that can be made a grand success by strict co-operation. Without it you will most certainly meet with disappointments and failures. How very important, then, that our members be properly instructed in this great fundamental principle of our Order.

I have in the past year visited 34 subordinate Granges, and found brothers and sisters alive to all of the great principles of our Order. If we will carry out the noble principles of our Order we will become a power in this State for good. I found the Order in a more prosperous condition than in the past. Dormant Granges are organizing, and dormant members are returning to the Order.

I feel under many obligations for the many favors received from the Subordinate Granges during my visit with them. I trust I may never forget them in time or eternity.

I desire to call your attention to the publication of the *California Patron*. No considerable society or interest can maintain a successful and popular organization without its special organ through which to appeal directly to its members, and also to all those who are personally interested in the subject matter which called it into existence. I refer you to the report of Bro. Webster, the manager and editor-in-chief.

At the last State Grange a special committee was appointed to investigate the raising of the jute plant in this State, and the manufacture of jute cloth and sacks by State Prison labor, all of which was reported on favorably. As agriculture is the paramount interest with the American farmer, so as agriculturists we should demand all the legislative aid we are entitled to. I would recommend that a committee be appointed to confer with the Legis-

lature, requesting that body to convert the State Prison labor into the manufacture of jute cloth and sacks, thereby making the prison a self-sustaining institution, and breaking up the corrupt sack rings in this State.

I herewith submit the amendments to the National Grange Constitution, proposed at the last annual session, for your ratification or rejection.

[The effect of these amendments is to confer upon the Fourth Degree Granges the right to confer the 1st, 2nd, 3d, 4th and 5th degrees of the Order, the county or district Granges the authority to confer only the 6th degree, and the State Granges the 7th degree. The adoption of these amendments will tend to bring the mysteries of the Order more directly among the general membership.]

The Executive Committee will present you with a detailed statement of their labors during the year. You clothe them with authority to act in all matters of interest to the Order when the State Grange is not in session.

I refer you to the Worthy Secretary's and Treasurer's report on the financial condition of our Order in this State.

Brothers and sisters, to you, as the representatives of this organization, are intrusted interests and responsibilities that are of vital importance to yourselves and to the organization you represent. Let no personal feeling or selfish matter interfere with your deliberation or the duties assigned to your charge. Much of the future prosperity of the Patrons of Husbandry in this State will depend upon the result of your labors at this session. Strive earnestly to accomplish the greatest good to the greatest number, and you will thereby elevate the membership to a higher and a nobler manhood and womanhood.

J. V. Webster, P. H. McGrew and C. Bagge were appointed a committee on arrangement for visit to State University.

Annual reports of the Secretary and Treasurer were read and referred to the Committee on Officers Reports. They were subsequently reported correct, and adopted.

After the regular business, well-timed remarks were made for the Good of the Order by J. Russell, J. F. Bobo, S. T. Coulter, Amos Adams, Dr. J. Strentzel, P. H. McGrew, I. C. Steele, Wm. Johnston, G. W. Hancock, J. V. Webster, the Worthy Master, and others.

Tuesday evening Dr. J. Strentzel, chairman, read the report of the Committee on Good of the Order containing many good suggestions. A large portion of the evening was devoted to remarks under Good of the Order.

Wednesday afternoon a large number accepted Prof. Hilgard's invitation to visit the State University.

The meetings are well attended by many old members. Harmony and good order prevails, and the music adds much pleasure to the sessions. Our report, necessarily hurried and condensed, will be continued.

A Grange Fair in San Diego.

EDITORS PRESS:—In the early days of California, when ex-Gov. Weller before the United States Congress asserted the utter worthlessness of the Pacific slope for agricultural purposes, he sounded the keynote of a song whose dwindling echoes have not yet wholly died away. Hardly had he spoken before here and there, amidst the desolation, the spade of the pioneer struck the soil, when, presto-change, and as by magic, oases sprang up teeming with verdure and fruitfulness.

Though not universal as at first, incredulity still heard the echo reverberate from all but a few favored spots. Meanwhile the enterprise of American industry reaching out in every direction, disputed the allegation with multiplying proofs, only to hear with each advancing step—from some whose eyes had beheld—that just beyond, the confines of barrenness marked the limits of successful effort. As time went on that echo grew fainter and more remote, until at length only the "arid regions" of southern California were regarded as forbidding the approach of the husbandman. Then the Southern Pacific railroad swept downward through the fervent valleys and all along its course settlements sprang up and flourished. But farther away and beyond its reach still lay, in the popular imagination, a vast "terra incognita"—San Diego county—with millions of drouth-cursed acres; a land prolific of strange tales of heat and thirst hardly surpassed by the fabulous narratives of the early European travelers.

What this country is, and what reply she gives to the reproach she has borne, is best answered by "The first Agricultural and Horticultural Fair of San Diego County," just concluded.

This was held under the auspices of the National Ranch Grange, at National City, Sept. 22d and 23d. To this Grange, which counts within its membership a number of the most competent and public-spirited citizens of the county, belongs largely the credit of the institution of the fair, and the gratifying success with which it was attended. A commodious and well lighted structure was erected for the purpose, and a wing with sky-light, for an art gallery, while the large hall of the Grange in an adjoining building was connected and transformed into a "New England Kitchen," which under the control of the managers and in the interest of the fair, both reflected honor upon the ladies in charge, and contributed to the general satisfaction of visitors.

Although no premiums were offered for the exhibit of stock, the yard showed a few of the considerable number of fine-blooded animals of which the county can boast. Notable amongst these were the thoroughbred three-year-old Norman-Percheron stallion, and pure Maltese jennettes, owned by John Judson, of San Pascual.

Occupying the center of the main hall, and extending nearly its entire length, was a broad table completely covered with plates and baskets of fruit, while erected upon this a narrower one displayed a magnificent array of pickles, jellies and various fruit products, whose colors were shown to the greatest advantage by the unobstructed light coming from either side.

Ranging round the walls were exhibits of grain, grasses, vegetables, honey, dairy products, local manufactures, etc., amongst which may be mentioned bundles of timothy and red top from James Fradison, of Julian, five ft. tall, the latter being from a field which cut fully six tons per acre, a single stalk of "White Prolific" corn, bearing 12 well-formed ears; also a Wilder watermelon, grown without irrigation, weighing 50 lbs., and the usual display of large squashes, etc., amongst the latter being a specimen of the Turkish squash, a dark colored, medium-sized vegetable, covered with high rounded protuberances, and said to be of good quality.

Local manufactures were well represented in leather, salt, vehicles, saddlery, work in cabinet, silver and tinware, and shells, etc. Mrs. Fossett's entry of ladies' hats, constructed of fine braids of inner corn husks, were a feature of domestic industry worthy of notice. Their softness, pliancy and delicate color, as well as tasteful manipulation, should recommend them to general favor.

Mrs. Geo. C. Swan's exhibit, in glass, of 23 jars of canned fruit, and Mrs. James Flemming of 34 kinds of jellies, attracted much attention, and were awarded premiums. The guava jelly of Messrs. High Bros. is a delicious production which should be more generally known and find an extended market. Doubtless, if properly appreciated, it could be made a source of large income to localities sufficiently exempt from frost to permit the cultivation of the plant. The strawberry guava is most grown here, being the hardiest known, and ripening a profuse and continuous crop from December to March.

But the crowning feature of the fair was the splendid display of fresh fruits, whose variety and excellence was a surprise even to residents, and a revelation to visitors from abroad, who united in pronouncing it unsurpassed by the best of many fine exhibitions they had attended. This, in a county where 10 years ago scarcely a tree was set in the orchards which now drop their luscious burdens, must indicate the rapid development which has taken place in horticulture and the pre-eminence which this branch of husbandry is destined soon to attain.

Twenty-eight exhibitors were represented by upwards of 300 plates and baskets of fruit, embracing: apples, 29 varieties; peaches, 31 varieties; pears, 14 varieties; grapes, 31 varieties—24 by one exhibitor; quinces, plums, persimmons, pomegranates, olives, oranges, lemons, limes, figs and small fruits in variety.

The prominence of apples in the display deserves remark. In the early days of tree planting here little hope was entertained of this fruit, owing to supposed unsuitable climatic conditions. It seemed preposterous that the queen of northern fruits could dispute the honors in the home of the orange, but experiments resulted in the surprising production of apples in size, appearance, firmness and flavor, equalling those of Oregon or New York, and in quality decidedly superior to those of San Jose and other notable fruit sections of this State. This anomaly must find explanation in some peculiarity of soil or climate. Already demand for private consumption has led to shipments to San Francisco.

In the exhibit of H. M. Higgins, from his orchard on the high mesa land of National Ranch, were two plates of R. I. Greenings, the largest of which measured 14½ inches in circumference, and weighed 23 ozs.; the smallest weighed 15½ ozs., and the lot of nine weighed 9 lbs. 14 ozs. Scarcely an exhibit but showed specimens of 12 inches circumference. The display of quinces was especially fine; one specimen weighed 24 ozs. It is to be noted that an entry of this fruit from San Diego county received the premium at the recent Horticultural fair at St. Louis.

Another feature of the fruit table was oranges which had hung ripe on the trees since the winter months without apparent deterioration; also oranges just ripened, a number of instances having occurred of trees putting out blossoms in the late summer or early fall, and bringing in fruit at this unusual season. E. Owens, of Paradise valley, reports a large tree now in full bloom. Perhaps study and experiment might reveal a method by which the bearing season of oranges can be changed to the usual period of scarcity.

Many of the finest specimens of fruit were labeled as having been grown without irrigation, and it is generally believed that with good cultivation this can be dispensed with, though a few dispute the advantages resulting from a judicious and timely use of water. The Plummer dried fruits, as usual, carried away the honors.

A permanent county agricultural and horticultural society was organized, with Frank A. Kimball as President; H. M. Higgins, Vice-President; Mrs. Flora M. Kimball, Secretary, and John T. Capron, Treasurer.

The pronounced sentiment against the incorporation of the feature of horse racing in future fairs was gratifying. A citrus fair at the appropriate season is under consideration.

Speeches were delivered on the second day by Judge Wheeler, of San Francisco; Hon. Romualdo Pacheco, and others. Much regret was expressed at the absence of Mrs. Jeanne C. Carr, who was to have spoken, but was detained at home by illness in the family.

The attendance was large and success complete. The managers express themselves as gratified beyond their expectations, as this has proved one of the few virgin fairs which have paid expenses without levying upon the subscribers to the guarantee fund.

It will not be easy to estimate the influence of

this exhibition and the stimulus it will give to the county by the better knowledge of its capacities. With the completion of projected lines of railroads, affording an outlet eastward, and the influx of population they must bring, it seems not too much to prophesy a development in the near future, which shall cause southern California to be known far and near as the Italy of America, and that this very hem of California's skirts, with its embroidery of vineyards and orange groves, may yet surpass the beauty of her girdle. Shade of Weller, arise, and answer the evidence shown to-day, whether these granite mountains have all these ages ground in vain!

Powsy, Cal., Sept. 25, 1880.

Regrets of W. M., J. J. Woodman.

We have received a fraternal letter from Bro. J. J. Woodman stating his regret at being unable to visit the Pacific coast this year. He writes: "I received an invitation from Bro. Spilman to visit your State in October, but was obliged to decline the invitation on account of previous engagements, and accumulating office work. Allow me to express gratitude to you and other Patrons in your State, for your kind invitation to visit you, and your assurance of a cordial welcome."

AGRICULTURAL NOTES.

CALIFORNIA.

COLUSA.

A TERRIBLE EXPLOSION.—Colusa *Star*, Oct. 2: On Monday last, at about 11 o'clock A. M., the boiler of the engine "Missouri Chief," running the great separator "Monitor," on Dr. Glenn's place just above Princeton, exploded, killing three men outright and badly wounding several others. Jos. Brady, the fireman, was blown some eighty yards and was of course instantly killed. Two Chinamen were killed by the engine running over them from the rebound. Tim Cleveland, the engineer, was badly bruised on the head and leg. The other men wounded are in a fair way of recovery. The fire box blew out and the boiler was sent back against the separator and turned clear over backward on it, mashing the separator all to pieces. The engine was built for Dr. Glenn by Jos. Enright of San Jose, some three years ago, and was the largest of the kind in use in the State. The separator was also very large. This was the machinery drawn by Andrew P. Hill in his celebrated oil painting of the harvest scene on Dr. Glenn's farm. The loss is not far from \$5,000. Al. Gupton was in charge of the work. The engineer is an experienced man, and has the reputation of being a careful one. The boiler was what is known as the triple return pattern, and is not in favor with engineers. There is too much fire surface. We doubt very much whether the straw-burners can ever be as safe as wood or coal burning engines. The flame cannot be kept uniform, and hence must often have a too intense heat. This variation of heat will cause the water to rise and fall so that the engineer is sometimes at fault about the amount of water in the boiler. It is but right to Mr. Enright to say that his engines generally are not built after this pattern.

KERN.

COTTON.—*Californian*, Sept. 25: At the Belle View ranch, of Messrs. Haggin & Carr, a considerable tract of land is devoted to experimental purposes. The cotton, of which there are about 130 acres, is an undoubted success. The stand is a good one, the growth is strong and luxuriant and the bolls, which are more numerous than we ever saw on stalks where it is grown as a regular crop, are opening rapidly and disclosing cotton of a long fine staple. It was planted in March, but the seed was old and did not germinate until May, so that it has lost more than a month of the growth it would have had if the seed had been good. The crop will be carefully picked, ginned and baled with a view to determining whether it can be profitably grown or not. But Dr. Thornton seems to think it may be. The cheap labor of other cotton-growing countries is wanting, but there are circumstances that offset this disadvantage to some extent. The cultivation is less difficult and laborious. It is not troubled with worms. There are no rains to cause the bolls to fall off and to stain and render worthless such cotton as may be exposed unpicked. The picking season is very long, extending probably from September to Christmas, and from the nature of the climate this process may be proceeded with in a secure and leisurely manner unknown elsewhere. Cotton is a hardy plant. It will bear more frost than Indian corn and may probably be safely planted early in March.

SELLING SHEEP.—A letter received from Mr. P. D. Jewett, from his brother, S. Jewett, now at Salt Lake City, gives some interesting facts. He took with him four car-loads of Merino bucks that he disposed of to such advantage that he has sent for two car-loads more.

NAPA.

WINE WITHOUT CRUSHING.—*St. Helena Star*, Sept. 24: William Scheffler, to whose improvements there seems to be no end, has just built at "Edge Hill" a fermenting house 90x135 ft. in size, the central portion being 45 ft. high, the two sides much lower. Ranging through it are six rows of tanks, 18 in a row. These are 1200-gallon, except 25, which are 1500-gallon—

an aggregate of 137,100 gallons. Between the tanks are three avenues for teams, into which loaded wagons from the vineyard come and empty their grapes directly into the tanks, for Mr. Scheffler's foreman, Mr. Morel, who courteously showed us the establishment, makes claret wine without crushing the grapes, an idea to us unheard of until our visit to this establishment. One point of advantage in this is saving the expense of crushing. Another is this: The seed in the grape contains a property which, if broken, retards fermentation. In crushing, these are liable to get broken; without it, of course, they cannot. A third point claimed by Mr. M. is that the tannic property—a peculiarly wholesome and desirable one in claret—is better acquired and preserved without crushing than with. He made 60,000 gallons in this way last year, a sample of which shown us was well settled, and as far as we are capable of judging (we are not an expert) a good wine. In this settling, by the way, is a fourth point of advantage claimed for the non-crushing process—that all sediment left after it is more quickly precipitated than when the grapes are crushed.

SANTA BARBARA.

THE FAIR.—**EDITORS PRESS:**—This county is to have a horticultural fair at Santa Barbara, on the 28th and 29th of October. Various parts of the county are bestirring, and we anticipate a grand display, and a good gathering of our people. We hope all who see this notice will do something, if living in the county, to make it a success. —J. W. WEBER.

CUZCO CORN.—*Independent*, Sept. 22: Mr. H. A. Franklin brought to our office a large, well-developed and ripened ear of the Peruvian corn—Cuzco, as it is called. He has an acre of it, and it is looking fine, was planted May 1st, and he picked the ear Sept. 15th. It has larger and whiter kernels than the sweet corn, and is said to be far preferable to any variety of maize yet brought into use for this country. We shall be glad to see it thoroughly tried, both for grain and for meal and domestic use, for which it is highly recommended.

ALMONDS.—*Col. Hollister* has 40,000 almond trees, from which the fruit is to be picked, and it will be ready Oct. 1st, and he has engaged our busy Rosenburg to hunt up for pickers all the idle boys who are willing to work for reasonable pay to aid in securing the crop. He has an average yield this year.

WOOL.—Shearing has commenced, and the wool clip is now coming in. Good shearers are scarce and good wages are paid.

EDITORS PRESS:—The past spring, summer and fall thus far have been remarkably cool and cloudy. Scarcely a hot day. Damp and fog, and almost cold have ruled with but little interruption. Some farmers near the coast complain that their wheat is so damp that the thrasher cannot thresh clean, yet withal, most crops have flourished, and farmers are happy. My grapes ripen slowly, and some other varieties of fruit are late, but mostly good. Peaches not yet gone, and most kinds of my apples too green and hard to eat. Fruit raising, in this county, is receiving quite a stimulus lately. There are several inquiries for fruit lands. I think, perhaps, this county is better adapted to fruit raising than almost anything else: the soil, location and climate seem suited to every thing in the fruit line that has been tried. I am now busy making molasses from the Amber cane, and it makes an excellent article. I shall look for it to granulate in due season. —S. P. SNOW, Sept. 25th.

SANTA CRUZ.

RASPBERRIES.—About two months ago we made mention of the superior quality and prolific yield of small fruits, especially raspberries, which Mr. C. C. Miller was receiving from his garden. As the season of fruiting is now waning, at our request Mr. Miller prepared a statement of the raspberry crop which he has so far received, which we publish for the encouragement of those who might be stimulated by such a showing of facts to engage judiciously in fruit culture, and to refute the slanders of those who are prating that there is "no show" here for honest labor: **EDITOR COURIER-ITEM:**—In compliance with your request, I hand you the following report of my red raspberries up to this time. I am still picking a few boxes, and shall for several weeks: Size of plat, 31x48 ft.; total number of boxes gathered from June 16, 1880, to Sept. 10, 1880, 1,350; receipts from sales of same, \$138; net weight of berries in each box, $\frac{3}{4}$ of a pound; aggregate weight of the 1,350 boxes, 900 lbs. The actual measurement of the ground occupied is less than six rods, but estimating it at that, the number of boxes per square rod was 225, amounting to \$23. At the above rate the average yield per acre would be 36,000 boxes, weighing 12 tons, and amounting to \$3,680. The variety of the berry is to me unknown; the size, flavor and yield are astonishing. —C. C. MILLER.

WHEAT YIELD.—*Santa Cruz Courier*: A field of wheat 40 acres in extent, belonging to a Mr. Martin, near Watsonville, returns 97 bushels to the acre. From 70 to 90 bushels of wheat to the acre is reliably reported as a frequent yield in the Pajaro valley this year.

SOLANO.

WHEAT.—*Vallejo Chronicle*, Sept. 25: The yield of wheat in this locality this year is simply enormous, beyond anything ever before realized. Starr & Company of South Vallejo say there seems to be no end to the demand for storage. They have just about finished doubling their warehouse capacity, and are now contemplating the erection of another new warehouse of 20,000 tons capacity. Owing to this

unusual demand for storage the price has been advanced to \$1.25 per ton, and even \$1.50 has been offered. The roads to town are lined from morning until night with teams hauling wheat and still there remains a great quantity of wheat yet to be threshed. It will be close on to the rainy season before all the farmers will be served with machines.

SONOMA.

GRAIN.—*Democrat*, Sept. 25: Ceres has smiled upon Sonoma county to such an extent that the yield of grain is unprecedented, and dealers inform us there is not enough warehouse room in the county to store more than two-thirds of what the farmers desire to place in their hands. Every available building will be filled, and a large quantity is already stored.

CUZCO CORN.—*Healdsburg Enterprise*, Sept. 23. We have conversed with several farmers who planted the Cuzco corn and they argue that it is not adapted to our climate. John Truitt has stalks nearly 17 ft. high and they are still growing! The McClish brothers, John and James, have stalks remarkably tall, and some are perhaps four inches in diameter at the base. Young Bros. & Cagwin and W. H. Hall report likewise. The corn product so far consists of small nubbins, now in the milk; they will not grow to maturity, as the frosts will blight them. Owing to the great height to which the stalks grow they are easily prostrated by the wind. John Truitt says the lowest ears or nubbins on his stalks, are beyond his reach with an axe-helve. The Cuzco is certainly not the corn adapted to this soil and climate—particularly climate. What the farmers need is an earlier variety of corn, even, than the Yellow Dent, for in a season like the present that variety is backward and some of the fields are threatened with being nipped by first frosts. John Truitt says he observes a good variety, said to be the Early Dent, on the Paxton place, that appears to yield prolifically and mature early.

TEA CULTURE IN SONOMA COUNTY.—*Index*, Sept. 25: Among the exhibits at the Petaluma fair were a number of tea plants. They were from Healdsburg, and although planted with other shrubs in the open air they grew finely.

BRUSH FENCE.—Next to a picket, T. M. Goodman says a brush fence is the best to turn sheep. His rail fences he has to pile brush on. Stoue fence they making nothing of; but will climb and walk along the top looking for an easy place to get down. He thinks setting a post say every 25 ft. with a wire stretched between, will head them off.

GRAPE YIELD.—The crop of Mission grapes in average vineyards will yield about five or six tons per acre. Zinfandels in some vineyards will turn off first and second crops about seven tons per acre. Other foreign sorts are yielding well. The prices for grapes are remunerative here, stimulating the planting of vineyards, and creating a demand for suitable lands.

FARMING FIGURES.—*Sam, in Santa Rosa Republican*: Having had some experience on a farm, not many miles from your city, I will give the results of three years' crops, and the price of each, also the cost of production at just what it can be hired done for in this valley. We take the average per acre of the whole crop.

Expenses per acre:	
Plowing.....	\$1.50
Sowing and harrowing.....	50
80 lbs seed wheat at \$1.88.....	1.50
Heading and board.....	1.75
Thrashing, 20 bush, 1,200 lbs at 13c.....	1.56
Nine sacks at 10c.....	90
Hauling to depot.....	27
Taxes.....	1.00
Total.....	\$3.98

Received for the year:	
1877 24 bush 1,440 lbs at \$2.27.....	\$32.76
1878 17 " 1,020 lbs " 1.50.....	15.30
1879 19 " 1,140 lbs " 1.87.....	21.37
Total for three years.....	\$69.43
Average for one year.....	\$23.14
Expenses per year.....	8.98
Net profits.....	14.16

The pasture is worth to us at least 50 cents per acre.

SAN JOAQUIN.

TULE WHEAT.—*Stockton Herald*, Sept. 4: The following statement is verified by Mr. J. W. Ferris, manager of the Glasgow-California Land and Reclamation Company. A small tract of grain on the lower division of Roberts island was saved from the inundation by a cross levee built on a ridge. This grain was harvested and a few days ago it was threshed. The land from which it was taken was accurately surveyed with as much care as if it were to be conveyed to a bona fide purchaser. The field was found to contain 92 3-10 acres. The grain was threshed and sacked. The yield on these 92 3-10 acres was a fraction more than 68 bushels per acre. Of this amount only 180 sacks were barley and the remainder was of wheat. The grain was raised on the ranch of M. A. Long.

ARTESIAN WATER.—*Stockton Herald*: George S. Ladd's artesian well has been irrigating the surrounding country subterraneously since he completed his reservoirs. The gravel pits near the Nightingale, fully half a mile from the well, filled with water and presented a phenomenon which demanded explanation and investigation. Here was a waste of water and a destruction of a valuable gravel pit. In order to ascertain the cause of the phenomenon Mr. Ladd shut off the water from one of his reservoirs and found that in excavating it the workmen had struck a stratum of gravel. The water followed this and came to the surface wherever an opening appeared upward. In order to prevent this waste of water, he has drawn off the water and is excavating a trench around the inner wall of the reservoir, down to the hardpan. This trench he will fill with adobe and tamp it. Mr. Ladd

is building half a dozen reservoirs of from half an acre to an acre in extent to hold water enough so that he can irrigate 20 or 30 acres at one time, and gather water again and irrigate another tract of the same extent, and thus apply the water to his whole ranch promptly and efficiently. The problem of irrigation by artesian wells is one that he considers that he has solved.

TEHAMA.

EDITORS PRESS:—One after the other, threshing rigs are being laid aside for the season. Wheat is arriving on every hand, from all points of the compass, being stored by the owners for a rise in prices. The harrow, cultivator, and other paraphernalia pertaining to seeding the soil, are now traversing the long stretches of summer fallow. Our progressive farmers are in possession of many modern agricultural implements, believing in keeping forward with the progression of the age. This season the La Dow pulverizing harrow has been introduced, with marked success. From A. J. McCorkel, who farms quite extensively on Red Bank, and the first farmer in this section to give the La Dow harrow a satisfactory test, I learn that he is perfectly satisfied with its work. He says he thinks the La Dow harrow is particularly adapted for our upland which has been lying warming in the sun all the summer. The area which will be seeded this fall will largely exceed any previous year in the history of Tehama county; a very large portion of which is new land, and has been put in excellent condition. Our farmers, of late, have been more careful in the preparation of their lands for the seed; and in another year or two fertilizing will have to be practiced, on some of the best of the old lands, where large crops were formerly raised, a marked difference has been noted in the yields of late years, showing conclusively the exhaustion of the soil is surely being accomplished. Another prominent feature in the farming of these large tracts of land is being brought to the notice of the progressive farmers; that is, the extraordinary amount of good grain that is annually wasted on these large farms. The standing grain under trees; the loose ears among the stubble, and the shower of wheat spread broadcast from the separator, is all wasted, making a considerable loss to the owner of the crop. Here we have no gleaners who follow after the harvesters and save every ear of the golden grain. Wool is now attracting a good deal of attention. Clips are arriving from the mountains, and the local storehouses are almost full to overflowing with wealth. Wheat and wool piled up on every hand, foreshadowing future prosperity. The staple is on an average with fall clips generally, though the sheep have not been still so long this year as usual, owing to the late spring which kept them moving around in the valley seeking feed, and the short stay they made in their summer pasture kept them from gaining in flesh. John Lee, agent for Dupee & Co., Boston, has of late inaugurated quite an improvement in the shipping of wool from this point, that is purchased by buyers here for the Boston firm. Mr. Lee has graders and packers who handle the staple at the warehouse of Cone & Kimball, where two powerful presses have been placed in position for the purpose of baling the staple as it is graded, thus saving to the producers a large percentage for shipping, doing away with the necessity of shipping to San Francisco, and making a direct shipment from this point to the great wool mart of the United States. The enterprise has proved beneficial to purchaser and grower, and is being carried out with vigor and success. The market for wool has not yet opened, but ere this reaches the eye of your readers sales will have been effected. The weather still remains favorable for threshing, and in some outlying places many stacks of grain are still waiting for the thrasher. Our local sportsmen are afield after the timid quail, which are in favored localities very numerous. Our gardeners in the foothill country find small game of all kinds very destructive to vegetables and small fruit. Grapes seem to be the favorite food of the quail, who make sad havoc among the vines of our mountain vineyards. —FELIX, Red Bluff.

WHITE RUSSIAN WHEAT.—This wheat made a good record in the field this year according to all accounts we have heard. Mr. Benchley in Ventura county produced a crop of 50 bushels to the acre. The White Russian is believed to be rust proof, and to produce more prolifically than the Odessa. It is largely grown in Wisconsin, Iowa, Nebraska and other wheat States, and is highly praised. In Wisconsin it is pronounced the best spring wheat grown. The seed is now being introduced by A. Gerberding of 414 California St., S. F.

STUBBLE AND WEED TURNER.—A device is being shown at the fairs this year, by Joseph Goyotte, for attaching to a plow to turn under stubble and weeds. It can be attached to the beam of any plow, single or gang, and is claimed to give perfect freedom from clogging and annoyance of weeds. It has been tested in practice, and pronounced valuable by those who have used it.

AUTOMATIC STOCK FEEDER.—A very interesting piece of stable furnishing is an automatic feeder invented by a Californian, and introduced by J. B. Tupper, of Petaluma, who is agent. It has a clock attachment, which, at such time as may be desired, releases the trap from the feed chute and places a meal before the animal. It is being used in several stables, and we are told that its operation meets with favor.

News in Brief.

A CHINAMAN has entered the Harvard freshman class.

THERE is no abatement of the horse disease in New York city.

WASHINGTON TER. gave a cordial welcome to the Presidential party.

IN the great telegraph suit, the Western Union gained its point.

BUSINESS is reviving at Seattle, W. T., and other points on the Sound.

THE Irish Land League has extended its organization to Great Britain.

THERE is no prospect of military operations before Dulcigno for ten days.

JACQUES OFFENBACH the famous musician and composer died on the 5th inst.

YELLOW fever caused the death of 78 persons in Havana during September.

THE total coinage at the United States Mints during September was \$6,340,565.

By a stage accident at Yosemite, Rev. Father Traynor, of New York, was killed.

FLOODS in Bengal have caused the loss of many lives and great injury to the crops.

THE sale of Bernhardt tickets at New York Saturday netted \$21,000 in 45 minutes.

PLEURO-PNEUMONIA continues to spread among the swine in Lancashire, England.

THE Government of Chihuahua offers a reward of \$2,500 for the scalp of Victorio.

It is believed that the Russian government intends to reopen negotiations with China.

GENERAL BUELL's campaign against Victorio's Apaches has proved an utter failure.

SINCE July 1st the foreign gold brought to this country amounts to about \$35,000,000.

THERE is great anxiety in Italian official circles in regard to Garibaldi's movements.

AUGUST F. WEBER, an old resident of Stockton, was accidentally drowned in the canal.

ARRANGEMENTS are completed for building a bridge across the Willamette river at Portland.

DURING September the public debt was decreased \$8,974,891; since June 30, 1880, \$26,573,112.

A PARTY of freighters are supposed to have been murdered by the Ute Indians near Cline's ranch, Col.

THE 2,000 hostile Sioux at Fort Keogh, Wy. T., are to be fed during the coming winter by the Government.

THE American schooner, *J. H. Roscoe*, from San Francisco, was wrecked at La Libertad, Salvador, September 19th.

SPAIN is willing, on certain conditions, to abandon her claims on the port of Agadir, Morocco, in favor of Germany.

THE Albion print works at Conshohocken, Pa., with a capacity of 2,400,000 yards per month, have suspended operations.

THE epizootic has appeared in St. John's, N. B. In New York and the vicinity nearly 10,000 horses are sick of the distemper.

THE transfer of \$10,000,000 in gold from the New York Assay Office to Washington has been ordered by the Treasury Department.

THE steamship *Isaac Bell*, when nearly ready to sail from Norfolk for New York Saturday, took fire and burned to the water's edge.

THE Atchison, Topeka and Santa Fe Railroad Company expect to connect with the Southern Pacific railroad by January 1st.

THE Nevada State fair, which closed at Reno Saturday, was poorly patronized, the receipts falling short of the expenditures.

J. P. BULLARD, a respectable citizen, was mistaken for a stage robber near Auburn, Thursday night, by a Deputy Sheriff, and killed.

THE mystery in regard to the shooting of young Diamond at San Jose has been unraveled, the man arrested for the attack on Mr. Boring Sunday night confessing to both crimes.

THE inhabitants of Dulcigno refuse to leave the city, and say they would rather die than submit to the Montenegrins.

THE English government will not be counselled, frightened or defied into any inconsiderate and headlong course by the agitation of Irish affairs by the Land League.

THE Chicago Times reports that President Hayes will not return to Washington till a week after the Presidential election.

THIRTY feet of masonry, and an immense amount of rock have fallen in the St. Gothard tunnel. Four men were killed and many wounded.

THE social warfare in Ireland grows in intensity. The murder of the Viscount Mountmorris indicates the presence of the worst passions, and a likelihood of a social revolt among the discontented peasantry.

It is reported that Alexander Mitchell of Milwaukee had three of his men elected, with himself, to the Directorship of the Northern Pacific, and that the road is now backed and controlled by the Chicago, Milwaukee and St. Paul, of which Mitchell is President.

A DISPATCH from Panama says: The Chileans have plundered and burned haciendas, houses and stores, many of them belonging to foreigners, in and near Chibote, and proceeded to Libertad and Lambayeque. A vessel was sunk by Peruvian torpedoes in Chuca.

THE New York Herald's Paris special says: A syndicate for the construction of the Panama canal was definitely formed Saturday. Mr. Seligman and Messrs. Loubeyran and Denier are at the head of it. It has been ascertained that the cost will be much less than at first estimated. The emission of a loan for 400,000,000 francs will be made about October 20th.



The Origin of Indian Corn.

'Tis said that ever so long ago
A young maid walked by the river side,
Singing sweetly, soft and low,
To the music of the tide.
And the little maid was passing fair,
With eyes of tender, sunny blue,
With rosy lips, and floating hair
Of a wondrous golden hue.

Her fairy step on the golden sod
Was light and soft as the falling snow;
But it reached the ears of a river god,
Who lived in the waves below.
He saw the maid with her floating hair,
Her rosy lips and her rounded form,
Her teeth like pearls. At the vision rare
His heart grew bold and warm.

"So fair a sight has never met
My eyes before!" said the ardent god.
"These mossy banks have never yet
By one so fair been trod!
The river maids are fair to see;
But never one shall my eyes behold,
Though I live a thousand years," said he,
"Like this maid of mortal mold."

So said the god. "I will seek her side;
I must bring her home to live with me.
She must be mine, what'er betide!"
Said this vain god, boastfully.
Then, with a leap, he left the flood,
With never a care for right or wrong.
And sought the maiden where she stood,
Singing her little song.

Fear lent her wings. Afar she spies
A band of reeds, tall, dark and dense;
And in this forest, need she flies
Swift to their frail defense.
She said: "Oh! Reeds, I pray you hide
Me safe and sure from his cruel art."
They crowded around on every side;
Each reed had a tender heart.

They wound around her trembling form,
They twined themselves in her sunny hair;
To save the maid from threatened harm,
They wrought a marvel there.
For lo! when he parted the slender wall—
He looked on the simple power and scorn—
There in the midst, fair, straight and tall,
Stood a stalk of Indian corn.

This is the reason that night and morn
A gentle sigh, as one who grieves
Over some loss, fills the field of corn
And flutters its haunted leaves.
This is the reason it whispers so;
'Tis the soul of the late maiden prisoned there
That night and day, with a murmur low,
Burdens the summer air.

Mrs. M'Williams and the Lightning.

Well, sir [continued Mr. McWilliams, for this was not the beginning of his talk] the fear of lightning is one of the most distressing infirmities a human being can be afflicted with. It is mostly confined to women; but now and then you find it in a little dog and sometimes in a man. It is a particularly distressing infirmity, for the reason that it takes the sand out of a person to an extent which no other fear can, and it can't be reasoned with, neither can it be shamed out of a person. A woman who could face the very devil himself—or a mouse—loses her grip and goes all to pieces in front of a flash of lightning. Her fright is something pitiful to see.

Well, as I was telling you, I woke up with that smothered and unlocatable cry of "Mortimer! Mortimer!" wailing in my ears; and as soon as I could scrape my faculties together I reached over in the dark and then said:

"Evangeline, is that you calling? What is the matter? Where are you?"

"Shut up in the boot closet. You ought to be ashamed to lie there and sleep so, and such an awful storm going on."

"Why, how can one be ashamed when he is asleep? It is unreasonable; a man can't be ashamed when he is asleep, Evangeline."

"You never try, Mortimer—you know very well you never try."

I caught this sound of muffled sobs.

That sound smote dead the sharp speech that was on my lips, and changed it to—

"I'm sorry, dear—I'm truly sorry. I never meant to act so. Come back and—"

"Mortimer!"

"Heavens! what is the matter, my love?"

"Do you mean to say you are in that bed yet?"

"Why, of course."

"Come out of it instantly. I should think you would take some little care of your life, for my sake and the children's, if you will not for your own."

"But, my love—"

"Don't talk to me, Mortimer. You know there is no place so dangerous as a bed, in such a thunder storm as this—all the books say that; yet there you would lie, and deliberately throw away your life—for goodness knows what, unless for the sake of arguing and arguing, and—"

"But confound it, Evangeline, I'm not in the bed now. I'm—"

[Sentence interrupted by a sudden glare of lightning, followed by a terrific little scream from Mrs. McWilliams and a tremendous blast of thunder.]

"There! You see the result. Oh, Mortimer, how can you be so profligate as to swear at such a time as this?"

"I didn't swear. And that wasn't a result of it, anyway. It would have come just the same, if I hadn't said a word; and you know very well, Evangeline—at least you ought to know—that when the atmosphere is charged with electricity—"

"Oh, yes, now argue it, and argue it, and argue it!—I don't see how you can act so, when you know there is not a lightning-rod on the place, and your poor wife and children are at the mercy of Providence. What are you doing?—lighting a match at such a time as this! Are you stark mad?"

"Hang it, woman, where's the harm? The place is as dark as the inside of an infidel, and—"

"Put it out! put it out instantly. Are you determined to sacrifice us all? You know there is nothing that attracts lightning like a—[Fzt!—crash!—boom—bloom—boom—boom!] Oh just hear it. Now see what you've done!"

"No, I don't see what I've done. A match may attract lightning, for all I know, but it don't cause lightning—I'll go odds on that. And it didn't attract it worth a cent this time; for if that shot was leveled at my match, it was blessed poor marksmanship—about an average of none out of a possible million, I should say. Why, at Dollymount such marksmanship as that—"

[Fzt!—BOOM! boom—boom! boom! BANG!] "Oh, dear, dear, dear! I know it struck something, Mortimer. We never shall see the light of another day; and if it will do you any good to remember, when we are gone, that your dreadful language—Mortimer!"

"Well! What now?"

"Your voice sounds as if—Mortimer, are you actually standing in front of that open fireplace?"

"That is the very crime I am committing."

"Get away from it this moment. You do seem determined to bring destruction on us all. Don't you know that there is no better conductor than an open chimney? Now where have you got to?"

"I'm here by the window."

"Oh, for pity sake, have you lost your mind? Clear out from there, this moment. The very children in arms know it is fatal to stand near a window in a thunder storm. Dear, dear, I know I shall never see the light of another day. Mortimer?"

"Yes?"

"What is that rustling?"

"It's me."

"What are you doing?"

"Trying to find the upper end of my pantaloons."

"Quick! throw those things away! I do believe you would deliberately put on those clothes at such a time as this; yet you know perfectly well that all authorities agree that woolen stuff attracts lightning. Oh, dear, dear, it isn't sufficient that one's life must be in peril from natural causes, but you must do everything you can possibly think of to augment the danger. Oh, don't sing! What can you be thinking of?"

"Now where's the harm in it?"

"Mortimer, if I have told you once, I have told you a hundred times, that singing causes a vibration in the atmosphere which interrupts the flow of the electric fluid, and—what on earth are you opening that door for?"

"Goodness, gracious, woman, is there any harm in that?"

"Harm? There's death in it. Anybody that has given this subject any attention knows that to create a draft is to invite the lightning. You haven't half shut it; shut it tight—and do hurry, or we are all destroyed. Oh, it is an awful thing to be shut up with a lunatic at such a time as this. Mortimer, what are you doing?"

"Nothing. Just turning on the water. This room is smothering hot and close. I want to bathe my face and hands."

"You have certainly parted with the remnant of your mind! Where lightning strikes any other substance once, it strikes water 50 times. Do turn it off. Oh, dear, I am sure that nothing in this world can save us. It does seem to me that—Mortimer, what was that?"

"It was a da—it was a picture. Knocked it down."

"Then you are close to the wall! I never heard of such imprudence! Don't you know that there's no better conductor for lightning than a wall? Come away from there! And you came as near as anything to swearing, too. Oh, how can you be so desperately wicked, and your family in such peril? Mortimer, did you order a feather bed, as I asked you to do?"

"No. Forgot it."

"Forgot it! It may cost you your life. If you had a feather bed, now, and could spread it in the middle of this room and lie on it, you would be perfectly safe. Come in here—come quick, before you have a chance to commit any more frantic indiscretions."

I tried, but the little closet would not hold us both with the door shut, unless we could be content to smother. I gasped a while, then forced my way out. My wife called out:

"Mortimer, something must be done for your preservation. Give me that German book that is on the end of the mantel piece, and a candle; but don't light it; give me a match; I will light it in here. That book has some directions in it."

I got the book—at cost of a vase and some other brittle things; and the madam shut herself up with her candle. I had a moment's

peace; then she called out:

"Mortimer, what was that?"

"Nothing but the cat?"

"The cat! Oh, destruction! Catch her and shut her up in the washstand. Do be quick, love; cats are full of electricity. I just know my hair will turn white with this night's awful perils."

I heard muffled sobbings again. But for that I should not have moved hand or foot in such a wild enterprise in the dark.

However, I went at my task—over chairs, and against all sorts of obstructions, all of them hard ones, too, and most of them with sharp edges—and at last I got kitty cooped up in the commode, at an expense of over \$400 in broken furniture and shins. Then these muffled words came from the closet:

"It says the safest thing is to stand on a chair in the middle of the room, Mortimer, and the legs of the chair must be insulated with non-conductors. That is, you must set the legs of the chair in glass tumblers. [Fzt!—boom!—bang!—smash!] Oh, hear that! Do hurry, Mortimer, before you are struck."

I managed to find and secure the tumblers. I got the last four—broke all the rest. I insulated the chair legs, and called for further instructions.

"They are in the nature of lightning rods, you know. Put on your fireman's helmet, Mortimer; that is mostly metal."

I got it and put it on—a very heavy, and clumsy, and uncomfortable thing on a hot night in a close room. Even my night-dress seemed to be more clothing than I strictly needed.

"Mortimer, I think your middle ought to be protected. Won't you buckle on your militia saber, please."

I complied.

"Now, Mortimer, you ought to have some way to protect your feet. Do please put on your spurs."

I did it in silence, and kept my temper as well as I could.

"Mortimer, it says: 'Das Gewitter lauten ist sehr gefährlich, weil die Glocks selbst, sowie der durch das Lanten veranlassende Luftzug und die Höhe des Thurmes den Blitz anziehen konnten.' Mortimer, does that mean that it is dangerous to ring the church bells during a thunder storm?"

"Yes, it seems to mean that, if that is the past participle of the nominative case singular, and I reckon it is. Yes, I think it means that on account of the height of the church tower and the absence of Luftzug it would be very dangerous (sehr gefährlich) not to ring the bells in time of a storm; and, moreover, don't you see, the wording—"

"Never mind that, Mortimer, don't waste the precious time in talk. Get the large dinner bell; it is right there in the hall. Quick, Mortimer, dear; we are almost safe. O, dear, I do believe we are going to be saved at last."

Our little summer arrangement stands on the top of a high range of hills, overlooking a valley. Several farm houses are in our neighborhood—the nearest some 300 or 400 yards away.

When I, mounted on the chair, had been clanging that bell a matter of seven or eight minutes, our shutters were suddenly torn open from without, and a brilliant bull's-eye lantern was thrust in at the window, followed by a hoarse inquiry:

"What in the nation is the matter here?"

The window was full of men's heads, and the beads were full of eyes that stared wildly at my night-dress and my warlike accoutrements.

I dropped the bell, slipped down from the chair in confusion, and said:

"There is nothing the matter, friends—only a little discomfort on account of the thunder-storm. I was trying to keep off the lightning."

"Thunder storm? Lightning? Why Mr. McWilliams, have you lost your mind? It is a beautiful starlight night; there has been no storm."

I looked out, and I was so astonished I could hardly speak for a while. Then I said:

"I do not understand this. We distinctly saw the glow of the flashes thro' the curtains and shutters, and heard the thunder."

One after another these people laid down on the ground to laugh—and two of them died. One of the survivors remarked:

"Pity you didn't think to open your blinds, and look over to the top of the high hill yonder. What you heard was cannon; what you saw was the flash. You see the telegraph brought some news, just at midnight—Garfield nominated—and that's the matter!"

"Yes, Mr. Twain, as I was saying in the beginning," said Mr. McWilliams, "the rules for preserving people against lightning are so excellent and so numerous that the most imprudent thing in the world to me, is how anybody ever manages to get struck."

So saying, he gathered up his satchel and umbrella, and departed; for the train had reached his town.—Mark Twain.

FIXING A MIRROR IMAGE.—A German scientist has succeeded in obtaining a chemical composition, by means of which it is claimed a mirror image may be fixed and sold as a photograph. With this composition the mirror surface is painted and the back part of the mirror receives also a coating of oil. The mirror thus prepared is held before the person who is to be photographed. The oil coating evaporates, and the likeness of the person remains in natural colors on the light surface. The image so fixed is brought into a bath, and is exposed half an hour in the sunlight before delivery.

Study After School Days.

There are societies in England and in our Eastern States, which provide help and encouragement for girls and women, in cultivating themselves, by reading at home, books which shall improve their minds and give them the pleasant feeling of increasing knowledge. By correspondence on a given subject between the woman who desires to know, and the woman who already knows, sympathy is established and help is given. An American society, whose headquarters are in Boston, Mass., has had great and wide-spread success, but is, as yet, little known among us. We learn that it has already an agency here consisting of several ladies who reside in and near San Francisco. These ladies are prepared to furnish lists of books, which are at once attractive and instructive and we give below some of the rules and the address taken from the circular for this part of the country. Many entertaining books convey valuable information, and if well selected, and read with a wise plan for pursuing one subject continuously, will awaken interest, and produce a strong impression, so that works on the same topic will be relished, even if they are of a more serious nature.

It is not easy for everyone to select among the mass of books, known only by their titles, such as will be best to read, and this society proposes to meet that want. In response to a demand in various parts of the country, it issues now a new set of lists, preparatory to those in the original programmes.

Useful reading is not only an occupation to be recommended for those who have plenty of leisure, but a refreshment to those whose daily, practical duties are laborious; and, in either case, it is found to contribute to the health of the body as well as of the mind. The benefit of such help for those who have young children around them, asking eager questions and needing sympathy in their studies, is obvious.

In the annual report of the Boston society, we find this sentence quoted from a student's letter: "One of the best results of a study which has interested and enlivened without over-burdening or exhausting, is a great improvement in the state of my health." Another, on the beginning of a course of botany, regretted that the region where she lives is poor in flowers and botanical interest, but it was not long before she expressed her astonishment at the wealth around her. Still another, whose duty of taking her younger brothers and sisters to walk, had been a penance, found these walks become delightful explorations to which all looked forward with pleasure. Again one, who having but little leisure, and no early education, took up mineralogy with the society, after a time said, "I never knew before there was so much beauty in stone. I feel as though I had lived so long with my eyes shut, I see so many beauties I never thought existed." Ladies joining the society must be at least 17 years old; each member pays \$2.00 a year at the beginning of each term, or whenever joining; the term for correspondence is from October 1st to June 1st, and this correspondence is monthly. Information about further details, also about this parent society can be obtained from Miss Noyes, 13 Guy Place, San Francisco.

The number of students on the books in Boston for two years past has been between 800 and 900, and the society has been called, "An Invisible University," and has been spoken of as forming a new sisterhood, binding women together in all parts of our wide country.

PROVIDING FOR DAUGHTERS.—The way of happiness and comfort for single middle-aged women would be made much easier if a different method was pursued by parents toward their daughters while they are still young. Nothing, of course, can recompense a woman for the loss in her life of the love of husband and children; but there is no reason why, added to this bitterness, she should always have the humiliation of dependence. Half the terrors of a single life to a woman lie in the fact that she will never have a home of her own, but must remain a dependent on father and brothers; the one too many in a household, the beneficiary on sufferance in the family, though she actually work twice as much as the actual members. A father naturally sets his boy on his own feet at coming of age; but as naturally he keeps his daughter dependent on himself. It is a pleasure, perhaps, to him to give her her gowns and pin-money at thirty as when she was three. He does not reflect that she has the longing, equally natural to every man and woman, to take her own place in the world; to be a rooted plant, not a parasite. The difficulty is easily solved. If the father is wealthy, let him settle absolutely upon his daughter when she is of a marrying age the amount he would have given her as dower, instead of doling out the interest as constant gifts; if he is a poor man, let him give her some trade or occupation by which she can earn her own money. This course would obviate the mercenary necessity of marriage which rises night and day before the penniless, dependent woman.—N. Y. Tribune.

If the man who will go into a barber shop on Saturday night or Sunday morning and have his hair cut hasn't any enemies, he certainly ought to have.

Chaff.

THEY make scarlet dye out of potato bugs now. Wish we could make some kind of a dye out of the phylloxera.

"PROCRASTINATE is the thief of a good time," was the lament of the small boy who got up too late to take the excursion train.

LITERARY men, as a class, are unsatisfactory companions; if you flatter their vanity enough to make them agreeable, you disgust yourself.

CONSCIENTIOUS: Conductor, declining a tract which was offered him with his fare: "Very much obliged, mum, but we ain't allowed to take perquisites whatever, mum."

MRS. COODLE was telling Jane that the potatoes had an oniony smell, when that monster Coodle suggested that perhaps they had been cooked in a saucepan with a leak in it.

"JOHN," asked a doctor of the apothecary's boy, "did Mrs. Green get the medicine I ordered?" "I guess so," replied John; "for I saw craps on the door-knob this morning."

"OCH," said a love-sick Hibernian, "what a recreation it is to be dying of love! It sets the heart aching so delicately there's no taking a wink of slaps for the pleasure of the pain."

A TIMID Bostonian has married a lady whose weight verges closely on 200 pounds. "My dear," said he to her, "shall I help you over the fence?" "No," says she to him, "help the fence."

An old farmer in Massachusetts had been much annoyed by the eccentricities of his hired man. One morning, going to the barn, he found the hired man had hung himself. Somewhat surprised, the old man ejaculated: "Well, what on airt'll that fellow do next?"

A Woman's Lecture to Women.

I read an article of Miss Irene's in this department asking some married lady to give the men "Hail Columbia" because women were so overworked and broken down before their time. Now I'll do no such thing, for the simple reason that I think in the generality of cases it is woman's own fault, and at the risk of bringing all the "Rural" sisters on my head, I must say that I think such is the fact.

Now in the name of "common sense" it is not just as easy to tell a husband in plain English that you didn't marry for a "slave" as it is to drudge along taking every additional burden without complaining, till at last the "straw" comes "that breaks the camel's back," and you are neatly folded away in the lap of Earth, while wife number two manages the aforesaid husband far better than you ever did, for the simple reason that she asserts "her rights," and maintains them, too?

I tell you, ladies, I have never seen a man that liked a worn down, humble creature, who hardly dared say her soul was her own. Of course, when he wishes to be waited on, she comes "handy," but when he wants "society" he seeks it in some "club," or other questionable manner; whereas, if the wife had saved her health and strength, she might be his equal "physically," as well as his superior morally. There are very few men who are naturally unkind to women, but when girls marry, they become ambitious to do all they can and take on every added burden, till nature staggers beneath the load. Had they stopped when they could not safely go further and demand help, there is little doubt but that they would have received it.

What is the use of raking and scraping continually to amass wealth, and then lie down and die for some one else to enjoy it? That plan is altogether foreign to my ideas.

I love to be as clean and as nice as anyone. Yet I never intend to test my physical strength to such a degree that my life will be shortened by the exertion. If a woman don't take care of number one, no one else will do it for her. I've heard men lamenting over the days of their dear grandmothers and great grandmothers, when the women were all good and plied the distaff and spinning wheel, and all such antediluvian curiosities, and then I wish in my heart that those same "croakers" were compelled to farm it as their dear old ancestors had done when they cut their wheat with a "grass hook," and ground their corn between heavy stones.

How would they like to do without their manifold "farm machinery," that lightens their burdens so much in this 19th century, but you see man is naturally a selfish being and needs to be told once in a while that women have "rights" just as well as he has.

I have often watched our farmers as they come to town on Saturday, and see their wives, who nearly all of them look jaded and worn out, while the burly farmer laughs and talks and looks hearty, and drives home with a \$50 or \$75 reaper or mower to make his work light, while his wife is afraid to spend \$5 without his lordship's permission, but goes all over town lugging an overgrown baby, to see where she can get calico the cheapest, while he lays back in some store, smoking and talking politics, or debating whether Garfield or Hancock will win the day.

I tell you, ladies, the reform lies within ourselves. Let us do our duty humbly, bravely, but when endurance ceases to be a virtue, rise up and assert your rights, and my word for it, your husband will but respect and love you the more when he sees that he married a "woman," and not a slave.—Mrs. M. J. G. in Rural New Yorker.

Young Folks' Column.

Grandpa's Welcome to the Country.

[There is in this State a country grandpa whose little granddaughter lives in the city. Not long ago the little girl's mamma wrote that they would make a visit to the country, which so delighted grandpa that he broke out in song and sent the following lines of welcome which the little girl likes so much that she sends them to our "Young Folks" column that other little girls may see what a fine grandpa she has.]

Dear Little E.—Last night we received your mamma's letter saying that you would come on Saturday. That is just splendid; it makes us all feel young again and very happy—even the good faithful animals seem to rejoice over it:

Old Duchess looks up with her eyes and her ears;
The other three cows are raising three cheers;
Old Kate and old Marcus are racing around;
Young Maud and Filly are skimming the ground;
Old Humboldt, old Kittie and old Pete
Are more than usually fleet.

Each little chick,
So nice and so slick,
Says, in spite of the cool, foggy weather,
I'll give you, darling, a nice little feather;
And the old matronly hen,
Looking out from the chinks of her pen,
Says, Eddie dear, I'll bet my two legs
I'll give you a haulful of eggs.
And the lordly old cock, stalking about,
Always keeping a sharp look out,
Says, little miss, cocke-doodle-doo,
All I've got shall be given to you;
And if that's not enough,
And you don't care for any such stuff,
I'll give you my heart and my head,
And all my fine feathers for a warm little bed;
All is thine, from A, without limit, to Izzard,
My flesh, my bones and my gizzard.
Boys are spouting, girls are shouting;
Bells are ringing, birds are singing;
For us all you're coming to see,
And all are happy as happy can be.

GRANDPA.

How to Make a Scrap Book.

[Written for OUR YOUNG FOLKS by ALLIS FITCH.]

I wonder if many of the young readers of the PRESS know how much pleasure there is in making a really pretty scrap book. Not a book filled with pictures of every sort and description, taken without regard to their subjects, but one in which every picture suggests something pleasant. Those who would like to try making one, may be glad of a few hints, so I will give the result of my experience.

The first requisite to success is neatness. No book can be pretty if the pictures are badly cut out and carelessly put in, and the leaves crumpled and daubed with paste.

Have your paste rather thick, but free from lumps, and spread it on thinly. Put a sheet of card-board as large as your book under the page on which you are going to paste, so as to have a firm, smooth surface to press upon. Then lay the picture carefully in its place, using a soft rag to smooth out the wrinkles and wipe the paste from the edges. When you have finished all the pasting you mean to do at the time, put some sheets of rather porous paper—newspaper will do—between the leaves, and if possible, separate them from the rest of the book by two sheets of card-board slipped between them and the dry leaves. Then put the whole under a heavy weight. It should be left there for at least two days, otherwise, though they may look very smooth when first taken out, the leaves are apt to warp. Be sure before putting the book under the weight, that there is no paste on the surface of the pictures, or the newspaper will stick and leave ugly blotches. All this may seem a great deal of trouble to take for such an object, but one is amply repaid for it by the neat appearance of the book.

It is best to collect a number of pictures before pasting any in, as they can then be combined to advantage. It is not necessary to put them close together on the page, and a good deal of taste can be displayed in arranging them. A pretty way is partly to fill the page with pictures of about the same width, leaving on the outer edge a wide margin. On this margin are to be arranged in a graceful or grotesque manner little colored pictures from which all the background has been cut away. Christmas and birthday cards can either be used in this way or pasted in whole. The leaves of the scrap book had best be of white or neutral tinted paper, as few of the bright colors throw out the pictures well.

Perhaps some of my readers know of some little invalid or poor child who would be delighted with the book when finished, or if they do not themselves know of such a one, there are children's hospitals and other institutions of the kind to which such a gift would be very acceptable.

LET THE CHILDREN EARN MONEY FOR THEMSELVES.—It is right that children should have their own pocket money—a certain allowance over which they should have complete control; but if they can earn what they spend by some employment brought forward for the purpose, so much the better. It is the misfortune of children brought up by rich parents that they have no sort of conception of the value of money. Its want does not teach them foresight, sagacity, forbearance, self-denial. The child has a piece of money, and his only idea is to spend it promptly, but if he had earned that money he would not be in such a hurry to rid himself of it.—New England Homestead.

DOMESTIC ECONOMY.

Various Ways of Cooking Rice.

Rice Dishes of Italy.—The rice dishes of Italy are popular and delicious, so unlike our own well-known ones that we urge a trial of their excellence upon our readers. Chief among them rank the rizotto of Milan and the cream of rice and chicken. The rizotto is made by par-boiling well-washed rice in boiling water for five minutes, draining and drying it on a cloth, frying it light brown with a little chopped onion and butter, and then stewing it, until tender, in enough highly seasoned broth to well cover it; it has to be watched closely, and the saucepan shaken as the rice absorbs the broth, so that it shall not burn; when the rice is done it is put into a buttered mold with shreds of cold chicken, tongue or ham, well shaken down, dusted with grated cheese and browned in the oven. Slices of mushroom or a little tomato sauce are used as variations from the chicken or tongue. The cream of rice is made by boiling the breast of a fowl and a cup of rice in chicken broth until soft enough to rub through a fine sieve; the paste thus formed is used to thicken boiling milk, seasoned with salt, pepper and nutmeg, to the consistency of thick cream; it is one of the most delicious and nutritious of all soups. Rizotto is prepared with sausages in the north of Italy in a very appetizing dish. The sausages are twisted, without breaking the skin, in inch pieces and fried brown; the rice is washed, boiled for five minutes in boiling water, drained and dried, and then browned in the sausage fat with a chopped onion; last of all these ingredients are stewed in highly seasoned broth until the rice is tender and has absorbed all the broth, enough being used to well cover it when it is set to stew.

Spanish Rice Dishes.—The rice dishes of Spain are more highly flavored with garlic than those of Italy, but the native palate calls for abundance of this pungent bulb. The rice is washed, boiled and browned in butter, a little garlic being substituted for the onion; then two large, ripe tomatoes, a spoonful of grated cheese, and plenty of Spanish red pepper, or pimiento, is added, and the rice simmered till tender in a little broth; sometimes it is served with slices of ham, bacon, sausage, smoked salmon or dried fish, any one of these being stewed with the rice. Pollo con arroz is made in the same way, morsels of fowls being substituted for the meat, and the seasoning being varied with warm spices.

Rice Dishes of Portugal.—A matelotte of fish with rice is well worth a trial. Some highly flavored fish, such as eels, is fried brown in oil or bacon fat, with a clove of garlic, table-spoonful of saffron, and plenty of red pepper and salt; then rice partly boiled and dried, is added and browned, enough red wine is poured over these ingredients to cover them, and they are allowed to simmer gently until the rice is tender, the saucepan being shaken to prevent the burning of the rice.

A Portuguese dish of sweet rice is prepared as follows: a cupful of rice is washed and boiled till soft in a pint and a half of milk, with four table-spoonfuls of sugar and a laurel or bay leaf; when the rice is soft the bay leaf is removed, a gill of cream and the yolks of four eggs added, and the rice is dish and cooled. When it is quite cold the surface is dusted with powdered sugar and cinnamon, or with burnt-almond dust. The almond dust is prepared by browning peeled or blanched almonds in the oven and then pounding them to a fine powder.

The use of rice is by no means confined to the semi-tropical climates we have mentioned, but the limit of our article will not permit further description of the many dishes of which it forms the base; for there seems to be a general appreciation of its alimentary value when it is combined with flesh-forming material.—Miss Corson.

CURING HAMS.—The following recipe for curing hams was first published in the Albany Cultivator over thirty years ago, and constant yearly use of it has convinced the editor that it has no superior: For 100 lbs. of meat take 7 lbs. of good salt, 2½ lbs. of brown sugar (or one quart of molasses), 2 oz. of saltpeter, 1 oz. of cayenne pepper, and 2 oz. of cloves. Two ounces of black pepper may also be used, if it is not distasteful to those who are to eat the hams. Pepper is used merely to prevent attacks of flies. Boil all the ingredients in sufficient water to cover the meat when closely packed in the cask. Skim and cool before pouring over the meat. The same ingredients can be used for rubbing the hams, if this mode is preferred to a pickle. For rubbing, however, it is better to add another pound of salt, and half a pound of sugar to the above ingredients. This pickle is equally good for hams, shoulders, bacon, corned beef and dried beef. When corning beef, the meat should be well rubbed in salt and packed closely in a cask two days before it is pickled. This extracts the blood, and the meat must be taken out and washed before packing for final pickling.

STUFFED SQUASH.—Choose a small summer squash with tender skin; wash it, cut out the stem end, remove the pulp and seeds without breaking the squash; mix them with sausage meat or cold meat chopped fine, season very highly, replace in the squash and bake about three-quarters of an hour.

GOOD HEALTH.

PHYSICAL EDUCATION.—Absolute health is only attained when the body is equally developed in all its organs and members. The man with muscles of steel and a diseased heart cannot be said to be in good health, and diseases of stomach, heart and nervous system are often—it may even be said usually—produced by that system of development known as training. At a recent rowing match in Philadelphia, two plucky lads in contesting boats fainted as soon as the race was over. Their condition, which was apparently good, was actually abnormal, and their systems gave way because the strain which their muscles met was too great for their vital functions. Recently a similar but more serious calamity occurred at Sag Harbor. A Brooklyn lad, who had taken part in a pedestrian contest, when removed from the track, fell down dead. He had prepared himself for walking and running, and depleted his vital organs to build up his limbs. When the strain came, the impoverished and most important part gave way. The severe muscular exercise of college athletes has carried off many fine young men by consumption, heart disease and other disorders, directly traceable to the absurd overwork required of their bodies.

ANGER FROM VULCANITE PLATES IN DENTISTRY.—In a recent paper in the American Journal of Medical Sciences, Dr. Sexton states that vulcanite plates (worn in the mouth) produce diseases that are often the source of reflex auricular disease. These plates have been in use over twenty years, and are largely adopted. The constituents are caoutchouc, the sulphur required in the vulcanizing process, and vermilion or sulphide of mercury, used as coloring matter. The gradual disintegration of the plate in the mouth liberates a salt of mercury, whose poisonous effects are well known. And the plates are otherwise injurious. At least one-third of all those who attempt to wear them experience great irritation of the mouth, often accompanied by hypersecretion of saliva. The sufferer usually lays aside the plate till informed of the necessity of growing accustomed to its presence by uninterrupted use. Vulcanite is a non-conductor of heat, and the effect of its contact with the highly sensitive tissues of the mouth is to produce hyperæmia and inflammation. Another source of injury is the very close contact of these plates, which is maintained by atmospheric pressure, and may favor the absorption of their substance.

PAIN IN ANIMALS.—Prof. J. Rymer Jones is authority for the statement that crustaceans and certain other animals are not susceptible to pain. He says, in a paper on this subject:—"Pain, Nature's kind harbinger of mischief," is only inflicted for wise and important purposes—either to give warning of the existence of disease, or as a powerful stimulus prompting to escape from danger. Acute perceptions of pain could scarcely, therefore, be supposed to exist in animals deprived of all power of remedying the one or of avoiding the other. In man, the power of feeling pain is indubitably placed in the brain; and if communication be cut off between this organ and any part of the body, pain is no longer felt, whatever mutilations may be inflicted. The perception of pain depends upon the development of the encephalic masses; and, consequently, that as this part of the nervous system becomes more perfect, the power of feeling painful impressions increases in the same ratio; or, in other words, that inasmuch as the strength, activity and intelligence of an animal, by which it can escape from pain, depends upon the perfection of the brain, so does the perception of torture depend upon the condition of the same organ."

IS IT SO?—A foreign scientific journal remarks, as a curious physiological fact, that, although open-air life is so favorable to health, yet it has the apparent effect of stunting the growth in early years. Thus, while the children of well-to-do parents, carefully housed and tended, are found to be taller for their age than the children of the poor, they are not so strong in after years. The laborer's children, for instance, who play in the lonely country roads and fields all day, whose parents lock their humble doors when leaving for work in the morning, so that their offspring shall not gain entrance and do mischief, are almost invariably short for their age; the children of working farmers exhibit the same peculiarity. After 16 or 18—after years of hesitation, as it were—the lads shoot up, and become great, hulking, broad fellows, possessed of immense strength. According to these statements, it would seem, that in-door life forces growth at the wrong period, and thus injures. Is it so?

A READY POISON REMEDY.—If a person swallows any poison whatever, or has fallen into convulsions from having over-loaded the stomach, an instantaneous remedy, most efficient, and applicable in a large number of cases, is a heaping teaspoonful of common salt, and as much ground mustard, stirred rapidly in a tea-cupful of water, warm or cold, and swallowed instantly. It is scarcely down before it begins to come up, bringing with it the remaining contents of the stomach; and lest there be any remnant of the poison, however small, let the white of an egg or a teaspoonful of strong coffee be swallowed as soon as the stomach is quiet; because these very common articles nullify a large number of virulent poisons.—Ez.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line 25 80 \$2.00 5.00
Half inch (1 square)..... \$1.00 \$3.00 7.50 24.00
One inch..... 2.00 5.00 14.00 30.00
Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, October 9, 1880.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—The Lesson of a Tragedy; Tall Panic Grass, or Switch Grass; California Stock for Central America, 225. The Week; Autumn Dairying; Englishmen in California Agriculture, 232. Grasshoppers on the Pacific Coast, 233.
ILLUSTRATIONS.—Tall Panic Grass—Panicle Virgatum, 225. Destructive Locusts on the Pacific Coast, Their Method of Reproducing and the Parasites which Prey Upon Them, 233.
CORRESPONDENCE.—Miner's Peak, Tulare County; San Bernardino's First Fair.—No. 2, 226.
HORTICULTURE.—Plums and Prunes, 227.
PATRONS OF HUSBANDRY.—A Grange Fair in San Diego; Regrets of W. M., J. J. Woodman; State Grange Meeting, 228.
AGRICULTURAL NOTES from the various counties of California, 228-29.
HOME CIRCLE.—The Origin of Indian Corn (poetry); Mrs. M. Williams and the Lightning; Fixing a Mirror Image; Study after School Days; Providing for Daughters, 230. Chaff; A Woman's Lecture to Women, 231.
YOUNG FOLKS' COLUMN.—Grandpa's Welcome to the Country; How to Make a Scrap Book; Let the Children Earn Money for Themselves, 231.
DOMESTIC ECONOMY.—Various Ways of Cooking Rice; Curing Hams; Stuffed Squash, 231.
GOOD HEALTH.—Physical Education; Danger from Vulcanite Plates in Dentistry; Pain in Animals; Is It So? A Ready Poison Remedy, 231.
NEWS IN BRIEF on page 233 and other pages.
MISCELLANEOUS.—Saw-Mills; Proposed Ocean Telephone; A Novel Horseshoe, 227. Skin Grafting from a Sheep; Vast Importance of the Cotton Crop; Salicylic Acid, 234.

Business Announcements.

Pioneer White Lead—Whittier, Fuller & Co., S. F.
The Stockton Game Plow—H. C. Shaw, Stockton, Cal.
Evans Magazine Rifle—G. W. Turner & Ross, Boston, Mass.
Veterinary Surgeon—Dr. A. de Labrousse, S. F.
Angora Ewe Goats for Sale—H. W. Chappel, Shasta Co., Cal.
Sportsmen's Headquarters—J. P. Clabrough & Bro., S. F.
White Russian Seed Wheat—A. Glabrough, S. F.
West Side Gang Plow—Thos. Powell, Stockton, Cal.
Pantry Dresser and Side-Board—L. O. Hudson, Stockton.
Lift and Suction Pump—Fred. A. Ruhl, Stockton, Cal.
Carriages and Wagons—Jos. Hansel, Stockton, Cal.
Metallic Window Screens—J. Reardon, S. F.
Seed Cleaner—Lewis Clark, Sacramento, Cal.
Carriages, Wagons and Trucks—David Kerr, S. F.
Patent Chimneys—J. Brownell, S. F.
Thoroughbred Stock—Jesse Carr, Salinas City, Cal.

The Week.

The sun shines between the clouds; brilliant Jupiter at times peers through the night mists; the heavens have been for days in vacillating mood. At times the south wind has blown, and ominous drops have fallen, and have even gathered in showers in some parts of the State. The season seems quite at its turn, but hesitates, coquetting with our hopes and fears. Still the huge stacks of unthreshed grain rise upon the plain, and the long ramparts of plethoric sacks line the rivers and skirt the densely packed warehouses, waiting for the carpenters to extend the roofs or for shipment to reduce the mass inside. There is arising no little anxiety among our grape-growers because the already late season has shown such dilatory habit. There is great danger that our raisin product may be reduced by the impossibility of drying in the open air. The autumn is so far advanced, the sun heat so moderated and the nocturnal moisture increased, that a day's drying does not accomplish nearly so much as it would a month ago. The second crop promises to be in forlorn surroundings even if heavy rains should be delayed. Already some grapes which were intended for raisins have been sold to the wine-maker because of the dangers of the season. There is being unusual preparation made for artificial protection and drying of raisins this year, so if worst comes to worst the fruit will not be lost without a struggle.

The fairs continue. Last week the San Joaquin District Association, at Stockton, held an exhibition, which was in some respects peculiarly fine. This week the San Jose fair is in progress, and early reports by telegraph speak of a war upon the gamblers, who beset the path with their swindling devices. It is well. The whole multitude of gamblers, large and small, should be swept from the fair grounds and the avenues leading thereto. Why should an agricultural fair be longer infested with these parasitic abominations? We hope the effort against them at San Jose will propagate itself until our holiday gatherings are freed from all such besetting evils.

Autumn Dairying.

How to bring produce upon the market at the time when it will bring the highest price is one of the constant problems in agricultural production. How can the great surplus which crushes down values at one season be avoided, and the material set forth at a time when scarcity usually raises values. With certain products there is the recourse to storage by which perishable crops can be sometimes held for marketing at some time after harvesting. With others there must be a chance in the scheme of production so as to have fresh material at a date which seems unseasonable. The dairy industry admits of this departure from the usual course of production to a certain extent, and of this we would speak.

There is now practiced at the East, chiefly in the new dairy States of the prairie region, what is called winter dairying. The cows are brought to calving in the fall rather than the spring, and the flow of milk comes in midwinter rather than in midsummer. The dairyman has of course to put forth extra exertions, and is occasioned extra outlay by the change in programme. Especially good buildings are required for shelter of cattle, and heating apparatus of good power in the butter factory. There is also the need of storing an unusual amount of summer-grown fodders, the production of large supplies of heats and other roots, and the purchase of great weights of bran and other mill feeds. In short the winter dairyman turns his back upon fragrant pastures and mellow days, and takes up the problem of wresting his product from cured fodders and arctic cold. He does this because by shipping fresh butter to the great Eastern cities in midwinter he can secure about twice as much per pound as he could if he leisurely followed the course of the seasons, and contented himself with gathering summer butter, and selling it at little more than the bare cost of production.

The course of the butter market in this State and the stated periods of rise and fall in market prices make it quite apparent that our butter producers can learn something from the example set them by the Eastern practices. It is evident that there is altogether too much butter produced in the spring months in this State, and too little in the autumn. The result is the price is shamefully low for months after month in spite of the recourse to packing, which is at best but a poor refuge. Soon after the summer drouth asserts itself in the lack of feed, and as the cows shorten their milk, both because of short rations and their advance in the period of lactation, the price goes up with a sharp turn and butter becomes a precious article at a time when producers have comparatively little to sell. To show how striking is the difference in average prices of butter in this city during certain months in spring and fall, we have prepared the following table covering six years:

	April, May, June.		Oct., Nov., Dec.	
	1875	1876	1877	1878
1875	25 to 32	22 1/2 to 27 1/2	35 to 45	32 to 45
1876	25 to 30	19 to 25	30 to 41	25 to 35
1877	15 to 20	16 to 22 1/2	32 to 40	32 to 40
1878	25 to 30	19 to 25	30 to 41	25 to 35
1879	15 to 20	16 to 22 1/2	32 to 40	32 to 40
1880	15 to 20	16 to 22 1/2	32 to 40	32 to 40
Averages	20 to 26	22 1/2 to 27 1/2	32 to 40	32 to 40

These figures show plainly the margin there is to cover the increased cost of producing butter at an unseasonable time. It is quite as good as that which leads to the practice of winter dairying at the East, and there are many reasons why inducing and maintaining a full flow of milk in the autumn instead of the spring in this State is easier than a leap from June to January at the East. Obviously the equable temperature of this coast not only requires much less provision for shelter, and less food to maintain the heat of productive vigor, than the sub-zero temperature of the long hard winter at the East. Here too it is comparatively easy to produce succulent food in the autumn wherever water can be brought upon the land, and situations where this can be done are on every hand. At the East the best that can be done to infuse healthful juices into the food is to grow roots, unless the new system of ensilaging should give the Eastern dairymen permanent supplies of green fodder. Here again the manufacture of butter during the salubrious fall months would be as delightful a task as the dairymen could ask, and in marked contrast to the heating of cream and factory when the snow is heaped up to the factory windows as in an Eastern winter.

Of course it will cost more to make extra arrangements to produce butter from grown crops, than to let the cows take their chance at the pasture in the flush season, and let them go dry when the feed fails. But it will undoubtedly increase the year's profits by a greater amount. It is more trouble to irrigate and grow heavy crops of rye grass, or Amber cane, or corn fodder, or *Penicillaria spicata*, or alfalfa, or *Sorghum Halapense*, or any of a dozen other crops which will give large returns, and then cut and feed them according to the soiling season; but there is nothing in this to compare with the constant summer labor of growing and gathering feed at the East, and the forlorn business of feeding and stabling cows, as they have to do for the long winter months. The California task is delightful in the contrast. Our dairymen are already started upon the new course, because many are already making provision for green feed in the dry season who formerly were content to take the

seasons as they came. All that has to be done is to carry the idea a little farther to make the supply of feed certain; then as occasion offers bring the cows to calving so that they will be in full milk at the present time of the year.

The figures show that one has to produce almost twice as much butter to get the same money in the spring months as now. The gradual changing of the cows to early autumn calving will divide and distribute the butter product throughout the year so that the pressure will be relieved from the spring months; the over-eaten pastures will have a chance to recuperate; the dairy farm will be improved by the manure from the cultivated crops and the rich mill feeds which can be used with a profit, and the result will be an improvement in the prosperity of the butter maker which has been for a long time at a low ebb because he has had to sell his product when it was worth nothing, and had nothing to sell when the price was remunerative.

The dairy cow is a plastic animal. In her breeding you can spoil or improve her, and in her handling you can make her profitable or otherwise. Her whole life in the dairy is an artificial one. In a natural state she gives little milk and for a short season. In her place in the dairy, you can do almost anything you desire with her, if you adapt your means to this end and work wisely. It would be impossible all at once to change the scheme of butter production which now prevails, but it could be done gradually, and there is no danger that too many will make the change. There has already been wide variations in the time of beginning the milking season in this State, and cows have been changed from spring to late fall calving in many dairies. It only needs to continue the process farther, make ample provision for feed, and get the greater money the year round for the product. We should like to hear from any and all of our dairy readers concerning their opinions or experiences in this matters here advanced.

Englishmen in California Agriculture.

We have often thought that we ought to give the "Mother Country" a "first-rate notice" in the PRESS for her gift of her many sons who are now carrying forward praiseworthy agricultural enterprises, and thus contributing to the progress of California. In the fabric of the agricultural population of this State there are woven many threads of nationality. No State in the Union has so composite a people. We have not space at this time to trace them out, nor to enumerate the wealth of information, of practical experience and of inventive genius which each foreign element has brought with it to the general fund of resources by which our new conditions are to be met and made to yield success. This would be an interesting branch of study and investigation, and some student of local sociology may some day take it up. In the minds of all there arise now and then unbidden impressions of the good or ill which the incoming of certain alien elements secures, and to no one will these come so freely as to one who studies our agriculture and associates with our agriculturists. We, in turn, have felt a glow of appreciation as we have seen the persistent efforts of the Scandinavian, the sterling industry of the German, the wide-awake enterpriser of the French, the enlightened endeavor of the Pole, the lofty spirit of the Swiss, the quick adaptability of those who hail from the shores of the Mediterranean, the quiet frugality of the Portuguese, and the host of traits which mark the many other nationalities, representatives of which are now building up happy California homes and rearing their children in conformity with the orthodox American idea of citizenship. All these contribute elements which are invaluable to our progress.

Of the English, or rather the British element of our agricultural population, we would speak at this time, because we have read an article in one of our respected London exchanges which seems rather to begrudge us the acquisition of something which we highly prize, and to do us the injustice of picturing hardship as the lot of those who come to us. This view is embodied in the following paragraph, which we quote from the *London Farmer*:

As to emigrating to strange lands few farmers indeed would venture thereon if they properly considered what it was to go under new laws and amid new customs, to lose all links of home sentiment, as well as all glimpses of home scenery, to risk all on a speculation of which the issues are not determinable by their own industry, but must hang on the maneuvers of markets they do not control, or on the arrangements of governments frequently changing, always unsettled, and sometimes broken by intervals of plain anarchy and confiscation.

Life in the new districts of the United States is hard, grinding, sordid toil; unswayed by society, void of geniality, disreputable, rest or culture. It does not mean progress, but the loss of two centuries' progress. It means the farmer becoming a peasant, his sons ordinary agricultural laborers, his own wife and daughters what the wives and daughters of his ploughmen and shepherds now are.

We have no doubt our contemporary has in mind an exaggerated idea of the conditions which may prevail to some degree in the new regions of the Northwest, but no exception is made in favor of California or any other division of the newer portion of the United States, hence his aspersions are made to apply to all parts. Applied to California they are eminently unjust, for whatever evils exist here, certainly apart from the twinge of homesickness which the writer aims to foreshadow, none of

his predications of hardship belong to life in our State. On the other hand the British born who have come to us are among our most solidly successful men. They may not be found in the ranks of our largest operators in agricultural enterprises, and yet British capital and British skill are carrying on some of our most praiseworthy enterprises of reclamation, and developing great values in the face of the greatest difficulties. But passing such enterprises in which the average immigrant has no share, we come to the field of individual agricultural efforts in which the British qualities of perseverance and thoughtful action are winning laurels. In the specialties of dairying and stock breeding, in the production of fine meat and wool and in the various branches of horticulture, we have British men who are doing great deeds for the State and for their own prosperity. They may be found in nearly all parts of the State, and their homes, their farm buildings, their implements, and their methods are all evidence that British ideas of home comforts and progressive agriculture are quite applicable to California soil and conditions.

We are now at such a stage in our agricultural growth that the infusion of British ideas and the adaptations of British systems may be of incalculable service. The problem of restoring our soils, which prevailing methods have partially exhausted, is one of the greatest and most important. Already Englishmen have secured excellent results by the conservation and application of fertilizing materials—a practice which had no place in the old California system of agriculture. The use of commercial fertilizers is another policy which is very slowly but yet surely gaining ground. No system of agriculture has these matters more intimately interwoven in its policies than the British, although nearly all our European associates can teach us something in this regard. It largely devolves upon our British element to educate us in the science and practice of fertilization and to convince us by the force of their own successes, that though methods may vary, the old principle of returning to the soil an equivalent for values removed, is the surety of enduring fertility, here as elsewhere. So long as immigrants from Great Britain are our missionaries of progressive agriculture, and so long as in teaching us they attain success which renders them firm advocates of their chosen State, why should British conservatism attempt to rob us of them and endeavor to send enterprising Britishers to South Africa or the sands of India, or the chill of the Canadas, or to the lone islands of the south seas, simply to realize Beaconsfield's ideas of a British empire?

But we imagine that the ideas which we would combat hardly need the effort on our part. They fall by their own weight and the tide of British emigration proceeds unbroken to those parts whither the success of earlier outgoers invite it. This is seen in the records of emigration kept by the British authorities. From the Board of Trade returns for August it seems that during that month 15,941 emigrants sailed from the Mersey for various parts of the world. The emigrants comprised 8,504 English, 187 Scotch, 1,783 Irish, and 4,974 foreigners, the nationality of the remaining 493 not having been given. Returns show a decrease of 307 on the number who sailed in this month of July, and an increase of 2,353 on the August returns last year. The destinations of those who sailed in August were:—To the United States, 13,454; British North America, 2,194; Australia, 29; South America, 102; Honolulu, 20; East Indies, 56; West Indies, 14; China, 4; and the West Coast of Africa, 68.

This summary shows the choice of those who have doubtless made the subject of their future homes a most serious study, and have staked their fortunes on the choice. If we are not mistaken, the choice of the greatest number is approved by the most enlightened British judgment as well as by the experience of those who have come hither. If this be so, of what avail to try to stem or turn the tide?

LOS ANGELES FAIR.—The first annual fair of the Sixth District Agricultural Association which will be held at Agricultural Park, Los Angeles, from Oct. 18th to 23rd inclusive, promises to be a grand success in every respect. The Directors have secured from the Southern Pacific Railroad Company half rates on all freight intended for exhibition, and the Pacific Coast Steamship Company will carry both passengers and freight at half rates. President Hayes and party, including Mrs. Hayes, Gen. Sherman and Secretary of War, have promised to be present, and Gen. John C. Fremont has been invited to deliver the annual address. The presence of these distinguished persons will make the event a noteworthy one and add much to the interest of the occasion. The premiums offered are liberal and the exhibit of stock and the various agricultural products of this favored section of our State will be finer and larger than any previous year.

CALIFORNIA POMEGRANATES.—We notice by late accounts from the great St. Louis horticultural fair that J. J. Conant, of San Diego, was awarded a premium for the best plate of pomegranates.

PROFESSOR Riley says that he has reached a stage in the management of the cotton worm when there is no longer any excuse for its ravages, and that the caterpillar and ball worm will cease to be a cause of anxiety to intelligent and enterprising planters.

Grasshoppers upon the Pacific Coast.

The visitations of locusts upon several different sections of the Pacific coast have brought much hardship and loss upon the agriculturists. It is true that the pests did not spread from the mountain valleys upon the great plains as it was feared they might, from the great abundance of them and the vigor of their egg-depositing last year. This threatened invasion was fortunately not realized, but there have been considerable numbers of the insects here and there in the San Joaquin and Sacramento valleys, and their presence has occasioned some damage and much alarm. This being the case we propose to give an illustrated chapter upon the destructive locusts, so that all readers may distinguish the different species, may understand their method of reproduction and recognize some of the parasites which do much in reducing their numbers. The basis of what we shall write is an article lately prepared for the *Evening Bulletin*, of this city by Prof. J. G. Lemmon, who is the thesaurus of locust learning on this coast, and for the most of the engravings which we introduce we are indebted to the courtesy of the *Bulletin* proprietors.

True locusts or grasshoppers, are insects of the straight-wing order (*Orthoptera*). They have a large head, short and stout feelers (an-

The "Lesser" (*Caloptenus atlantis*), Fig. 3, is much smaller than the others, of bright, contrasting gray and olive colors, and with a white line passing diagonally from the base of the wing down to the hind thigh.

The second genus, alluded to above, is the *edipoda* or "big legs." This is a smaller genus of usually non-migratory and harmless locusts. But one species has, for some mysterious reason, become migratory in California to the extent of a few miles annually, and is then very destructive. This genus is without the curious spine under the neck, having a rounded Adam's apple instead, and the male abdomen is not enlarged, but tapers to a point. The principal species of the genus, the one with which we are concerned, is called the "Atrocious locust," (*Edipoda atrox*), Fig. 4.

The females are about an inch and a quarter long, of a light gray or a grayish-yellow color; the males a quarter shorter, and of a lighter yellowish or straw color. The males outnumber the females four or more to one, and are often mistaken for another species.

The "Atrocious locust" is found normally scattered all over the country, but this coast seems to be its headquarters or habitat, where the conditions favor its permanent residence and full development, and where, from Santa Barbara and Fresno to Sacramento and Shasta, loud complaints have often arisen of its swarming in immense numbers and eating the crops. The Atrocious locust (*Edipoda atrox*) is the grasshopper most frequently seen in the vicinity of the bay, and even on the streets of San

fruit trees, first devouring the leaves, then the fruit and twigs.

At Reno this season another large, green locust, over two inches long, is found following the bad example of the *Caloptenus* family (to which his long neck-spine allies him) in defoliating the fruit shrubs and trees, being especially fond of roses and poplars. Also the Coral-wing grasshopper is seen trooping along with the gourmands, and the large, gray, long-winged, but harmless "Clapper locust" follows lazily after. Still another, the large, green-striped locust is too short-winged for flight at all, and wisely keeps to his eating of the umbellifer plants along the ditches, actually doing man a service by eating off the poison wild parsnip so fatal to his cattle.

The process of reproduction of the locust family is shown so well by the engravings that few words are necessary. Fig. 5, *a, a, a*, shows the female locust in different positions ovipositing; *b*, is the egg pod lifted out of its place in the ground and the end broken off to show the eggs; *c*, is a few eggs loose upon the ground; *e* and *d*, show sections of the hole in the ground, one being filled with eggs, the other being filled; *f*, shows an egg shell covered up. Fig. 7 shows different views of the egg mass somewhat enlarged.

Fig. 6 shows the character of the egg and the embryo as seen with the microscope. Below is the egg with its cell-like covering, which is magnified still more at one side; above is the inner shell and the young just before hatching. Fig. 8 shows in magnified form the anal char-

acteristics of the female and the organs which participate in ovipositing. The egg appears emerging from the body.

Parasites of the Locust.
One of the grandest laws in nature is that every animal, every plant, meets in time with check. Even the slowest breeding animal would soon overrun the country, were the counteracting influences by any means removed, while the more prolific species would do so in an incredible short space of time. Mother Nature, kind alike to all and cruel to all, advances her grand purposes, maintaining alive her myriads of species, each warring upon others and gaining temporary supremacy, succumbing only when in consequence of changed conditions, one species after another becomes too weak for its competitors, and is extinguished.
Something over 50 kinds of insects that prey upon the locust have been described, including wasps as large as itself, and little parasitic mites no larger than pin-heads, but which, by their great number, speedily suck the blood and soon kill their host.

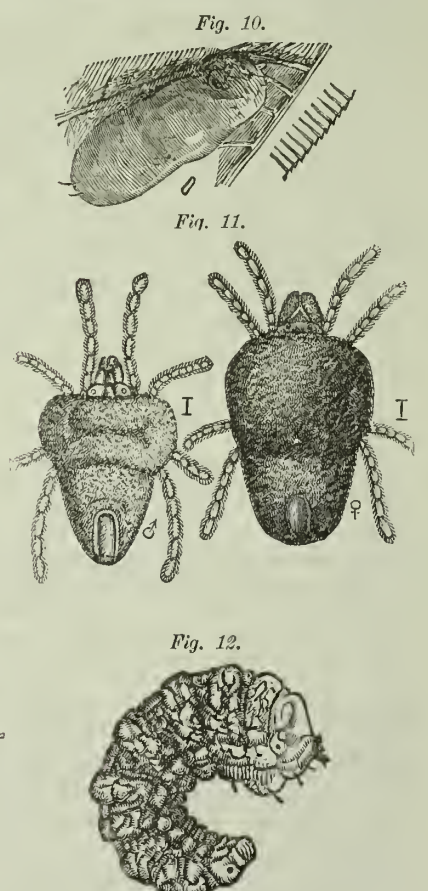
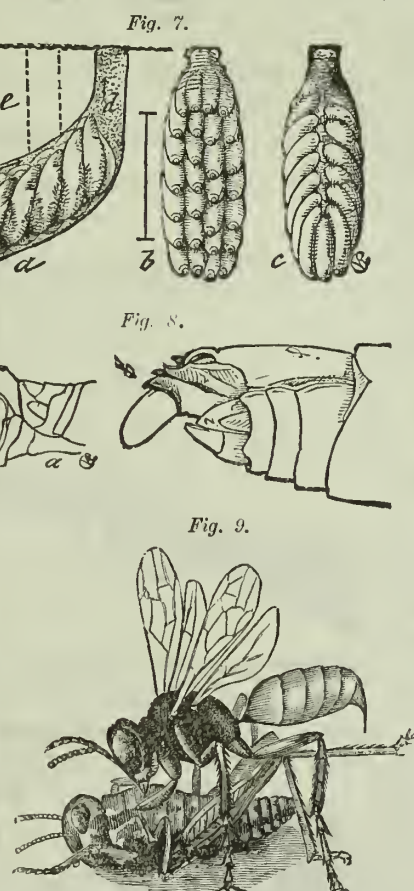
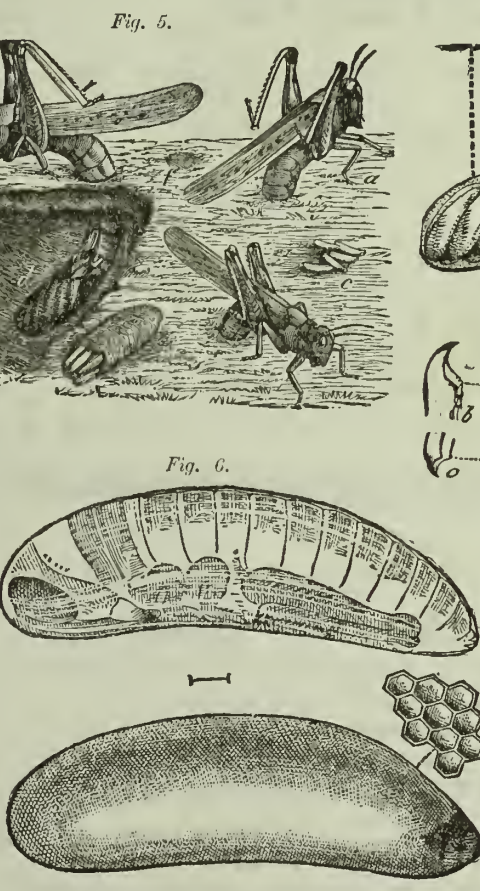
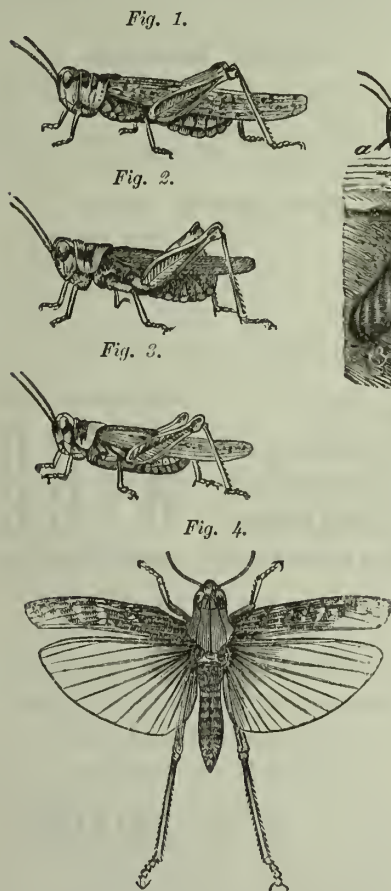
One of the most amusing scenes connected with the subject of locust enemies is that of the attack of the digger wasp, a species of *Pompilus*. Having seized a locust and benumbed it by a quick thrust with its sting, he proceeds to drag it swiftly along the ground, using both legs and wings for the task, until a clean place is reached. The wasp now selects a spot free from grass roots and commences digging a hole, swiftly scratching out the sand, frequently raising quite a cloud of dust, desisting occasionally to hasten away and look after his victim, evidently on the watch for body-snatchers. When the pit is excavated to the depth of an inch or so, and of sufficient size to contain the locust, the latter is dragged to the edge and tumbled in, projecting legs and other parts cut off, then all closely packed in the bottom. An egg is

lastly placed in the body of the locust, when the earth is again scratched into the grave, and before the dust settles, away hurries the little wasp for another locust. The operations of this locust killer is shown in Fig. 9.

Chief among the parasitic enemies of the locust is the red, silky mite. It is a wonderful creature, appearing so diverse at different stages of its existence as to have received several widely distinct names. Its history has at last been cleared up, and the name established, *Trombidium locustarum*. In its larva stage this little mite, like a louse, attacks the locust, fastening upon its wings, legs or body, and draining its host of blood, becomes itself red and immensely swollen, like an oblong bladder filled with blood. It is shown in Fig. 10, in position on the wing of the locust. When gorged it falls to earth, there to undergo transformations that result in a beautiful red, silky, spider-like insect about one-quarter as large as a kernel of wheat. In the engraving, Fig. 11, the perfect mite is enlarged about 15 diameters. The one upon the right is the female mite, upon the left the male. These mites have been seen in some places so thick as to redden the ground, and in Sierra valley their presence was a sure guide to the locality of egg deposits.

This curious little mite has been credited with the routing or destruction of the *spretus* in the interior, in certain sections, and, what is very singular, of so affecting the instincts of the locust as to prevent its progeny from invading a country where this valiant little enemy abounds.

Another enemy, which has proved very de-



DESTRUCTIVE LOCUSTS ON THE PACIFIC COAST, THEIR METHOD OF REPRODUCTION AND THE PARASITES WHICH PREY UPON THEM.

tennae), mouth furnished with strong sidewise moving jaws, and long, strong hind legs. The female abdomen terminates in four short horn-like organs arranged in pairs, one moving outward and upward, the other pair outward and downward when drilling holes in the earth for her eggs. The abdomen of the male rounds upward at the end like the prow of a boat.

Locusts are divided into many groups, comprising hundreds of genera and thousands of species differing from each other, chiefly by microscopic characters, but for the purposes of this article it is only necessary to distinguish the two genera concerned in the present California invasion.

The first genus to be considered is *Caloptenus*. The members of this large genus may be at once known by the presence of a curious spine or blunt thorn, like a yellow awl-point, which they bear under the neck, between the fore legs; also the males have the last abdominal segment greatly enlarged as well as upturned. There are 29 species in the United States, but three of which are found on the Pacific coast, the "Hated locust" (*C. spretus*), the "Red-leg" (*C. femur-rubrum*), and the "Lesser" (*C. atlantis*). All of these are migratory, terribly destructive, and are known to have caused the great damage to the interior—and are suspected of aiding in the great invasion of 1838 and 1855, on the Pacific coast.

The "Hated locust" (*Caloptenus spretus*), Fig. 1, is usually one and one-quarter to one and one-half inches long, of a reddish brown color, with darker spots on body and wings. The long wings, on which it depends for its long flights of sometimes a thousand miles, extend a quarter of an inch beyond the body. The tip of the male abdomen is distinctly notched.

The "Red-leg" (*Caloptenus femur-rubrum*), Fig. 2, is shorter, while of the same thickness, generally of a darker hue, while the apex of the male abdomen is truncate, as if cut squarely off.

Francisco, so he may be caught and studied by any one. Ordinarily it is harmless by its fewness in numbers, but at any season, favored by Mother Nature, it may become immensely numerous and destructive, as seen now in eastern Oregon, eastern and southern California.

Locust invasions, which occur suddenly by high-flying insects, which, when they alight, scramble about and devour every green thing, even to the bark of trees, must be some members of the long-winged, migrating *Caloptenus* family described, against which there is no remedy. The ancient Egyptian plagues and the present Asiatic locusts, as also the destructive species of South America and Mexico, belong to the same great class of spine-bearers.

The Atrocious locust, which is usually few in numbers and non-migratory, has for three years past devastated Sierra valley, and last year sent colonies out to the south and west into Truckee Meadows and the valleys of Tahoe lake, Donner, and the high valleys about the railroad pass, and this year they are swarming more or less over the whole region.

What has often been noticed at the East is seen here too—all the locusts of the region go on the war-path together, at least, as far as the short wings of some of them will allow. It seems some favoring conditions of nature cause their rapid increase, and migrating and destructive eating are matters of necessity with them. So, here in all the afflicted region, locusts at some time of the year are found in vast numbers, and each devours his favorite food.

First, the "Atrocious" locust appears early in July, and attacks grain and grass on the high and dry localities, though he can, if pinched, relish rank growths of swamp grass and tule. Later comes the bright little "Lesser locust," attacking the heavier plants along the water courses and the garden vegetables. The "Red-leg" brigand lastly pounces upon the shrubs and

characteristics of the female and the organs which participate in ovipositing. The egg appears emerging from the body.

Parasites of the Locust.
One of the grandest laws in nature is that every animal, every plant, meets in time with check. Even the slowest breeding animal would soon overrun the country, were the counteracting influences by any means removed, while the more prolific species would do so in an incredible short space of time. Mother Nature, kind alike to all and cruel to all, advances her grand purposes, maintaining alive her myriads of species, each warring upon others and gaining temporary supremacy, succumbing only when in consequence of changed conditions, one species after another becomes too weak for its competitors, and is extinguished.

Something over 50 kinds of insects that prey upon the locust have been described, including wasps as large as itself, and little parasitic mites no larger than pin-heads, but which, by their great number, speedily suck the blood and soon kill their host.

One of the most amusing scenes connected with the subject of locust enemies is that of the attack of the digger wasp, a species of *Pompilus*. Having seized a locust and benumbed it by a quick thrust with its sting, he proceeds to drag it swiftly along the ground, using both legs and wings for the task, until a clean place is reached. The wasp now selects a spot free from grass roots and commences digging a hole, swiftly scratching out the sand, frequently raising quite a cloud of dust, desisting occasionally to hasten away and look after his victim, evidently on the watch for body-snatchers. When the pit is excavated to the depth of an inch or so, and of sufficient size to contain the locust, the latter is dragged to the edge and tumbled in, projecting legs and other parts cut off, then all closely packed in the bottom. An egg is

structive in Sierra valley, is called the "large white grub," the larva of an insect whose full-grown form was unknown until this spring, but now known to be the larva of a "hover fly" (*Bombus*), species not determined. The same larva has excited great interest in the interior by its effective onslaught upon the eggs of locusts. It is shown in enlarged form in Fig. 12. It seeks out a nest of eggs, eats the contents of the whole nest, 24 to 32 eggs, one by one, pushes the shells aside, while his own body, big and fat with the feast, fills the whole case, in which condition he curls up and enters upon his long winter's nap. The dormant stage lasts till spring, during which time the grub is about half an inch long and one-fifth thick, being largest in the middle and tapering slightly towards its head and tail. In this state several specimens at different times have been sent to Prof. Riley, at Washington, but he failed to perfect them in his vivarium. However, the question has been solved this spring in Sierra valley. Some earth, with an ascertained number of this larva therein, was carefully watched under glass. In July a beautiful little velvet-bodied fly, a species of *Bombus*, appeared, having a long, black beak, with which it sucks nectar from flowers, to which it swiftly darts, then hovers above them like a humming-bird while sipping the nectar. To the services of this grub are the citizens of the north end of Sierra valley mainly indebted for untouched crops the present season, where for three years the locust has rioted, but where last fall its nests were soon emptied by this gourmand. The full-grown fly was frequently noticed in the fields about Franktown and around Reno, in August, and no doubt here, as elsewhere over the interior, this little fly is the avenging Nemesis of the locust.

The harvest throughout British Columbia has been abundant this season.

Skin Grafting from a Sheep.

The Chicago Times, of September 4th, contained a full account of an operation in skin grafting which was performed at the County hospital. The patient was a young man, 23 years of age, named John Filas. A large cancer had been removed from the outside of his right leg near the hip, and the wound which resulted was about 10 inches long and nearly as wide. Nature was healing it so slowly that it was decided she should be assisted, and wisely, too, as the result shows. A previous operation of a similar nature on little Aggie Sheehy was successful, but the vitality in her wasted frame had become so nearly exhausted that her life went out like the light from a lamp exhausted of oil, but it was no fault of the skin transplantation. Filas' frame was strong, and if the experiment should fail he would be none the worse for it. A flap of skin was cut away from the hip of a young sheep, large enough to cover about two-thirds of the wound. It was sewed fast to the natural skin of the sheep on three sides and left attached to the patient on the fourth side. It was expected that while the circulation of the blood of the sheep would keep the flap alive, it would become attached to the exposed surface of the wound on which it rested, and in time be nourished by the blood of the patient. The flap was kept covered for 24 hours. At the end of that time the dressing was removed, and it was found that the tip of the flap, or two inches of it, had died.

Within a few days it became apparent that the remainder of the flap had become firmly attached, the cutting of it away from the sheep was commenced at once, and clippings were made each day. Finally, the sheep began to waste away, and sheep and patient both became very restless. It was thought best to detach the flap from the sheep wholly, and one stroke of the surgeon's knife on yesterday liberated the animal. It is assured that the skin will grow to the man's hip, although some portions of it may yet slough away. If a piece no larger than a silver dollar is finally attached, the fact is settled that skin grafting may be a success. It was not expected at first that less than three operations would be sufficient to supply the patient with all the skin he needed. As soon as the portion now transferred is properly fixed another operation will follow.

Vast Importance of the Cotton Crop.

Mr. Edward Atkinson, a most competent authority on matters relating to political economy, says that the present cotton acreage of the Southern States covers less than 2% of the cotton-growing area of the United States; and that we do not begin as yet to appreciate the magnitude of the wealth to be obtained from the culture of cotton in this country. He estimates that the present crop of cotton will be at least 25% larger than the largest crop ever raised by slave labor—that is, it will exceed 6,000,000 bales. That amount of cotton, he says, will produce 3,000,000 tons of seed, over and above that needed for planting, which will yield 90,000,000 gallons of oil, 1,300,000 tons of oil-cake, and 1,500,000 tons of hulls suitable for making paper. Each ton of oil-seed meal will keep five sheep six months. Thus the crop of cotton seed will not only support millions of sheep, but it will return to the land the fertilizer needed to grow more cotton. These facts reveal at a glance the intimate relation existing between two of the great staples of the country—cotton and wool; and they suggest the immense possibilities of the future for both the North and the South. The development of the latter means business for the former. It is of the utmost consequence to the artificers of the North that a new and increased demand for the products of its industry shall spring up in our vast and sparsely peopled Southern States. They are filling up, fortunately, and are requiring more houses, and clothing, and utensils of all sorts—indeed, everything which our manufacturers can cheaply supply. Mr. Atkinson's proposed combination of the cotton and sheep husbandry ought to receive the most serious consideration. And he believes that a "cotton exhibition," during which all the facts he has stated and many others would be developed, would greatly stimulate interest in the direction he suggests.

In Mr. HOLMAN HUNT's picture of "The Flight into Egypt," the donkey from which he painted is stated to be an animal of purest breed, boasting a genealogy of two centuries; while the Virgin is taken from a lovely Jewish maiden living in the neighborhood of Bethlehem. One original feature in the picture will be a procession of infant spirits—those of the murdered innocents. Mr. Hunt has been engaged on this picture for four years, and it will take six months to finish it.

SALICYLIC ACID.—The preservative and antiseptic action of salicylic acid cannot be relied upon when brought into contact with any liquid substance in wooden vessels or casks. The salicylic acid under these circumstances speedily disappears, being apparently absorbed and decomposed by the wood tissue. When this acid is used as an addition to drinking water or wine, the casks must first be coated with pitch.

THE NEW MODEL
PARKER SHOT-GUN.



Shooting Qualities
UNSURPASSED!
Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application.

E. T. ALLEN, Agent for the Pacific Coast,
NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL.

CEO. F. SILVESTER,
IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.
ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.
GREAT REDUCTION IN PRICES.

Seed Warehouse, 317 Washington St., San Francisco.

C. D. Ladd,
821 Kearny Street, San Francisco, Cal.
C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharpe and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

PETER SAXE & SON,
IMPORTERS AND BREEDERS OF
Thoroughbred Live Stock,
Horses, Cattle, Berkshire Hogs and Pigs. and Sheep



We can fill orders at any time for the best families of PURE BERKSHIRES, "Short Horns," and "Jersey or Alderney" Cattle, Jacks and Mules, Spanish and French Merino, Cotswold and SHROPSHIRE SHEEP.

All at moderate prices and perfectly pedigreed.

Importing to and breeding on this coast has been a specialty with us for the past 10 years. Satisfaction guaranteed.

PETER SAXE, }
H. POLK SAXE, }

Address Lick House, San Francisco.

The Cheapest way to Obtain Currant Plants. Five Dozen Cuttings for One (\$1.00) Dollar.

On receipt of one dollar I will send by mail, post-paid, One Dozen Cuttings of each of the following five varieties, with instructions for planting, viz.: Cherry, Victoria, Red Dutch, White Grape and Black Naples. The cuttings do best planted in the fall, but can be planted in the spring, or any time during the winter when the ground is not froze.

CHAS. R. HUNTER,
Drawer 218, East Saginaw, Mich.

PENSIONS! NEW LAWS. Thousands entitled. Any disability, however slight, if contracted in the service, entitles the soldier to a pension. Pension laws are now more liberal and many pensioners are now entitled to increase of Pension. Apply at once. Delay is dangerous. Bounty due to thousands! Land cases of all kinds settled. We prosecute claims before any of the Departments and Congress. Original and Duplicate Discharges obtained. Dishonorable Discharges, or draft is no bar to receiving pension. Send two stamps for new laws and instructions to E. H. GELSTON & CO., PENSION AND PATENT ATTORNEYS, Lock Box, 725, Washington, D. C.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,
Near the University, Berkeley, Alameda Co., Cal.

LASH'S ADJUSTABLE FRUIT GATHERER.

Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. Also, sole agent for Pacific Coast of HECOR FORCE PUMP, with patent stone cylinders, making them acid proof. The best pump yet invented.

T. M. LASH, 601 N St., Sacramento, Cal.

SAVE YOUR HORSES! Safety, Security and Economy.

Haggard & Brown's Wagon Tongue Support.

The undersigned has the agency for this coast. For trade price list or exclusive territory, address,

W. E. LIVERMORE, Loe Gatoe,
Santa Clara County, Cal.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 409 Washington St., Boston, Mass.

REMOVAL.

H. N. COOK,

Manufacturer of LEATHER BELTING & HOSE.
Has removed from 415 Market Street, to 405 Market Street, corner of Fremont.

126 PERCHERONS

IMPORTED

WITHIN TWELVE MONTHS!



78 HEAD ARRIVED AUGUST 15th,

FOR THE FARM OF THE

Great Percheron Horse Breeder,

M. W. DUNHAM,

Wayne, DuPage County, - - - Illinois.

(35 Miles West of Chicago, on the Galena Division Chicago & Northwestern Railroad.)

The 78 HEAD which arrived from France, August 15th, is BY FAR the largest number ever imported at one time, and added to the number already on hand, they make the greatest and finest collection of

DRAFT HORSES

Ever owned by one man. Nothing like it in Magnitude and Completeness can be found elsewhere in the world.

Over 300 of the Choicest Specimens of the Percheron Race, and among the number nearly all the Prize Winners of the Great shows of France during that time, have been added to the

OAKLAWN STUD

By Importations direct from France since 1872.

Stock of all Ages for Sale.

Come and see for yourselves. 100 Page Catalogue with 41 illustrations of Stallions and Mares, sent free on application.

N. B.—All Imported and Pure Native Bred animals recorded in Percheron-Norman Stud Book.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

1,000,000

Strawberry, Raspberry and Cranberry PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 1.50	\$ 5.00
N. J. Scarlet, Sterling, Great American.....	0.60	1.75	6.00
Pres. Lincoln, Triomphe de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.50	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cuthbert Early.....	1.50	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Hertford, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Manmoth Cluster, Vina Seedling.....	1.00	3.10	20.00
Kittatiny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Blk Hamburg, Blk Prince.....	2.00	8.00	50.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address,

H. NYLAND, Bouldin Island, San Joaquin Co.

AUTOMATIC STOCK FEEDER! FOR HORSES AND CATTLE.

A simple contrivance for saving time and labor, and Feeding regular. The Clock and Trap complete, ready set in barn for use, \$15. Each extra Stall, \$5.

J. B. TUPPER, Agent.

Petaluma, Sonoma County, Cal.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirtieth and J Sts., Sacramento, Cal.

Repairing promptly attended to.

In the Whole History of Medicine

No preparation has ever performed such marvelous cures, or maintained so wide a reputation, as **AYER'S CHERRY PECTORAL**, which is recognized as the world's remedy for all diseases of the throat and lungs. Its long continued series of wonderful cures in all climates has made it universally known as a safe and reliable agent to employ. Against ordinary colds, which are the forerunners of more serious disorders, it acts speedily and surely, always relieving suffering, and often saving life. The protection it affords, by its timely use in the throat and chest disorders of children, makes it an invaluable remedy to be kept always on hand in every house. No person can afford to be without it, and those who have once used it never will. From their knowledge of its composition and effects, physicians use the **CHERRY PECTORAL** extensively in their practice, and Clergymen recommend it. It is absolutely certain in its remedial effects, and will always cure where cures are possible.

FOR SALE BY ALL DEALERS.

A CHEAP REPEATING RIFLE.—The Evans Rifle Co., manufacturers of the famous 26-shot Evans rifle (whose factory is at the Mechanics Falls, has been complimented by both American and foreign manufacturers as the most extensive and complete in the world), have taken a signal, and in the face of the advance in fire-arms a most commendable step. The Evans is the most extensively made, and has hitherto been the highest priced of all magazine or repeating rifles. Embodying as it does a marvelously ingenious action and carrying in its magazine (which is entirely within the stock, necessitating no outward addition) twice the number of larger cartridges than any other rifle. The Evans is a phenomenal shooter, being accurate up to 1200 yards, and every shot can be discharged in less than one minute. The price of the Evans has hitherto been \$40 and upwards, but now the Evans Rifle Co. propose to reduce the price of their arm to \$13 and \$20. The Evans Rifle Co. have transferred their entire product to the warehouses of the well known Boston house of G. W. Turner & Ross, whose facilities for conducting this immense sale are unsurpassed, and through that firm will be offered over 6,000 of the new and latest improved model Evans rifles at half former list prices, and the sportsmen of all countries will not be slow in taking advantage of the offer. We refer the reader to the advertisement and the testimonials of such well-known shots as A. J. Boyd, Texas Jack and others.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

SMITHSONIAN "Rain Gauges," Government Standard, reduced from \$5.50 to \$2.50, Muller's, 135 Montgomery street, S. F.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVEN, Prop.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Oct. 7, 1880.

The Wheat market has taken another little step upward, owing to a rising tendency in foreign advices, and there is a fair amount of business now being done.

Liverpool Prices.

The following are the spot prices in Liverpool for each day of the past week as telegraphed to the S. F. Produce Exchange:

	Average to Choice	Cal. Wheat.
Thursday.....	9s 4d@9s 8d	
Friday.....	9s 4d@9s 8d	
Saturday.....	9s 4d@9s 8d	
Monday.....	9s 4d@9s 8d	
Tuesday.....	9s 5d@9s 10d	
Wednesday.....	9s 5d@9s 9d	

The Foreign Review.

LONDON, Oct. 5.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: During the past week the weather has been mostly favorable for securing the remainder of the outstanding grain. It must be two or three weeks before English wheats are in a condition favorable for threshing. This and the disappointing nature of the yield have made holders confident of the immediate future. The market closed firm on Friday, with an advance of a shilling per quarter on Monday's rates. The leading provincial markets were very firm at the close, partly in consequence of the demand for sowing, and there was an advance in some instances of two shillings per quarter. The trade, though firm at enhanced rates, was not active. Though the actual imports are smaller, large millers, aware of the large available extraneous supply, confine their operations to present needs. On Friday, in foreign, old Winters and fine whites advanced a shilling per quarter, and other sorts 6 pence to 10 pence. Oats were in fair demand and slightly dearer. Flour advanced 6 cents per sack and closed firm. Sales of English wheat during the past week were 49,646 quarters at 40s 1d per quarter against 15,162 quarters at 45s 1d per quarter during the corresponding week last year. Imports into the United Kingdom during the week ending September 25th were 1,301,788 cwt of wheat, and 230,646 cwt of flour.

Freights and Charters.

The latest charters reported are the British iron ship, *City of Glasgow*, 1,168 tons (rechartered), Wheat to Cork, £3 17s 6d. British iron ship *Grasmere*, 1,304 tons, Wheat to Cork or Havre, £3 2s 6d, prior to arrival.

New York Dried Fruit Markets.

New York, Oct. 4.—New Malaga Raisins are again higher and firm; holders now quote layers at \$2.40; loose, \$2.50; London layers, \$2.75@2.80.

Eastern Grain and Provision Markets.

New York, Oct. 4.—The markets generally are quiet. Wheat is less active for export, as shippers are getting their October Wheat delivered freely on contract, and hence want less cash Wheat to supply their wants. The market opened a half lighter, but eased off a quarter. Barley is steady, but dull.

New York, Oct. 4.—Speculators in October Pork continue to hold the trade in check by asking higher prices to day, and there were no dealings reported at the first call for buyers' options. Sixteen dollars per barrel was bid, with no offerings. At the second an advance of 50c was made in the bids, but this advance was lost at the third call, the market closing as it opened, with not a sale reported. A settled price was established at \$18.

CHICAGO, Oct. 2.—There has been a pretty strong Wheat market the past week, partly from the unexpectedly small volume of receipts, and largely because of the stiffening of prices in Europe, caused by the possibility of war. The highest prices have not been maintained, but there was no marked dropping off in quotations. The arrivals continue to be less than half those of 1879, while other Grains come in more heavily. The stock in store, too, is increasing, and is now unequally large. Corn has taken a very steady course, and prices are rather inclined to weaken under heavy receipts and growing stocks, accompanied with higher lake freights. Oats were exceptionally strong, especially for cash, in which there has been a boom the past week, cash reaching 34c. Closing cash prices were: Wheat, 94½c; Corn, 30½c; Oats, 30½c; Rye, 82c; Barley, 74½c; Pork, \$18; Lard, \$7.80@7.82½.

BAGS.—The market is quiet and prices unchanged.

BARLEY.—Barley has recovered somewhat from last week's depression and quotations are lifted to more reasonable figures. Sales are ordinary, including 28 sks Bay Brewing, 92½c; 300 and 250 do Coast Chevalier, 85c, and 4,100 and 1,000 do Coast Feed, 77½c.

BEANS.—There is no change.

CORN.—Corn is quiet and Large White is now \$1 per ctl. Sales of Large Yellow at 97½c per ctl.

DAIRY PRODUCE.—Prices are not materially changed and the trade is fair though not quite so active as last week. Cheese is unchanged.

EGGS.—Prices are a shade easier though the market is about the same. Large quantities of Salt Lake Eggs are arriving, and some are held at prices for fresh California but not taken as yet.

FEED.—Unchanged.

FRESH MEAT.—Fresh Meats of all kinds abundant and low. Demand for Hogs active, while Beef and Mutton are weak.

FRUIT.—Our list shows a general change in rates, for which the reader is referred to the table appended below.

HOPS.—Large quantities are now in and being held a little above present prices. There are still sales at 22c, and from that down to 10c. It looks as though some Hops were not being handled for all there is in them, for, according to rumor, there was a sale at 10c, for which 20c could have easily been had. We mention this merely to put producers on their guard.

OATS.—Unchanged. There were sales of 600 sks choice Humboldt Feed, \$1.80; 550 do coast do, \$1.20; 275 do do, \$1.17½; 300 do Humboldt, \$1.16½, and 500 do coast, \$1.15.

ONIONS.—The improvement has continued and carried Reds to 70c for the best. Silverskins are about the same as last week.

POTATOES.—The market is about the same, except that Cuffey Cores are in and selling at \$1@1.05 per ctl. Sweeties are higher.

PROVISIONS.—The demand for all classes of Meat Products is strong; and prices are well maintained, owing to a steady and increasing demand for all classes of Meat Products.

POULTRY AND GAME.—Tame Fowls are as a rule lower and somewhat slow of sale. Game is about as last week, with a slight advance for Quails.

VEGETABLES.—Canteloupes are again in excess. Peppers and Tomatoes are doing much better. Green Peas and String Beans are improved a fraction.

WHEAT.—Prices have advanced a shade. We note sales: 100 and 100 tons No. 1 Milling, \$1.45; 150 sks do, \$1.42½; 600 and 600 sks No. 1, \$1.40; 2,000 do No. 2, \$1.35; 150 do do, \$1.30½; 800 do No. 2, on the cars, \$1.33½; 75 tons and 500 and 500 sks coast, \$1.32½, and 400, 300 and 400 sks coast, \$1.27½.

WOOL.—The trade is quiet and nothing new reported. Prices are about the same as last week.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Oct. 6, 1880.

FRUIT MARKET.		Figs pressed....		7 @	8
Apples, basket....	40 @ 75	do, loose.....	4 @	10	6
do, box.....	50 @ 1 25	Peaches.....	18 @	20	
Apricots, bx.....	— @ 1 00	do pared.....	9 @	10	
Bananas, bnch....	2 50 @ 4 00	Pears, allied....	9 @	11	
Blackberries, cbst..	— @ 8 00	do, poeled....	5 @	6	
Cherry Plums, bx..	— @ —	Plums.....	14 @	16	
Citrons, chst, 100..	7 00 @ 8 00	Plumets.....	15 @	17½	
Cocconuts, 100....	7 00 @ 8 00	Raisins, Cal, bx	— @	1 50	
Crab Apples, bx..	50 @ 60	do, Halves....	1 75 @	2 00	
Cranberries, bbl, 11	00 @ 12 00	do, Quarters..	2 00 @	2 25	
Figs, black, bx....	50 @ 1 00	do, Elgths....	2 25 @	2 50	
Grapes.....		do, Lays' bx..	2 @	2 00	
Cornicob.....	75 @ 1 00	do, Halves....	2 25 @	2 50	
Sweetwater.....	40 @ 60	do, Quarters..	2 50 @	2 75	
Muscats.....	40 @ 60	do, Elgths....	2 75 @	3 00	
Rose Peru, bx....	40 @ 50	Zante Currants..	8 @	10	
Blk Hamburg....	25 @ 50	Asparagus, bx..	— @	—	
Tokay.....	50 @ 65	Beets, chl.....	— @	1 00	
Limes, Mex.....	17 00 @ 20 00	do, sliced....	2 @	3½	
do, Cal, box....	1 75 @ 2 25	Cabbage, 100 lb..	40 @	50	
do, large, box..	5 00 @ 7 00	Canteloupes, crt	35 @	75	
Lemons, Cal bx.	3 00 @ 3 50	Carrots, sk.....	— @	50	
Sicily, box.....	8 00 @ 9 00	Cailliflower, doz	— @	75	
Australian.....	5 00 @ 6 00	Chile Peppers, sk	50 @	75	
Nectarines, box..	— @ —	Cucumbers, box..	25 @	40	
Oranges, Cal bx.	3 75 @ 4 75	do, do.....	— @	75	
do, Tahiti.....	40 00 @ 45 00	do, do.....	— @	75	
do, Mexican....	— @ —	Egg Plants, bx..	— @	50	
Peaches, bx & bsk	75 @ 1 00	Garlic, New, lb..	4 @	5	
Pears, box.....	75 @ 1 25	Green Corn, doz.	8 @	15	
do, Bartlett....	2 25 @ 2 50	Green Peas, lb..	3 @	3½	
Pineapples, doz.	6 00 @ 7 50	Lettuce, doz....	10 @	—	
Plums, bx.....	50 @ 1 25	Mushrooms, lb..	— @	—	
Prunes, German..	75 @ 1 00	Paranips, lb....	— @	1	
Quinces.....	75 @ 85	Horseradish....	— @	10	
Raspberries, ch't	— @ 20 00	Rhubarb, bx....	— @	—	
Strawberry, ch't	8 00 @ 13 00	Sugar Cane, bbl..	— @	2 50	
Sugar Cane, bbl..	— @ 2 50	fat, lb.....	8 00 @	10 00	
DRIED FRUIT.		Summer box....	30 @	40	
Apples, sliced, lb	7 @ 8	Tomato, box....	45 @	60	
do, quartered..	— @ 7	Turnips, chl....	50 @	60	
Apricots.....	17 @ 19	White.....	50 @	60	
Blackberries....	— @ 15	Watermelons, ?	100 @	7 00	
Citron.....	28 @ 30				
Dates.....	9 @ 10				

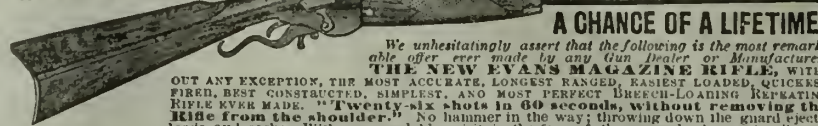
COMBINED Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bins can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

A \$30 RIFLE for \$20--THE FINEST REPEATER IN THE WORLD.

26 SHOT. 44 CAL. ONE RIFLE GIVEN FREE WITH EVERY SIX ORDERED. \$30. Wt. 8 to 10 lbs.

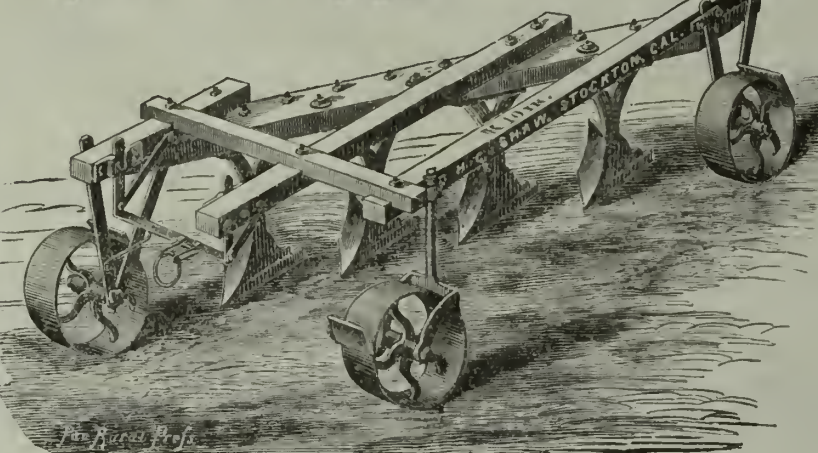


A CHANCE OF A LIFETIME.

We unhesitatingly assert that the following is the most remarkable offer ever made by any Gun Dealer or Manufacturer. THE NEW EVANS MAGAZINE RIFLE. OUT ALL EXCEPTION, THE MOST ACCURATE, LONGEST RANGED, EASIEST LOADED, QUICKEST FIRED, BEST CONSTRUCTED, SIMPLEST, AND MOST PERFECT BRECH-LOADING REPEATING RIFLE EVER MADE. "Twenty-six shots in 60 seconds, without removing the Rifle from the shoulder." No hammer in the way; throwing down the guard ejects, loads, and cocks. With commendable spirit, in the face of the general advance in all merchandise, the Evans Rifle Co. have decided to temporarily reduce the price of their World-Renowned Arm, placing it within the reach of every sportsman, and thereby ensuring for it the largest sale ever obtained by any repeating rifle in this country. The new model and latest improved Evans Magazine Rifle is exactly represented by the above picture. It is 44 cal., centre-fire, 28 and 30 inch barrels, weight from 8½ to 9½ lbs., checkered black walnut stock, and sighted with graduated sights up to 1,200 yards, 200 yards further than any other repeating arm, at which distance it will penetrate 16 pine boards. It being the most powerful repeating rifle ever constructed. The Magazine, which carries 26 long cartridges, is located in the stock and not under the barrel, the poise or hang of the rifle is in no way effected, nor its accuracy impaired by the emptying of the magazine, and as each cartridge is carried in a separate compartment, the gun is ABSOLUTELY SAFE. The working parts are all steel, the frame wrought iron, and the new locking device renders it POSITIVELY SAFE to carry when loaded. In short, the many improvements made in the New Model Evans, make it without doubt the finest magazine rifle in the world, and it carries more cartridges than any other arm. As stated above, the manufacturers of the Evans Rifle, in order to introduce their improved arm quickly and favorably to the public, have placed in our hands THEIR ENTIRE PRESENT STOCK OF OVER SIX THOUSAND RIFLES, to the value of over one hundred and twenty thousand dollars, for this purpose only, and on receipt of \$20, which is only half the regular price, we will send by express or freight, boxed free, to any address, one of the New Model Improved Evans 26 Shot Rifles, as above described, warranted and guaranteed in every respect by both the manufacturers and ourselves, or will send C. O. D., on receipt of the express Agent's guarantee that the rifle will be returned free if not taken. When cash comes with order we give free a box of cartridges; (samples of the new Phoenix 3 Ball cartridges go free with each rifle.) The New Evans Saddle Rifle is similar to the Sporting Rifle, except it is a trifle lighter (about 8 lbs.), and 22 inch barrel, only 2 inches shorter than the regular Winchester Rifle, and accurate up to 600 yards; 26 shot, same as other style, and provided with swivel and strap. This is the best of all rifles in the market for Western mounted use. Price, \$18 (former price, \$22), and one given free with every six ordered. N. B.—THE EVANS CAN BE USED AS A SINGLE SHOT RIFLE, INDEPENDENT OF THE MAGAZINE, WHICH CAN ALWAYS BE KEPT FULL AND HELD IN RESERVE. We ask no money in advance, if the purchaser does not care to risk it. WE ARE UNDER INSTRUCTIONS FROM THE EVANS RIFLE CO. to forward a rifle C. O. D. on receipt of simply your express agent's guarantee that it will be returned free if not taken; but when paid for in advance all prices are included free, not when sent C. O. D. One rifle six at one time and getting one free makes the cost only about \$17. Texas Jack says: "The Evans Rifle is the best in the world. It shoots like a house afire." A. J. Boyd (sharpshooter) says: "It is the best gun I ever put to my shoulder. It can't be beat." Kil Carson, Jr., says: "I have shot over 60 buffaloes with the Evans in one run. I will shoot against any man living at 500 yards, and the Evans Rifle Co. have thousands more testimonials equally commendatory. Address all orders to G. W. TURNER & ROSS, Agents for the Evans Rifle, 16 & 17 Dock Square, Boston, Me.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Geni Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH, WOOL & COMMISSION MERCHANTS, 210 Davis Street, San Francisco.

CASH ADVANCES Made on CONSIGNMENTS

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET, San Francisco.

SHOOBERT & BEALE,

Commission Merchants, FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK



Liberal advances on consignments. Wool Sacks, Twine, Shears, and Ranch Supplies furnished

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

505 & 507 Sansome St. (Nautical Building), S. F. Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.

Branch House in Honolulu, H. I.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

DEALERS IN HAY, GRAIN, FLOUR, ETC.

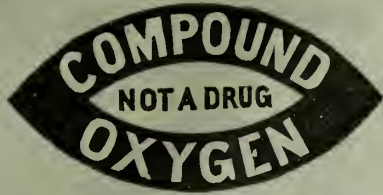
8 Davis St., near Market, S. F.

DAVIS & SUTTON,

No. 75 Warren Street, New York

Commission Merchants in Cal. Produce

REFERENCE.—Trademen's National Bank, N. Y.; Ell wanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DRS. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

For Deaf People. For hearing through THE TEETH! Avoid sending abroad for IMITATIONS. Trial before purchasing if desired. Ask terms.

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price cannot be excelled, if equalled, on the Pacific Coast. Also, Importers of Gun material, Breech-loading Implements, Ammunition, Fencing Foils, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks, Card's Rotating Glass Ball Traps and Glass Balls.

IMPORTANT TO FARMERS!

White Russian Seed Wheat.

This new variety of wheat commends itself to the California farmers, for its strong and healthy growth; its great productiveness, and above all, its **NON RUSTING** qualities. It has been successfully grown in Ventura Co., on the sea coast, where until the introduction of this variety and the "Odessa," all other kinds have invariably failed in consequence of Rust. It is a bald, white chaff wheat, stands well after ripening, and not liable to lodge when green. It has proven itself to be a healthy and sure crop wheat, yielding this year an average of 50 bushels to the acre. The White Russian Wheat was first grown in Wisconsin, where it proved itself to be the best Spring Wheat ever raised in that State. It astonished all who tried it for its great productiveness, and no Wheat ever grown in this country received such unanimous commendation. It was increased from a small quantity received from Russia, and has been known as the White Russian, though it is not exactly white, but much lighter than most varieties of Spring Wheat.

A limited quantity of this Seed Wheat, and of the celebrated **Odessa Non-Rusting** Wheat grown from seed imported from Russia last year for sale by

A. GERBERDING, 414 California St., S. F.

A. J. PLATE & CO.,

Guns, Pistols, Sporting Goods

MILITARY GOODS AND REGALIA,

HAVE REMOVED

From No. 510 Sacramento and No. 325 Montgomery Street, to
Nos. 418 and 420 Market Street.

RUHL'S PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half-Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principals houses in San Francisco.

JOS. HANSEL, Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for sale at the Lowest Rates, and guaranteed to give satisfaction. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on hand of my own make, the Latest Improved Harrows and my Patent Buck Board and Breaking Carts. Carriage Painting and Trimming. Neatly Done HUNTER STREET, STOCKTON, Cal. Adjoining the Baptist Church.

The MECHANICS' INSTITUTE

(Of the City of San Francisco.)



FIRST PREMIUMS---OFFICIAL.

Awarded at Fifteenth Industrial Exhibition—1880.



Gold Medal

FOR THE

BEST PHOTOGRAPHS

AWARDED TO

Taber

AT MECHANICS' FAIR, 1880.

PHOTOGRAPHIC PARLORS,

Opposite Grand and Palace Hotels. 4th Elevator—S Montgomery street, over Hibernia Bank, San Francisco.

SPECIAL NOTICE.—To Mining and Insurance Companies, Surveyors and Architects.—We beg leave to inform you that we have just received the very latest improved instruments from Europe, especially adapted for Photographing Maps, Drawings of Machinery, Shafts, Buildings, etc., which we furnish at lowest rates. Would be pleased to have you favor us with an order.

THE CALIFORNIA

Furniture Manufacturing Comp'y.

Gold Medal.

BEST GENERAL DISPLAY OF FURNITURE.

SILVER MEDAL—Assortment of Chairs.

SILVER MEDAL—Set of Parlor Furniture.

SILVER MEDAL—Set of Dining Room Furniture.

SILVER MEDAL—Set of Bed Room Furniture.

BRONZE MEDAL—Easy Chair.

The only large and complete Stock of Furniture on the Coast. Latest Styles at lowest prices.

220, 222, 224 & 226 BUSH STREET, S. F.

PACIFIC LAMP & REFLECTOR FACTORY.

First Premium

AGAIN AWARDED AT

INDUSTRIAL EXHIBITION, 1880

For Patent Locomotive and Mining Head Light.
For Patent Street Lamps to Burn Coal Oil Without Chimney, Naptha and Gas.
For Patent Sign Lamps. Also, Robert-Mill Sectional Globe Lamps for Hotels and Restaurants.
For Patent Central Reflector Lamps for Mills, Factories, Cars, Etc.
Frink's Patent Silver Corrugated Glass Reflectors and Sun Lights for Churches, Halls, Etc.
Square Reversible Coach Lamps; Dash Board and Srague Lamps.

E. BOESCH, 583 and 585 Mission St.,
SAN FRANCISCO, CAL.

S. P. TAYLOR & CO., First Premium.

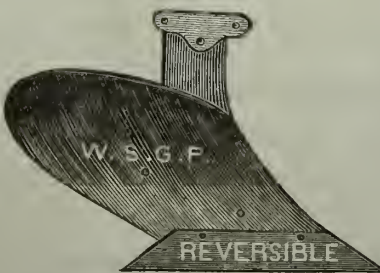
FOR PRINTING AND WRAPPING PAPER.

MANUFACTURED AT THE

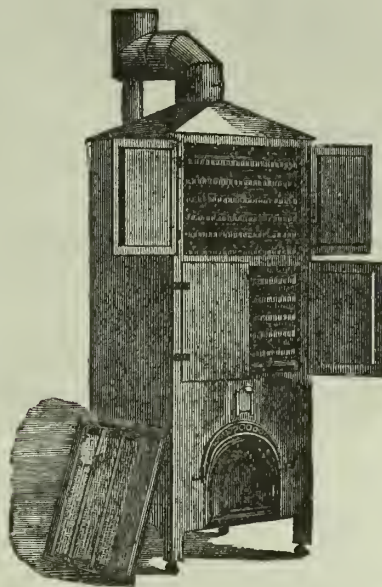
Pioneer and South Coast Mills.

414 & 416 CLAY ST., San Francisco.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by
THOS. POWELL, Stockton, Cal.



OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50, is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

Improved Galvanized Iron, Portable Combined FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speed of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

AWARDED A SILVER MEDAL

BY THE MECHANICS' INSTITUTE, San Francisco, Sept. 1880.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,

General Agents for Pacific Coast,

Nos. 323 and 325 Market St., San Francisco, Cal.

LOCAL AGENTS WANTED.

Davis Vertical Feed Sewing Machine

VICTORIOUS AGAIN!!

FIRST PREMIUM Gold Medal at Mechanics' Institute Fair, 1880.

FIRST PREMIUM for work done on the spot, Silver Medal, 1880.

FIRST PREMIUM Oregon State Fair, 1880.

FIVE FIRST PREMIUMS Central New York Fairs, 1880.

FIRST PREMIUM and the only machine placed in First-Class at Australian International Exhibition, 1879-80.

THE NEW DAVIS SEWING MACHINE,

Being a complete departure from the ordinary style of sewing machines, possessing all the advantages of such ordinary machines, and in addition an increased range of work, with the greatest simplicity of construction, and reduction of number of working parts, we consider it to be entitled to the first place in the awards.

Agency—130 POST STREET, San Francisco.

DAVID KERR,
CARRIAGE, WAGON and TRUCK
MANUFACTURER.

First Premium, Best Display of Trucks.

47 & 49 BEALE STREET, S. F.

Hoover Telephone Co., First Premium.

HOOVER TELEPHONE.

(PATENTED.)

\$10.00 PER SET.

Put up and Guaranteed for One Year. Room
24, No. 328 Montgomery St., S. F.

J. BROWELL, Silver Medal,

FOR PATENT CHIMNEYS And Ornamental Chimney Tops.

Can be placed in any part of the House, or attached to the outside of any building with perfect safety.
Terra Cotta Chimney Tops, all sizes for sale.

CONTRACTOR AND BUILDER.

442 Jackson St., N. E. cor. Montgomery, S. F.

THE FIRST PRIZE, A Silver Medal.

AWARDED TO

HERRMANN, THE HATTER,

For the BEST HATS, the LARGEST VARIETY and the NICEST DISPLAY. Send for Illustrated Catalogue.

C. HERRMANN, 336 Kearny St., near Pine.

PATENT CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental.
To exclude Flies and Mosquitoes, it has no equal.
It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

CLARK'S Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair, with Nash & Cutts' No. 3 Grain Cleaner. Its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

Dr. A. de Labrousse, VETERINARY SURGEON.

(Graduate of Alfort's College, Paris.)

Blisters, Ointments, Blood Purifying and Restorative Powders and Medicines for Horses, Cattle, Hogs and Sheep, sent on application. Cure guaranteed. Address, giving full particulars, INFIRMARY & LABORATORY, 1125 Market St., S. F.

FOR SALE!!

SIX HUNDRED GRADED ANGORA EWE GOATS, Cheap for Cash; or will let them out to responsible party on the shares. Apply to

H. W. CHAPPELL,

Bell's Bridge, Shasta County, Cal.

Music Books for Schools.

THE WELCOME CHORUS.—(\$1. or \$0. per dozen.) By W. S. TILDEN.
This is a new and superior High School Song Book with advanced elements, and a great variety of music, secular and sacred, to be sung in one, two or four parts. Mr. Tilden's previous works have been highly approved.

SONG BELLS.—(50 cts.) By L. O. EMERSON.
No more attractive School Song Book has for a long time appeared. It is not graded, and will do for any class. Great variety of songs, subjects selected with great skill, and music is of the best.

Introduce our new SABBATH SCHOOL SONG BOOK, **WHITE ROBES**, (30 cts.) at once to your Sunday School. No better book exists!

Books for Music Teachers for the Fall Campaign. All are good and practical books. Do not fail to examine them.

EMERSON'S VOICE OF WORSHIP (\$1.), for Singing Schools.

PERKINS' TEMPLE, (\$1.), for Singing Schools.

JOHNSON'S NEW METHOD FOR SINGING CLASSES, (60 cts.)

JOHNSON'S PARLOR ORGAN INSTRUCTION BOOK, (\$1.50.)

N. E. CONSERVATORY METHOD FOR PIANO, (\$3.)

Also, subscribe now for **The Musical Record**, (\$2.), a Weekly Musical Paper with all the news.

Any book sent post-free, for the retail price

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT
SHRINK, SWELL,
WARP, or
RATTLE in the Wind

ALSO, THE

BUCKEYE
FORCE
PUMP

Never Freezes in
Winter Time.

Send for our
Circulars and
Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE
CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with holly Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street car to corner Third and Howard.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

CANDRALL SPRING SKELETON BUGGY.

LIGHTEST AND EASIEST RUNNING.

Cannot be upset by cramping or sudden turning. Will pass over the roughest roads or car tracks without jolting. Especially adapted for mountain roads. Warranted for two years.

A. MERSEREAU,

No. 1927 Mission St., Manufacturer.

ADJUSTABLE SIDE HILL HEADER WAGON.

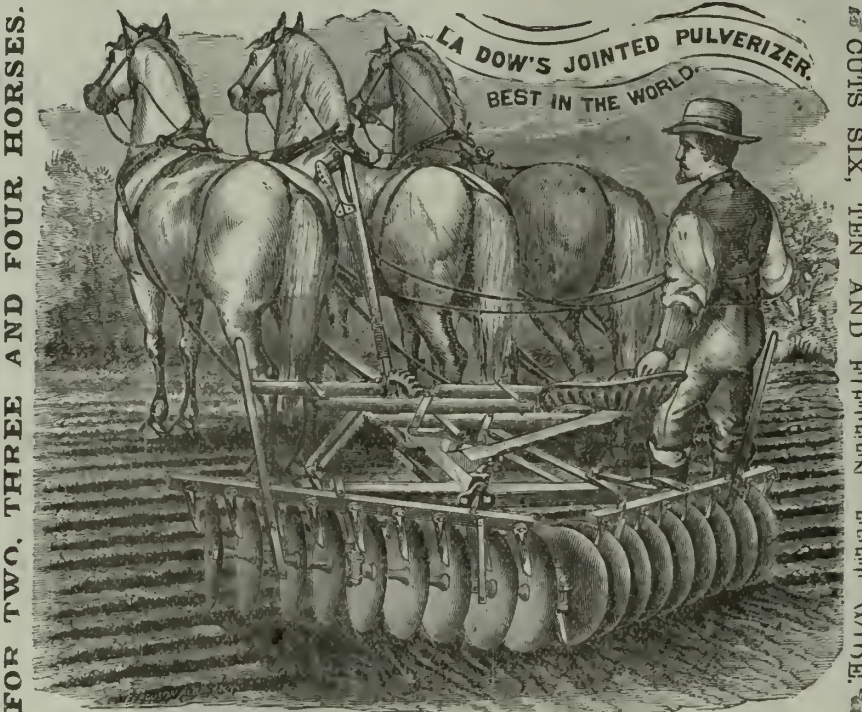
Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERICKSON,
Clayton, Contra Costa County, Cal.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

LA DOW'S JOINTED PULVERIZING HARROW



The Average Days Work for these Harrows may be Estimated as Follows:
2-horse, 15 Acres; 3-horse, 25 Acres; 4-horse, 35 Acres.

Each Gang Independent, With Weight Boxes and Patent Reciprocating Scraper Bar Attachment,

THE MOST PERFECT DEVICE EVER USED FOR CLEANING THE WHEELS IN STICKY SOILS!

EACH BAR IS INDEPENDENT! EACH SCRAPER IS INDEPENDENT!

Judges Report, Sharon, N. J., March 15, 1878.

We, the undersigned, having made a comparative test of the quality of work done by the La Dow and Randall Pulverizing Harrows, find that there is no perceptible difference in the depth of the cut, nor in the pulverizing of the soil, the wheels in both Harrows being of equal size and curve, and working at the same angle. But we find that the La Dow Jointed Harrow leaves the ground in the best shape, without furrows or ridges, while the Randall leaves both. We have, also, repeatedly and carefully, tested the draft of each Harrow, with the same team and driver, and having the wheels set at an equal angle, and we find the average draft of each Harrow as recorded by the Dynamometer, to be as follows:

La Dow Harrow, with driver on seat—Draft 175 pounds.
Randall Harrow, without driver on seat—Draft 300 pounds.
La Dow Harrow, without driver on seat—Draft 75 pounds.
Randall Harrow, without driver on seat—Draft 150 pounds.

(Signed.)
JOSHUA BUZZLY, Crosswicks Mills, N. J., Judges.
JOHN A. TAYLOR, Sharon, N. J.
DANIEL D. NORTON, Sharon, N. J.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gang hinged together, or that has Flexible Joint Bearings ON THE AXLES.

Use no other, as you can see at a glance that this Harrow has the right principle.

GEO. A. DAVIS, No. 327 Market Street, S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.

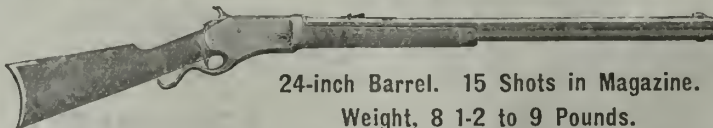


The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and furnished throughout in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.
Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

60 Elegant Perfumed Cards, Chromo, Motto, Lily, Etc. 15c. Gift with each pack. H. M. SMITH, Clintonville, Ct. 50 Perfumed, gilt edge & chromo Cards, in elegant case, name in gold, 10c. ATLANTIC CARD CO., E. Wallingford, Ct.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT
FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street., Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Laue Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '73 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

GUNS

Lowest prices ever known

on Breech-Loaders,

Rifles, and Revolvers,

OUR \$15 SHOT-GUN

at greatly reduced price.

Send stamp for our New

Illustrated Catalogue (B)

P. POWELL & SON, 234 Main Street, CINCINNATI, O.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.

Dewey & Co. 202 Sansome St. Patent Ag'ts

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes. Positively self regulating with no coiling or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,



HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, **LINFORTH, RICE
& CO.,** 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to **MATTESON & WILLIAMSON,** Stockton, Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street, San Francisco.

Windmills!
HORSE POWERS!

TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.

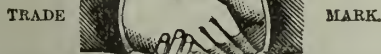
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)

**A. W. LOCKHART,**

N. W. Cor. 11th and J Sts, Sacramento, Cal.
Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to **FALKNER, BELL & CO.,** Sole Agents, 430 California Street, S. F.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

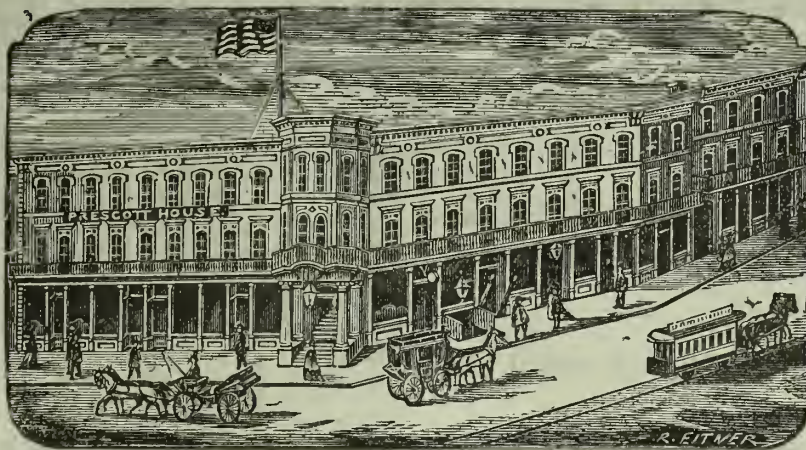
J. A. POPPE, Sonoma, Cal.

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR,** 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

50 Perfumed, Snowflake, Chromo, Motto Cards, name in gold and jet 10c. **G. A. SPRING,** E. Wallingford, Ct.

Prescott House.



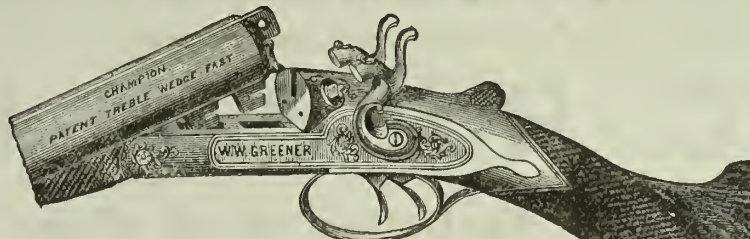
S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

Nathaniel Curry & Bro.,

113 Sansome Street, San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUMMIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes' Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

RUSBY & MERY'S

IMPROVED FEED MILL,

Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain beating. It is used by the leading grain raisers in preference to feed ground with hurs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apia, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

Mining and Scientific Press
Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, **DEWEY & CO.,** Office MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome Street, S. —1880.

Adams' Patent Pillow Sham Holder

Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. **G. W. WAGGONER,** 408 Tenth St., Oakland, Cal., General Agent for Pacific Coast.

A. AITKEN.

AITKEN & FISH,

Premium Pioneer Marble Works,

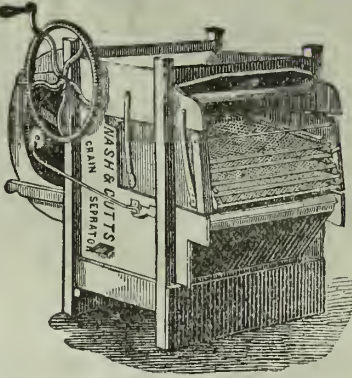
617/K St., bet Sixth & Seventh, - SACRAMENTO, CAL.

Engraving done at this office.

STILL AHEAD!

Trade Mark.

"The Improved
Nash & Cutts Grain Cleaner."



Three sizes—warranted to clean from 60 to 150 bushels per hour perfectly. Has taken the First Premium at California State Fairs from 1870 to 1880.

THE NASH & CUTTS

Improved Grain Cleaner

Will not only separate mustard seed, chest, barley, oats cracked wheat, etc., in a satisfactory manner, but is alike successful in cleaning alfalfa and flaxseed, a feat performed by no similar machine. Will also clean FASTER and BETTER, with less TROUBLE and WORK than any other Cleaner now in use.

Reasons Why Farmers Prefer Our Cleaner to any Other.

1st. THE IMPROVED NASH & CUTTS GRAIN CLEANER is built solely for cleaning California-raised Grain or Seed.

2d. Being located here we know what is wanted much better than Eastern manufacturers.

3d. As the Factory is in Sacramento, extras can be ordered without delay, requiring only the Number and Date of the Cleaner.

Farmers and Dealers are particularly cautioned against spurious imitations. Be sure that the one you buy bears this Trade Mark: "THE IMPROVED NASH & CUTTS GRAIN CLEANER." All others are frauds. See that it is manufactured by "H. D. NASH & CO., Sacramento, Cal."

We mention the above for the protection of our customers who want the GENUINE. Every Cleaner fully warranted. Prices at Factory—No. 1, \$33; No. 2, \$40; No. 3, \$55. For further particulars address

H. D. NASH & CO.,

905 K Street, Sacramento, Cal.

Sole manufacturers of "The Improved Nash & Cutts Grain Cleaner" on the Pacific Coast.

We also make a Cleaner to attach to Threshing Machines that will clean ALL any Machine can thresh.

Baker & Hamilton, General Agents, San Francisco and Sacramento, Cal.

OIL PORTRAITS.

—The Best—

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

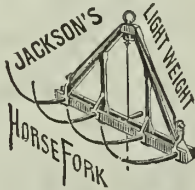
P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

Jackson's Agricultural Machine Works
AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derriks, Hoadley Straw Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address **BYRON JACKSON, Prop'r.**



DO

NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,500 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, **MONTGOMERY WARE & CO.,** 227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive

Farms at fair rate of interest. Money also advanced on

Wheats. Apply to

A. SCHULLER,

209 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best

GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D. for \$9 per doz. Address, **G. W. JOLLY,** Paraiso Springs, Cal. Pat. apld for



YOUR NAME PRINTED on Forty Mixed Cards for Ten Cents. **STEVENS BROS.,** Northford, Conn.

PIONEER WHITE LEAD.

Home Manufacture!

Superior in COLOR, BODY, FINENESS and DURABILITY to any Imported Brands.

FRESH AND EASILY WORKED—NO SKINS OR OLD DRIED LEAD.

PURITY GUARANTEED.

Patronize Home Industry, Secure the Best Quality at the Lowest Price.

WORKS—239 & 231 FREMONT STREET, and 228 to 238 BEALE STREET, San Francisco.

WHITTIER, FULLER & CO., Manufacturers.



PACIFIC RUBBER PAINT.



Applicable to all Kinds of Work.

Prepared in any Shade or Color.

Best Mixed Paint in the World.

WE EXCEPT NONE.

READY FOR USE—JUST THE THING FOR FARMERS.

BEWARE OF COUNTERFEITS.

See that Our Trade Mark is on Each Package. Take no Other.

Send for Sample Card and Circulars.

Works—228 & 230 Beale st. Office S. W. cor. Pine & Front Sts.

WHITTIER, FULLER & CO., Manufacturers.

COAL OILS. COAL OILS. COAL OILS.

“Star,” 150 Degrees Fire Test.

THE HIGHEST GRADE OF COAL OIL IN THE MARKET. PERFECTLY SAFE AND MANUFACTURED EXPRESSLY FOR FAMILY USE.

“I X L” 150 Degrees Fire Test.—THE NEXT BEST BRAND.

ASK YOUR STORE KEEPER FOR THEM,

And Secure the Best and Safest Light.

WHITTIER, FULLER & CO., - - - - - SOLE IMPORTERS.

SAN FRANCISCO, SACRAMENTO and OAKLAND.



Volume XX.]

SAN FRANCISCO, SATURDAY, OCTOBER 16, 1880.

Number 16

The Watermelon Industry.

The immense yield of the watermelon vine in certain parts of this State, and the peerless quality of the product are both well-known facts. In some parts of the San Joaquin valley the melon is almost a weed. The seed is dropped here and there as the melons are eaten, and the plants spring up in places not set apart for such a crop. The growth of the plant even in neglect is good evidence of the adaptation of our climate and soil to its requirements. The culture of the watermelon is, in some years, quite profitable, and considerable areas are devoted to it. One of the localities whence the city markets draw supplies is around Lodi in San Joaquin county. One grower, W. C. Hunt, in 1879, shipped 100 carloads which returned about \$100 per carload. The product is something like one carload to the acre. The shipping season generally begins about July 10th, and lasts three months. The average melons weigh from 25 to 29 lbs. each. There are large numbers left in the field after the marketing season, and from these the seed is taken and sold at a fair profit. Growers have hoped and expected that their surplus might be turned to account in sugar making, but the analysis of Lodi melons made last year by Prof. Hilgard did not favor the project. This year the price of melons has been unusually low, and the crop has not been as remunerative as usual. This was owing to a certain extent no doubt to the continued cool summer weather. Watermelons are relished most during the height of summer-heat and drouth, and if the air be cool the demand slackens notably. This year fine handsome melons, of at least 30 lbs. weight, were sold some days as low as \$3 per 100, and retailed about the city for five cents each. When they bring about \$8 per 100 the crop is a good one for the grower, but at the rates which have prevailed this year there is little in the business.

The preservation of quality in melons is a matter which presents itself to all growers. It must be acknowledged that the average quality of California melons is very high, but there are now and then signs of deterioration. We cut several watermelons this summer whose exterior was fair, but within there was in the structure and flavor of the flesh, indisputable evidence that the constant tendency toward intermixture among cucurbitaceous plants, had been given an opportunity to intrude, and had destroyed the quality of samples tested. There are also indications from perverted shape, as the narrowing of the blossom end and the formation of a neck-like portion, that conditions of growth have not favored perfect development. These two manifestations of ill-growth are produced by different causes.

We can probably learn something of value concerning the perfection of growth in watermelons from the Southern States, where the excellence of this fruit or vegetable has long been proverbial. Mr. P. J. Berckmans, of Augusta, Georgia, one of the best known horticulturists of the South, recently wrote an essay on the watermelon, from which we shall take leading points bearing upon the manifestations we have cited. He states that the melons of his State are not equal in point of quality to those of earlier years. The chief outward signs of deterioration are smallness of size, the neck-shaped formation and badly-colored rinds. Several causes are mentioned as producing these effects, the chief being climatic influences and hybridization of the former, as illustrated by the present season's experience. Mr. Berckmans remarks: "The weather, during the beginning and middle portions of last June, was very warm; a dry atmospheric condition, added to a still drier state of the soil, prevented the needed supply of moisture necessary to the perfecting of the melons, the result being small size, abnormal shape, such as is commonly called necked, and the failure of the normal formation of perfect seed as the flower end carried with it premature decay. It will be seen from this that these causes producing these results are irremediable."

Hybridization is, however, the chief source of deterioration. All melon growers know that

but a very small proportion of the flowers set fruit; this is owing to their differing in sexes. The male or pollen-bearing flowers are in the proportion of 4 or 6 to one female flower, the latter alone producing fruit. If these are impregnated with the pollen of the same plant the result is a melon similar to the one which produced the seed planted. If, however, the pollen of a different variety has caused the impregnation, then the result will be a melon distinct from the parent plant, but likely to bear traits partaking of both varieties, and thus a variety commonly called hybrid is produced. The inflated stem of each female flower, when just formed, is called the ovary, and contains the young seeds or ovals. These vary in number from 50 to several hundred, and each is susceptible of being impregnated with the pollen of a distinct variety. We have here an explanation of instances where seed taken from one melon produce a number of distinct varieties. The pollen which fertilized the flower producing that melon came from several distinct varieties. While the effects of cross fertilization are usually not apparent until the production of a crop of fruit from such seed, we, however, find in-

A Curious Animal from South Africa.

Our engraving shows the Moholi (*Galago moholi*), an inhabitant of South Africa first seen by the explorer, Dr. Smith, hopping about the branches of the trees that bordered the Limpopo river, in 25° south latitude. The moholi galigo is nearly 16 inches in length, inclusive of the tail. Its color is gray, with irregular markings of a deeper hue. The under parts of the body are nearly white, and the limbs are slightly tinged with a golden luster. The tail is not very bushy, excepting at the extremity, and its color is a chestnut brown. The texture of the fur is very soft, and there is a slight wooliness in its setting.

Nocturnal in habits, it sleeps during the day, with its large ears folded over the head in such a manner as to give it the aspect of an earless animal. The moholi does not secure its prey by stealing on it with slow and silent movements, but leaps upon the flying insects on



THE MOHOLI (*Galago moholi*) FROM SOUTH AFRICA.

stances of an immediate modification in the appearance of the fruit, such as the production of white, or dark, or unicolor skinned melons on the same vine which produces a genuine striped or rattle-snake. The agencies which cause the transmission of pollen from one plant to another are principally insects. The honey bee, is, perhaps, the most active in this cause.

It is easy to see from this description of the method of hybridization, that it is extremely difficult to guard purity in a melon grown in a district where different varieties of melons and squashes are grown, for the bees go long distances and carry the pollen with them. The best thing to do to preserve the market demand for good melons is to select those which are true to their kind and reject the others. Seed should also be selected with the greatest care from melons showing the true marks of purity of race in shape, size, color of rind, color and marking of seed, and color and quality of pulp. If this be done carefully each year there will be a fair chance of maintaining a high average of excellence throughout each year's crop.

POULTRY NEWS.—We learn by postal card that F. M. Pratt and R. M. Saul have purchased the *Poultry News*, lately started by W. P. Truesdale at San Leandro, Alameda county. The new owners promise some improvements in the September number of the *News*, which will be issued ere long.

Examination of Seedling Grapevines.

We have received a copy of a letter addressed to the daily newspapers by C. A. Wetmore, of 111 Leidesdorff street, S. F., who is a member of the State Viticultural Commission. Mr. Wetmore announces that he is about to make a careful study of all the grapes produced from seedling vines in this State, and also the fruit of the wild vines of our river banks and cauyons, also the results obtained by grafting European vines upon these native wild stocks. Mr. Wetmore is now having collections of seeds made in California, Arizona, Missouri and Texas, and he has written to Secretary of State, Evarts, requesting aid through the Consular Service, in obtaining information concerning the wild varieties of the *vitis vinefera*, from which have sprung the European cultivated vines. Throughout this State he has heard of certain exceptionally productive wild vines with large berries, and desires to obtain specimens and descriptions of such for the use of the Commission.

Concerning the success of grafting the European vines upon the wild stock, which is a mooted point, Mr. Wetmore says that the wild vine is unquestionably good grafting stock. At Mr. Charles Lefranc's vineyard in Santa Clara county, there are rows of productive vines, equal to any on his place, grafted 24 years ago on wild stock from the canyons of that county.

Another point upon which information is desired is concerning the many experiments made in various parts of the State in raising seedlings of the cultivated varieties. It is important to know which varieties will produce healthy, vigorous seedlings; the percentages of identical reproductions, of superior and inferior kinds, and the ages of the seedlings when they bear fruit, as well as also their relative producing power; what varieties of cultivated vines will produce a general average of good fruit from seedlings, whether identical with parent stock or not, etc. It is also important to compile state ments from the experience of those who have raised seedlings, and reports from them are solicited. All our readers are invited to aid Mr. Wetmore in this investigation with all the information they may have.

Mr. Wetmore has much courage that the phylloxera evil will be suppressed or averted. He says: "We believe that we shall be able to solve the two great questions—how to preserve the *vitis vinefera* (European varieties) from the phylloxera; also, how to perpetuate it by grafting on phylloxera-proof roots. The latter is the most simple, and for the present those who are planting new vineyards should not neglect to obtain the well-known phylloxera-proof stocks, while trying to find others. The proper use of bi-sulphide of carbon, submersion and other remedies, which will soon be reported upon, will undoubtedly save our sick vineyards, if the vine-growers will not soon become apathetic, and if the State and general governments will lend the aid which the vinicultural industries deserve."

THE LOS ANGELES BEET SUGAR INCIDENT.—

We recently alluded to the fact that the little beet-sugar factory in Los Angeles had been unable to obtain sugar from the beets that had been sun dried and the question was whether the trouble was in the factory or in the beets. It has since transpired that Messrs. Slausson and Nadeau who had put money into the enterprise, brought a lot of 50 tons of the sun-dried beets to the factory at Alvarado to have them tested. The test, according to the statement of E. H. Dyer, superintendent, proved that the beets were all right, and a good article of sugar was made from them. This would indicate that the trouble was in the Los Angeles factory and not in the beets, which is a fortunate conclusion, for if our southern friends arrange a good factory they may surmount their difficulties.

The springs in Santa Cruz county are increasing their volume and the streams are swelling their flow, which facts are taken as evidence of near approaching rains.

For the year ending June 30th, 1880, the issues of postage stamps, stamped envelopes and postal cards, on which the revenue of the Department mainly depends, aggregated in value \$32,087,342, a 9% increase over the previous year.

JONG YUG SING, managing director of the China Merchants' Steam Navigation Company, of the southern ports of China, has arrived in Cuba to ascertain if it is feasible to open intercourse by steamer between China and Havana.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds

Agriculture in Tehama County—No. 1.

The rapid development of this county as an agricultural county is drawing the public attention to it, and the following sketch of the resources of the county and its prospects, with a few remarks as to its past history, are herewith presented for the benefit of those seeking permanent homes. Of course, in an article of the limited extent this must necessarily be, I will only deal with generalities and not enter into minute explanations.

The county was first established in 1856, and, at that early day, was pre-eminently a grazing county. The rolling hills and vast plains were covered with bands of stock and herds of cattle, which fed on the luxuriant wild oats which covered the prairies, and were the wonder and admiration of the early settlers. Later sheep were brought in, before whose remorseless jaws the luxuriant feed soon succumbed, driving the stock and cattle into the Territories. Later still we find the timid sheep are being slowly but surely driven farther back into the frontier settlements; and the plow, that great forerunner of civilization, takes its stand and "plows deep while sluggards sleep," until we find in 1880 a pre-eminent agricultural county.

The estimated area of Tehama county as surveyed by H. B. Shackelford and F. J. Nugent was, in 1878, 3,200 square miles. This magnificent body of land is traversed from north to south by the winding serpentine highway, the famed Sacramento river, which rises in the Sierran mountains and empties itself in the Bay of San Francisco. This splendid living stream receives the drainage of the numerous mountain ranges through the many creeks which traverse the county in every direction.

The county is divided into seven townships. Cottonwood township is the northwest boundary, adjoining Shasta and Humboldt counties. Of this township I will say that, with the exception of the fine farms up and down the bank of Cottonwood creek, it is as yet but little developed. The fine body of land belonging to the J. N. Montgomery estate, which is situated in the northwest corner of the township, is of a splendid grade, being of a clay and adobe nature. The topography of the land is discouraging to look at, being cone-like hills, or bald hills, as they are called. They look worse than they are, and at no very distant day this splendid body of land will astonish the rest of the more encouraging looking land. On Dry creek, on the road to this undulating conformation of land, several well-to-do farmers have pretty homes and paying farms. As we come down towards the South Fork we find a rough spot or two, but the soil is of a white-clay nature, capable of cultivation, but will not be brought under thorough cultivation until immigration sets in, and settlers of a thrifty turn shall make themselves homes in this sparsely settled section. On the south bank of the main Cottonwood creek we have some very prolific farms, but farther south, towards Red Bluff township, large tracts of a light grade of red land are as yet untended. Twenty-five years from now no doubt the broad plains of Cottonwood township will be teeming with small farms. The broken and hilly portion of this part of the county is used for hogs, sheep and cattle. There are several well-improved farms on this tract, and a fair living is made by our sturdy yeomen even on this second-rate land.

Red Bluff township embraces some very broken and uninviting looking land, but of late many hundreds of acres of the rolling red lands north and west of the city of Red Bluff have been successfully farmed. Blue Tent and Dible creeks have some good little farms lately improved on their banks. Farther west, away toward the Coast range, we again strike the Bald Hill country. H. W. Brown has a magnificent body of this cone-shaped land, all of which he is gradually bringing under cultivation. This harvest he has gathered an abundant crop from this rich soil. South of him, and west, there is quite a stretch of timbered, hilly land, which at no distant day will blossom with the golden harvest of wheat. No part of the county has proved so fertile when cultivated as the foothill country adjacent to this peculiar land. There are thousands of acres of land west of the city of Red Bluff which, in course of time, will be profitably cultivated. Away up on Red Bank creek we find pretty farms nestling in among the rough, sterile-looking hills—perfect little paradises of homes, where our sturdy husbandmen toil contentedly. Following down Red Bank creek we come to a rich body of bottom land, which runs south for several miles. Here again we strike the rolling, bald-hill country, with its exhaustless fertile soil, on which thousands of sacks of golden grain were harvested this season. Closing in again toward the city, we strike the many creeks, where some fair red soil is met with. Brush, Reeds and Pine creeks all have some good land upon their banks. Pine creek is surrounded by some very rough country, which can never be brought under cultivation. The settlers on its source are wood-cutters, generally speaking. They supply the city of Red

Bluff with its fuel. I should not wonder if, at no distant day, tree planting will be an industry in this section of the county, as the wooded country surrounding the metropolis of northern California is becoming exhausted, and wood must be had for fuel.
Red Bluff, Cal.
FELIX.

HORTICULTURE.

Curl Leaf.

EDITORS PRESS:—I was much interested in reading M. P. Owens' communication on "curl leaf" which appeared in a recent issue of the PRESS. His experience is so different from mine that I feel called upon to tell what I know, and, if I succeed in nothing else, will at least be able to show the difference which locality may produce in the manifestations of the disease. My experience in fruit growing is not very extensive, but during the past three years I have had an excellent chance to observe "curl leaf," as that has been our principal crop during this time. Three years ago our orchard was curled badly, but not enough to take all the fruit; the weather, after the curl had progressed well, being warm and pleasant. Early Crawfords, George Fourth and a seedling White Cling were not affected, but Late Crawfords, Strawberries, Old Mixons, the October Free, and a late seedling Cling suffered severely, but, as I said before, not enough to ruin the crop, though it lightened it greatly.

Two years ago the leaves again curled, the attack developing during the cold, rainy weather of early spring. This attack lasted much longer than on the previous year, and the result was manifest in a still shorter crop. Early Crawfords, George Fourth, and the White Cling being free from the disease and loaded with fruit, while adjoining rows of other varieties on either side, were entirely bare. Trees recovered and made a good growth.

This year, on the 6th of April, the peach trees had not quite gone out of the bloom, and were not yet in full leaf; few signs of the curl could be seen. From this time until May 16th, we had a constant succession of storms. Up to April 13th the curl was confined to one variety, a seedling cling, but on the 14th a cold rain set in, and the 16th and 17th we could almost see the leaves curl, nor was it confined to the one variety above mentioned, but was general all over the orchard. May 9th the disease was worse than ever, and it was not until the 23d of that month that the leaves began to drop. Of course, after such a siege we got no peaches, excepting Early Crawfords, George Fourth and the White Clings; fair crops of the two former, and a very good one of the latter. The trees had no sooner put forth a new and healthy growth, than the mildew appeared and seemed to deprive them of all their strength, so that now, on the greater part of the orchard there is little or no good fruit wood for next year's crop. But it makes little difference, as I have determined to saw off every tree subject to the disease, and had to apricots or to non-curling varieties of peaches, such as the Susquehanna and Solway.

Here is something that would seem to have a bearing on this subject: Last year I budded 100 Strawberry peaches, and this spring sawed off one-half the top of each tree to start the buds. Another lot of 200 trees of the same variety were left unpruned until after the time for curl leaf had passed, to see if we could not save the fruit. All these 300 trees were badly curled, those unpruned succumbing last, but being as much so as any. When the leaves and fruit began to drop, however, we noticed a difference. While from the unpruned Strawberries and the pruned tree of other varieties every peach fell, on those trees from which one-half the top had been removed there were peaches, not a large crop to be sure, but still considerable fruit.

The generally accepted theory is, that the evil effects of the curl are caused, mainly, by the warm soil stimulating the roots to send up sap in such excess that the leaves are unable to properly receive and care for it; and this would seem to be proven by the fact of unpruned trees resisting longest, since they have more wood and more leaves with which to take the sap. But here is my experience with trees relieved of half their tops, which produced fruit, while the unpruned trees did not; and this would go to show, either that it was a lack of sap, rather than an excess of it, or, that the tree had not sufficient strength to force the circulation while the whole top remained. I am not prepared to enter into any lengthy argument to prove the truth of these suppositions. But here are the facts—draw your own conclusions. The orchard of which I am speaking, stands on valley land, which falls sufficiently to give reasonably good drainage. The soil is black and rich, rather heavy than sandy.

I have tried the remedy proposed by Mrs. Carr, i. e., by cutting through the bark; and it is of no use. Two years ago I tried it after the disease was well developed, but with no beneficial results. Thinking perhaps I might have better success by performing the operation earlier, I gave it another trial this year, cutting the bark of about 300 trees, as soon as the first symptoms of curl were manifest. But I could detect no difference between the trees operated upon, and those I had not touched, neither the one nor the other retaining their fruit. In my opinion there is just one remedy for curl leaf, and that is to plant trees not subject to it.

Vacaville, Sept. 27th 1880. M.

Packages for Prunes.

A correspondent of the *Country Merchant*, who claims many years' experience in the fruit business in New York city, makes the following suggestions: A uniform package for market is very desirable, but the first requisite is quality of its contents, style after, and a distinctive California style is just what is wanted for meritorious fruit—such as I hope may be raised here—rather than an imitation of the French. There is no package more ungainly than the Turkish prune cask, yet the fruit is unexceptionable for cooking, and consequently the most largely used of any in the United States. The French prune is most delicate and acceptable for eating out of hand, consequently the choicest is graded and packed in glass jars and fancy cartons. But this part of the work is not done by the farmer; it requires more expert hands than his; he delivers the fruit to the packer, who has it all sized, packing that counting 100 to 110 to the pound in one set of boxes or barrels; that going 90 to 100 in another, and so on to 60 to 70. The larger prunes, weighing 40 to 50 and 30 to 40 to the pound, are then packed in glass jars and fancy boxes, the latter more particularly for Christmas trade, and as such they are very salable. The barrels are whole, halved and quarters and the wood boxes about 25 and 50 lbs. each. The size of the fruit and tare of package is branded on the end of each package, and so uniform are they in quality that one box is a perfect sample of the whole lot, however large. In packing, the bottom of the box is removed, the box neatly papered and the first layer placed in regular rows, each prune overlapping the top end of the one next, and then the box is filled and pressed lightly, so that when the lid is taken off the fruit is flattened out and shows to good advantage. All of this fancy work here is, however, I think, a question of the future. Not until the beauty and good eating qualities of the fruit are established will it require attention. For the farmer to get his dried fruit to the packer or to market, a clean dry-goods box, in the absence of new barrels, is the very best method. It keeps the fruit clean and bright. Bags of any kind are objectionable; the lint sticks to the fruit; the dust drives through when packed in this way, and the bags are liable to be torn and their contents lost.

Santa Barbara Horticultural Society.

EDITORS PRESS:—The meeting of the Santa Barbara Horticultural Society called for October 2d, was largely attended, and much interest was manifested in the subject of "Plums and Prunes." Americans were told by old settlers on coming to Santa Barbara, that among the many things that could not be raised here, the most emphatic of all impossibilities, was the subject of this gathering, "Plums," in every variety; and with some apparent cause, for no depth of pomological depravity is more aggravating than a German prune, which, about mid-summer, arrays itself in each wealth of bloom as would suffice half a dozen honest trees, and satisfies itself with this rarely ornamental display as the chief aim and end of its existence. Then come other varieties will send out clusters of leaves on the end of the branches and decline even an attempt to bloom. But these have been found greatly in the minority, and experience is making a catalogue of plums, with very satisfactory results.

One of the first subjects of interest in this quarterly meeting was a promised report from Mr. E. J. Knapp, our pioneer in prune raising and curing. His trees are mostly of the Petit Prune d'Agen variety, and were planted in 1876, one year from the bud, on almond, plum and apricot stock. The two former are a success, the latter break off at the point of union as smooth as if cut with a knife. They have borne for two years and very satisfactorily, this season many trees bearing 200 lbs. Mr. Knapp thinks one-quarter should have come off, and that his dried crop would have been fully as large, if not larger, the trees being completely lined with fruit. The Hungarian prune being so far, he finds only suited to drying. One unknown variety bore 250 lbs. per tree in some instances.

Mr. Knapp's method of drying is as follows: The prunes are picked with care, of uniform ripeness—fully ripe—and immersed in a solution of one can of concentrated lye to 10 gallons of water, then placed in evaporators and exposed to a high degree of heat; then withdrawn and suddenly cooled and turned. This process is repeated three times, and then the heat lowered toward the close of the work, the main difficulty being in knowing the exact point at which to close operations. They are improved by the sweating process, in the same manner as with raisins, giving a gloss and drawing the sugar to the surface. The result this year, experimental as it is, is very encouraging, producing a superior article commanding from 16 to 20 cents in our home market. They are neatly packed in 10 and 15-lb. boxes, and will make a welcome addition to our store of dessert fruits, as well as for cooking. It is thought that Mr. Knapp will not require to send away any of his product. The soil is a rich, warm sandy loam, 80 ft. to water, in the lower end of Carpinteria valley. It has always been perfectly clear for, and is

paying for the labor bestowed. Mr. Knapp refuses to sell this valuable fruit farm, and proposes largely to extend his operations. He has other orchards of English walnuts, apricots and other fruits, besides the Lima bean crop, for which this section is so justly celebrated. Of this crop in passing I will state there are 2,700 acres, and it is thought it will yield more than 1,500 pounds per acre. The growers expect to realize higher prices, owing to the smallness of the crop.

Attention was called by Col. Bond to the success and experiments in grafting the French Prune d'Agen on almond orchards where they fail to bear well, this fruit being hopelessly capricious, one orchard bearing finely, and the next doing nothing. There will be a large amount of grafting in the spring, Col. Bond himself leading the way with intelligent experiments.

Attention was called to the need of much larger supplies of light plums for the cannery. All report the Yellow Egg and Green Gage a success, and also the "Silver prune." The President urged a careful trial of Coe's Golden Drop. He thought the trees failing under that name untrue to label, not answering description. An encouraging report of Prune d'Agen on the higher foothills of Montecito, where there is only two ft. of subsoil of stiff clay, bore as heavily as the Carpinteria orchard, and of as good quality.

These testimonies will add much to our store of knowledge, for we are just awakening to the possibilities of our county, and the results will be told in the years to come in these beautiful garden homes yielding their golden treasures to those whose forethought has gone out beyond the present hour.

Our autumn display of fruits and grains will, owing to the time appointed for the Southern Horticultural fair, be late this season, the 28th and 29th of October, but the September fruits were well represented at our quarterly meeting. We hope to enlist every portion of our county, and have promise of doing so, and though last, we may hope not to be least in the Harvest Home.

MRS. N. W. WINTON.

Rose Cottage, Santa Barbara.

POULTRY YARD.

Bone Food for Poultry.

Lewie Wright, of London, in his "Book of Poultry" makes special mention of the value of bone dust and bone meal, and considers it one of the most valuable of all known aids to the successful rearing of poultry. Laying fowls need bone constantly, as it is largely made up of material which enters into the composition of eggs and shells, and besides contains animal matter of great value to the fowls when freely ground. For old birds bone may be fed in the form of finely ground meal mixed with soft food or coarsely ground into bite the size of a kernel of corn, or smaller. In the latter form the hardest fragments perform a double purpose by assisting the gizzard for a time with its grinding operations. For this purpose, ground oyster shells are also exceedingly valuable, and the very hard and flinty fragments do good service from the time they are eaten until fully digested. Bone matter contains a great deal of real nutriment, and saves its value (when bought at reasonable rates) in other food.

The large fowls, Brahmas, Cochins, etc., are subject to leg weakness, and every breeder of Asiatics knows how this difficulty has often troubled his best flocks, and puzzled his brain to learn the cause, prevention and cure. Wright states that bone dust (bone meal) is almost a sure prevention for the difficulty, and should always be used as a preventive.

But by far the most important use for bone meal is one that interests alike all who raise fowls for market, and on this point Wright is very positive in his statements. He performed careful experiments to ascertain the exact facts, and always with the same results. From these experiments he learned that all kinds of domestic poultry, and even hogs and other four-footed stock, may be made to grow to a larger size by the use of bone meal, and that the difference is very material. The cause he explains thus: The bone supply must come from those kinds of food largely made up of bone-making materials, and when fed in considerable quantities, as when pure raw bone meal is used, has the effect to keep the bones of the fowl or animal in a soft or growing condition longer than without its use, and therefore to postpone the period of the bone setting or becoming hard. After the bones are hard the increase in size of the fowl may be termed development; previous to that it is actual growth.

DUSTING BOXES.—During a dry autumn there can be but little excuse for neglecting to store up a good supply of road dust with which to replenish the dusting boxes all through the winter. Some make a little preparation and give the fowls a chance to keep themselves in a tidy condition a short time after winter begins; but failing to appreciate the fact that a good dust bath for their birds is as enjoyable and beneficial as a water bath is to themselves, they do not provide for the necessities of their fowls in this department.

THE APIARY.

The Cyprian Queens.

After prolonged efforts on the part of some New York and Canadian beekeepers there have been secured from Cyprus in the Mediterranean, some queen bees of native variety which are termed Cyprians. How these compare with the Italians is a matter of general interest. Mr. H. L. Jeffrey writes to the *Beekeepers' Exchange* upon that point as follows: By the kindness of Mr. Hoffman, I have been able to see the pure Cyprian bees, and I am satisfied that there is a noticeable difference between them and the Italians, in both shape and color. Mr. Hoffman sent me a large box of worker combs, containing eggs, in June and another in July. One was inserted in a black stock, the other in a stock of dark Italians. The Italians took good care of their brood and I have called the attention of a good many to the two colonies of bees. They can be detected as they fly out, though there is but a few hundred of the Cyprians, as there was about 1500 cells with eggs in, and they hatched well. The workers are the most noticeable by the amount of almost white hair covering the young bees at five days old, and when old enough to work, the colored bands appear to be one solid belt, but of a different shade of yellow from the ordinary Italians. The underside of the abdomen is just as clear as the bands. The six black spots are clear and well defined, and the black tipping on the underside of the abdomen is clear and sharp, the two colors not being muddled together as we find them in the Italians. Their general color is as clear as the lightest Italians, but they plainly show more strength of vitality, and are more active in flight. Should they be as uniform from other queens as they are from Mr. Hoffman's imported queen they will be desirable to have. Though many have said they look like a variety of the Italians, yet they could see a slight difference in their going and returning, from the general flight of the bees. What superiority they possess over the Italians is most likely due to natural selection or survival of the strongest, and if they are used to put new blood into the Italian, I do not see who will know the difference provided the cross remains docile, and any one working for honey exclusively, should have at least one stock to try for himself, because locality and surrounding influences may make a difference in merits or demerits. What we learn from experience we know for certain.

To the above the editor of the *Exchange* adds the following: "Hoffman condemns the Cyprians in severe terms, because they are exceedingly cross, and because they breed excessively in times of scarcity, thus consuming stores unnecessarily, while worse than all, they do not show themselves equal to the Italians as honey gatherers."

BEES IN TULARE COUNTY.—O. S. Davis, of the Vine Clover apiary, Lemoore, Tulare county, Cal., writes to the *Beekeepers' Exchange* as follows: The hottest weather will soon be past, and bees are able to pursue their work all day long without stopping in the middle of the day to fan the hives, to keep them from melting down. The nights are very cool, so there is no danger of sagging of the very thin foundation that we put in sections. The vine clover (*Siphia nodiflora*), is secreting honey quite rapidly and the flow is very steady, and will last for 2 or 3 months yet. The bees are storing honey in 24 6x6 sections, filling such a rack in about 20 days. The alfalfa is hardly noticed now by the bees although it is in full bloom. The reason is that there is more copious and better pasture on the uncultivated lands. The water ditches are all out of order and the irrigation has stopped for this season, but it is so late in the year that it will not affect the honey crop. I think of raising queens for market next year, and would like to correspond with any California beekeeper on the subject, being only an A B C scholar myself and very willing to learn of others. I am trying all the noted strains of bees.

FRESNO COUNTY APIARY.—Another Californian, writing to the same journal, says: My locality is an irregular belt of lowland on the east bank of King's river, comprising about 40 square miles, suitable for bee pasture, and produces as fine honey as can be found in the State. Our own apiary of 200 colonies, is about one-fourth of the number kept in this vicinity. We are introducing Italians for the first time this season. Our stocks are all in good condition and free from foul brood, the scourge of California apiaries.

A SHIPPING EXPERIMENT.—In a letter written from Ojai valley, Ventura county, the following occurs: The owner of a ranch I visited had just received returns from Liverpool, for the honey he shipped last year. The quantity was 11 tons, and the price realized, 10 and 11 cts. He lost a few swarms last winter, and now has 110. Another ranch that I visited had 175 stands of bees year before last, and the honey produced was 45,000 lbs. The bulk of this was shipped to New York and sold for 10 cts. per lb.

THE HONEY HARVEST.—The *American Bee Journal* publishes reports of about 300 apiaries, in all parts of the country, up to Aug. 25th, and has many more which were received after that date. From these reports the editor judges the crop of the year as follows: In Arkansas, Kentucky, Minnesota, Mississippi, Tennessee and Vermont, there is an average yield. In California, Michigan, New York and Virginia, $\frac{3}{4}$ of the usual crop. In Alabama, Canada, Missouri and Ohio, $\frac{1}{2}$. In Connecticut, Iowa, Louisiana, Maine and Pennsylvania, $\frac{1}{4}$. In Indiana, Georgia, Kansas, Nebraska and Texas, $\frac{1}{4}$. In Illinois and Wisconsin, much less than $\frac{1}{4}$ of the usual crop. An average yield was reported by 52; no surplus honey, by 90; all the rest varied between the two extremes. Last month the *Bee Journal* estimated that the summer yield would be about $\frac{1}{2}$ the usual crop. We see no reason for changing that estimate, and we now estimate the fall crop at $\frac{1}{4}$ —making in all, for the whole season, about $\frac{1}{2}$ the usual yield.

SHEEP AND WOOL.

The Philadelphia National Show.

Many of our readers will be interested in the following sketch of the National sheep show at Philadelphia in September, which we find in the *Country Gentleman*: There was held last week at Philadelphia, Pa., what has been designated as a national show, intended as an opportunity for comparison between the wool-growing interests of the various sections of the United States. By a special act of Congress, passed last winter, Gen. W. G. Le Duc, the Commissioner of Agriculture, was required to be present, to make a full examination on behalf of the Government, so that the subject of wools and woollens could be intelligently discussed by Congress, if any legislation should hereafter be needed or urged. These and other considerations rendered this show of special interest, and in some respects it was quite a complete one. It was held in the main Centennial building, in Fairmount park, using the sheep pens just vacated by the exhibitors at the Pennsylvania State fair the previous week. The pens were in rows around the east half of the building, and every opportunity was afforded for satisfactory examination.

There was a magnificent show of Merinos from the flocks of F. P. Spivey, Fairview, West Va.; S. S. Campbell, Cadiz, O.; J. Glass, Burgettstown, Pa.; Alex. McCalum, Hickory, Pa.; S. C. Work, Buffalo, Pa.; W. L. Archer, Burgettstown, Pa.; J. M. Miller, Hickory, Pa.; George Hammond, Middlebury, Vt., and D. Kelly & Sons and E. Peck & Sons (joint show), Wheaton, Ill. It will be seen from this list that while there was a fine exhibit of Merinos, some of the localities where excellent flocks are kept were not represented in any way. No sheep from western New York, and none from the plains of the West and Southwest were sent to this exhibition—so that, in some essential points, a satisfactory comparison of the adaptability of the several fine wool growing sections could not be made. Nevertheless, the heavy-fleeced Vermont flocks could be examined alongside the lighter-fleeced but finer stapled sheep of western Pennsylvania, West Virginia and Ohio, and the large flock owners from Texas, Colorado and California, who were present, could decide where to find rams most suited to their flocks and climates. The Illinois sheep were smaller, at least up to two years old, than those of Pennsylvania and Vermont. The Texans seemed to like the Vermont sheep best, although the Archer flock was very similar, and attracted much attention from that class of breeders. The Californians like large bodies also, while the Virginia, Ohio and Michigan breeders present were seen continually around the pens of sheep from western Pennsylvania. The Archer flock was less wrinkly than most of the other large exhibits, and many Western breeders prefer stock rams well wrinkled. None of the sheep were as wrinkled as was popular some years ago. There were many wool dealers and manufacturers present, and these, of course, preferred the sheep having the fewest wrinkles. The western Pennsylvania sheep have longer wool than usual many years ago and show decided improvement. Mr. W. G. Markham, who has recently visited the European and Australian flocks, said that there are no better Merinos in the world than the American Merino of the present day. Some time ago an Australian breeder sent him a ram's fleece, intimating that there is no necessity for them to come to the United States for rams to improve their flocks, and that the fleece sent was evidence. Mr. Markham sent that fleece, with a fair average ram's fleece from one of the western New York flocks, to Mr. J. I. Hayes of Boston, who had them scoured. The Australian fleece scoured 4 lbs. and 11 ounces, and the western New York fleece 8 lbs. 8 ounces. Both fleeces were on exhibition at this show, besides a large number of others, scoured, "in the dirt," or washed in the ordinary way. As compared with the fleeces shown from the Australian, European and South American animals, the American Merino yields the most wool, and of as good quality in respect to fineness and length of staple. The best fleece, as regards fineness, came from West Virginia, evidently from a sheep of the Saxon type, except that the staple was as long as any good Spanish Merino. It was a ram's fleece sheared after being washed in the ordinary way, and weighed 17 lbs. There was no sheep shown having so fine a staple.

THE DAIRY.

Ayrshire as Dairy Cattle.

The commendable efforts of Mr. George Beament, of San Mateo county, in bringing the Ayrshire cattle to public notice at the fairs, bid fair to gain for them a wider notice among dairymen. Certainly, as we have remarked before, the Ayrshire has a dairy standing in her native country and at the East, which entitles her to a leading place among milking cattle. The following notes of the deeds of Ayrshires are of interest in this connection. The Ayrshire cow has been known to produce over 10 imperial gallons of good milk in a day. A cow-feeder in Glasgow, selling fresh milk, is said to have realized \$250 in 7 months from one good cow, and it is stated on high authority, that \$1 a day for one-half of the year is no uncommon income from good cows under similar circumstances; and that 75 cents a day is below the average. But this implies high and judicious feeding. The average yield on ordinary food would be considerably less.

Youatt estimates the daily yield of the Ayrshire cow, for the first 2 or 3 months after calving, at 5 gallons a day on an average; for the next 3 months at 3 gallons; for the next 4 months at 1½ gallons. This would be 850 gallons as the annual yield of a cow; but allowing for some unproductive cows, he estimates the average of a dairy as 600 gallons per annum for each cow. Three and a half gallons of the Ayrshire cow's milk will yield 1½ lbs. of butter. He therefore reckons 257 lbs. of butter, or 514 lbs. of cheese at the rate of 24 lbs. to 28 gallons of milk, as the yield of every cow, at a fair, and perhaps rather low average, in an Ayrshire dairy during the year. Alton sets the yield much higher, saying that "thousands of the best Ayrshire dairy cows, when in prime condition and well fed produce 1,000 gallons of milk per annum; that in general, 3½ gallons to 4 gallons of their milk will make 20 lbs. of full milk cheese."

One of the 4 cows originally imported into this country by John P. Cushing, of Massachusetts, gave in 1 year, 3,864 quarts, beer measure, or about 464 gallons at 10 lbs. to the gallon, being an average of over 10½ beer quarts a day for the whole year. It is asserted, on good authority, that the first Ayrshire cow imported by the Massachusetts society for the promotion of agriculture, in 1837, yielded 16 lbs. of butter a week for several weeks in succession, on grass feed only. These yields are not so large as those stated by Alton; but it should, perhaps, be remembered that our climate is less favorable to the production of milk than that of England and Scotland, and that no cow imported after arriving at maturity could be expected to yield as much, under the same circumstances, as one bred on the spot where the trial is made, and perfectly acclimated.

The Channel Islands Cattle.

The Channel islands—Jersey, Guernsey and Alderney—situated in the English channel, between Great Britain and France, have a race of cattle that have attained great popularity among dairymen, mainly on account of the quality of the milk, which is especially rich in cream. Of these Channel islands cattle the Jersey is considered the typical race—at least it has attained the greatest popularity and has been most widely disseminated—but they all show unmistakable traces of a common origin. When first introduced in this country, they were all called Alderneys, no matter whether from Guernsey, Jersey or Alderney; but as the cattle of each island are kept distinct, and no crossing between them is permitted, we have ceased to give them this general application, although the difference between the Alderneys and the Jerseys is so slight as to not be worth mentioning. They are famed for the large percentage of cream which the milk affords and for its rich golden color, and are especially desirable as family cows to furnish cream and butter for table use. The Jerseys are the most numerous, as Jersey is much the largest island of the group—larger indeed than all the others combined. The Guernsey cattle are larger and, perhaps, coarser than the Jerseys, and it is claimed that while they are equally as desirable as the latter with regard to quantity and quality of the cream and milk, they fatten off more readily and are more valuable for beef. On this account it is urged that they are better than the cattle of Jersey and Alderney for the general farmer, for dairy purposes or for crossing upon other stock. On the other hand the breeders of Jersey cattle claim superiority for this breed over all others in the quality of the milk and cream and in the purity of the breed. The cattle of Alderney are, as a class, said to be smaller and more delicate than those of Jersey and Guernsey. The Jerseys are the only Channel islands cattle that will make much show at the fairs. They are small cattle, with beautiful deer-like heads. In color they are silver gray, light or dark fawn, light or dark brown, pale red, with more or less markings of white sometimes occurring with all the above colors, but a "solid" color, with black nose, tongue and switch are considered desirable.—*National Live Stock Journal*.

SOLDERING LIQUID.—Dissolve scrap zinc in excess in hydrochloric acid by means of heat, neutralize the free acid with water of ammonia, and dilute with an equal bulk of water.

THE FIELD.

Sorghum Sugar Making.

As there are many of our readers who have grown the new varieties of sorghum this year and will experiment with sugar making this fall, perhaps the following general hints from the *Indiana Farmer* may be of use to them: The habit of stripping and topping the cane some days before it is used is a bad one. Every joint of the cane contains a latent bud, and if the blades be stripped off and the tops cut, or if either be done, the bud wakes to life, and a second growth begins, and with it the sugar is rapidly converted into glucose, and the crystallizable quality, with more than half the sweetness, is lost. If it be necessary to cut canes some days before it is ground, it should be carefully piled up in a cool, dry place, sheltered from rain and sunshine.

It is to be regretted that even with the best cane mills, we fail to get all the sugar that is contained in the stalks, but no better process has been discovered, and in the present state of our knowledge we must endure the loss. Large rollers with a slow motion are the essential properties of a good cane mill, and horizontal rollers are more convenient than vertical ones, and steam gives a more uniform motion than horse power.

The juice, as it runs from the mill, should be passed through a strainer or wire gauze or clean straw, and should run at once into a wooden defecator, heated from a bottom of galvanized iron or copper, or from a steam coil. In this vessel milk of lime should be added, till the juice will no longer redden litmus paper, but care must be observed that the lime is not carried beyond this point. Lime is used to neutralize the acid, which is always present to some extent, though the quantity is diminished as the cane is more perfectly ripened. If the juice is brought to a boiling point without lime or some other alkali, the acid will act on the sugar and convert it into glucose; and this is the change to be carefully guarded against in all stages of sugar making. On the other hand, if the use of lime is carried beyond the point of neutralizing the acid, it forms a compound with an equivalent of sugar, which is a dark-colored bitter substance, and these properties are communicated to the syrup, but not being crystallizable, it does not materially affect the sugar. After the juice has been kept near the boiling point and skimmed as long as any skum arises, it should be drawn off into a vessel and allowed to settle for two or three hours. From this it should be drawn with a syphon, or carefully dipped into a fine strainer and passed directly into the evaporator and be reduced to a thick syrup as rapidly as possible. If we use direct fuel heat an open evaporating pan is simple and effectual. But if we are prepared for it a steam coil is the safest mode of evaporation in an open vessel. When we make sugar in factories or sugar-houses, as we should do, and as we will do before many years, we will use vacuum-pans exhausted by an air-pump, and reduce the syrup to the crystallizing point at once without raising the temperature above 150° Fahrenheit.

After the juice is reduced to syrup, if sugar is to be made, it should be passed while hot into a condensing-vessel, made like the defecating-tank, but smaller. Here it should be carefully reduced to a consistency that requires 238 degrees to boil it. It should then be emptied into the granulating-vessel, which should be kept in a room where a temperature of between 90 and 100 degrees is maintained. In two or three days the mushy mass may be placed in muslin sacks to drip, or, better, operated on with the centrifugal machine, if we have one. Or if we prefer it, we may barrel it in this state and send it to the refinery. In all this work a scrupulous regard to cleanliness must be observed. Every morning before beginning work, the rollers, evaporator and condenser should be well washed with a strong solution of sal soda to counteract any tendency to fermentation and the formation of an acid by which sugar would be transformed into glucose. When lime has been freely used, a dark, gummy substance is found adhering to the evaporating pan, that the soda will not remove. This can be effected by a wash made by mixing one part of sulphuric or muriatic acid with six parts of water, rinsing well with weak soda water after washing. Avoid keeping the juice long, the presence of anything sour or fermenting, or long continued boiling. These all promote the formation of glucose.

TO MAKE A STRONG PASTE.—To make a paste for fastening bills in a file book, or for any purpose where a very strong paste is desired, the following recipe is recommended: Rice or starch paste is the best. Four parts, by weight, of fine glue are allowed to soften in 15 parts of cold water, and then moderately heated until the solution becomes quite clear; 65 parts of boiling water are now added with constant stirring. In another vessel 30 parts of starch paste are stirred up with 20 parts of cold water, so that a thin milky fluid is obtained without lumps. Into this the boiling glue solution is gradually stirred, and the whole kept at a boiling temperature for a short time. After cooling, a few drops of carbolic acid are added to the paste. This paste is exceedingly adhesive, and may be used for leather as well as for paper and cardboard. It should be preserved in corked bottles to prevent evaporation, and in this way will keep good for years.

PATRONS OF HUSBANDRY.

State Grange Meeting.

(Continued from our last issue.)

Visit to the State University.

The excursion from Oakland to the State University on Wednesday afternoon was well enjoyed. The time consumed was considered well spent in the five-mile ride to and fro; the examination of the conservatories, experimental orchards, garden of medicinal weeds, grasses and economic and ornamental plants, and also samples of seeds, grain and agricultural products, soils, etc., in the laboratory and lecture rooms of the agricultural department of the University. Interesting remarks and explanations were given by Prof. Hilgard and his assistants C. H. Dwinelle and W. Kleo. The former exhibited, by aid of the magic lantern, enlarged views of thin sections of wood, showing the different kinds of grains; India ink drawings of destructive insects, and various agricultural products. The day was quite agreeable, and an excellent view was had of the tastily laid out walks and avenues of the ornamental grounds surrounding the fine buildings known as Agricultural College, College of Letters, Mechanic Arts and Mining College, Gymnasium, and the Art Gallery now building.

Opening Meeting on Thursday.

The Oakland dailies—*Tribune* and *Times*—gave very fair reports of this meeting, from which we condense as follows: At 10 A. M. the meeting was called to order by W. M., R. B. Spilman.

Agricultural Address.

An introductory address was delivered by I. C. Steele on Agriculture, and the duties of the farmer. Prof. Hilgard followed with a well-prepared address on the general subjects which occupied the attention of the Grange. He referred to the exhaustion of the ground and made suggestions as to how to prevent it. He then went elaborately into the ancient history of farming and showed how the fall of the Roman Empire, Spain and other countries was caused by the neglect of farm and field. In the south he showed by carefully prepared statistics how the cotton lint exhausted only four pounds to the acre, while the stock and seed exhausted over 40, thus wasting 10 times more than should be destroyed. He thought there was a lack of proper attention to agricultural colleges.

The Uses of the Colleges.

The Agricultural College of the University of California has for its object a perfect industrial survey of the State, and an experimental station at Berkeley, and the three aims of this station are:

1. An investigation into what crops are best suited to the soil, how to raise them, and to give advice and suggestions to practical farmers.
2. To secure an agricultural map of the State, containing the general features in soil and climate.
3. To give reliable instructions in the theory and practice of agriculture. He did not claim that the University prepared a student to take immediate charge of a farm as a practical farmer. It was his duty to study more on different soils to perfect his education. We have mining and engineering experts, but no agricultural experts. They are just as necessary. A farmer needs them as a miner needs one in his profession. He needs all the scientific information he can get. A farmer ought to be thoroughly educated. We want the Commissioner of Agriculture to be a member of the Cabinet. It is so in other countries, and should be here. Agriculture is not attended to in Congress. The committee has nine lawyers on, and only two agricultural men, and the lawyers use them. Hence farmers should be well educated.

In the afternoon Horace Davis, Congressman, spoke of the course he has pursued in Congress relative to obtaining a small appropriation for the publication of the agricultural resources and statistics of that portion of the country known as the arid region, and suggested that resolutions should be passed asking Congress to continue the appropriation. He stated that having got the thin edge of the wedge in, by the small appropriation already made, that if the Grange would go to work systematically they could get the matter continued.

With regard to the debris question, he spoke at some length upon its present condition. He referred to the threatened danger of the rivers, bays and harbors on this coast being filled up, and urged upon the Grange that they should take earnest and immediate steps to obtain legislation that would protect the producer by protecting the means by which they dispose of their produce.

Rev. Dr. McLean,

Of Oakland, read an able address upon "Education," taking the ground that rudimentary education is all that should commonly be provided by the Government, and that the higher branches should be taught at the expense of individuals or associations.

John H. Burke, Esq.,

Of S. F., spoke upon the passage of the new Constitution, and the construction which it was the intention of the people to be placed upon it. The Superior Court has decided that the State Board of Equalization has not the right to rectify errors in assessments, and cannot raise the assessment of any individual. In the section governing assessments, it was not provided for the assessment of individuals. McFarlane stated to the State Board that it was contrary to the intention of the Constitution and contrary to the intention of the people who framed it. There is no doubt that the people intended that this power should be given to the State Board of Equalization. The speaker then reviewed

the decision of the Supreme Court, which he held in his hand and frequently quoted from. He considered the decision had been rendered more on grounds of public policy than on any other. He thought that if the State Board held the power it would be used without fear, favor or malice. It is likely, said the speaker, that a body of five men, sworn to do their duty, would perjure themselves and commit a felony? He stated that if the assessment roll of San Francisco was correct, there were some men there who had not been assessed at all, and many who were considerably under-assessed. It was to reach these men that he had passed the last 12 months in searching through the records of San Francisco, and each case which he had brought to light had been dismissed, although it was clearly demonstrated that many of them were assessed for less than one-eighth of the property they were worth. The speaker devoted considerable time to giving his views as to how the courts should be constructed. He stated that real estate in San Francisco was assessed at very much below its value, and that it was particularly noticeable on Van Ness avenue and other of the localities owned and occupied by the wealthy people, while the poor people who owned a lot, or a house, or a wagon, or some other small amount of property were assessed to the full value of their property. He stated that while San Francisco had increased in value nearly \$50,000,000, its assessment roll was only about 33% of the entire assessment roll of the State; and several of the counties of the State were recently raised in their assessments to make up the deficiency caused by the under-assessment in San Francisco. He produced a long list of names of persons in San Francisco, owners of vast personal property, who were not even on the assessment roll, and said: "It is for this that the farmer and mechanic has to pay, and while those who roll in wealth are exempt from taxation; you farmers have to pay for them, and are assessed to the full value of your property to pay the cost of the Government, while if these wealthy land and property owners were assessed at their full value, your taxes would be reduced nearly one-half."

B. F. Baker, Esq., defended the recent decision of the Supreme Court, saying that Constitutional law denied the power of the State Board of Equalization to equalize individual assessments.

Farmer Nelson, of Butte county, made some arousing remarks, claiming that the legally expressed will of the people was constitutional as well as common sense law, and obtained the answer from Mr. Baker that three out of the seven Supreme Judges were of adverse opinion to before mentioned decision.

Some good hints and brief remarks were made by others present. The hall was crowded with attentive listeners, including many ladies. The principal speakers were loudly applauded and each complimented with a vote of thanks. Thus the day proved to be one of rare intellectual entertainment, and the open meeting a decided success.

Thursday evening's session very wisely devoted to the interests of the *California Patron*, the official organ under the management of the Executive Committee.

Friday's Session.

The resignation of State Lecturer Jeanne C. Carr, of Pasadena, Los Angeles Co., was reported from the Executive Committee, she having stated in her annual report, with kindly expressed regrets, some substantial reasons why the same should be offered, owing largely to her present distant situation and pressing educational and home duties. The resignation was accepted and Hon. Wm. Johnston, of Sacramento, elected for the remainder of the term by a very popular vote. Bro. Johnston was duly installed and it is expected that he will visit voluntarily various Granges in different parts of the State during the coming year, and we have no doubt he will give all such a sensible and lasting "warming up." Geo. W. Hancock, President of the Co-operative Grange store at Sacramento, was re-elected a member of the Executive Committee for 3 years. The Committee on Co-operation reported at length on the subjects under their consideration, and urged the importance of action on the part of Patrons throughout this jurisdiction, and recommended that a new Committee be appointed to forward the work of the Order in this direction, and report for action at our next annual session. The report was adopted and the same Committee continued with the additional name of J. M. Fowler and Sister West. On motion, T. T. Hooper, O. Clark, I. C. Steele, S. T. Coulter and N. Mertes were appointed Preparation Committee.

In the evening the impressive Degree of Pomona was conferred upon 24 brothers and 15 sisters, after which the Grange proceeded in a body to the stores formerly occupied by Montague & Co., in Merritt's building, corner of Franklin and Twelfth streets, where extensive preparations were made for the feast. Long tables were arranged, laden with the choicest fruits of California, and decorated with the richest flowers. In the centre of the table was an immense cornucopia flanked on either side with beautiful bouquets of flowers. It was the handiwork of Bro. and Sister Deming, of Vallejo, and was a masterpiece of floral art. The form was of wire, entirely covered and tastefully decorated with flowers arranged in stripes of varied colors circling the horn spirally from point to dome. The entire length of the cornucopia was 6 ft., 4 being included in the flora and 2 in a rich profusion of fine fruits and nuts, nicely arranged as to form, size and color,

which formed the opening. The contributors of fruit were J. F. Deming of Vallejo, N. Jones of Lafayette, Dr. J. Strentzel of Martinez, Kimball Bros. and National Ranch Grange of San Diego, J. Lewelling of St. Helena, and others. Brothers Klee, Collins, Christian Bagge, Dewey, and others of Oakland, and Mrs. Deming of Vallejo, contributed flowers. A pleasant time was passed by the members of the Grange and their invited guests, and an enjoyable time had, the party retiring at a seasonable hour, pronouncing the Feast of Pomona one of the most delightful of gatherings.

Saturday's Session.

The debris question was discussed with animation by Messrs. Wm. Johnston, Adams, Hancock, Grattan, N. Jones, H. C. Jones, McGrew, Bobo, H. W. Johnson, I. C. Steele, and others, but no action was taken.

The proposed amendments to the Constitution of the National Grange, whereby the sixth and seventh degree of the Order may be conferred by State and Pomona Granges, were discussed and finally rejected.

By request of John S. Collins, Master of Temescal Grange, A. T. Dewey extended an invitation to the State Grange to hold its annual session a third time in Oakland. T. Stanley proposed that the Grange meet at Santa Rosa, G. W. Hancock proposed Sacramento, and N. Jones, Oakland. On balloting, Sacramento was selected for the place of meeting of the next annual session, much to the disappointment of the friends of Santa Rosa, who were nearly successful in the first ballot.

Immediately after opening in due form in the afternoon, H. W. Johnson, of Sacramento, stated he had learned some reasons why it might prove for the good of the Order to hold the next session at Santa Rosa. He moved a reconsideration of the vote which located it at Sacramento, and Santa Rosa was then unanimously chosen as the next place of meeting. Bro. Johnson and his Sacramento friends were universally congratulated for their magnanimity in this matter, and Master Staley, with all the Santa Rosa delegates, were exceedingly gratified. Sister Dewey referred briefly to the death of Sister Carrie A. Colby, a much loved and prominent member of former sessions. On motion, the Master appointed I. C. Steele and Sisters Coulter and Dewey a committee to prepare memorial resolutions on the death of Sister Colby, and also of Mrs. Amos Adams, both Patrons deceased during the past year.

H. C. Jones, H. W. Johnson, and S. T. Coulter were appointed a committee on resolutions adopted regarding a marine railway across the Isthmus, with instructions to report hereafter.

Resolutions Adopted.

Following we give further resolutions of general interest adopted during the session:

SECRETARY OF AGRICULTURE RECOMMENDED.—By Amos Adams:

To the Congress of the United States:—WHEREAS, We, the Congress of California, in State Convention assembled, repeat the oft-declared truism, that agriculture is the greatest of all interests in the United States. That without it our great nation would sink into insignificance, if not out of sight. That we, representative agriculturists of California, demand that this great interest should be represented in the councils of our nation by a Cabinet officer, and that our delegation in Congress be, and they are hereby requested, to procure the passage of a law creating a Cabinet officer, to be known as the "Secretary of Agriculture."

Resolved, That considering the great ability, zeal and good judgment the Hon. Wm. G. Le Duc has exhibited in the discharge of his duties as Commissioner of Agriculture, singles him out from among the many qualified persons as being pre-eminently fitted to fill the position of Secretary of Agriculture, and we therefore earnestly recommend him as a suitable person to be appointed to that position.

Resolved, That the interests of agriculture on the Pacific slope imperatively demand the establishment of at least three agricultural or experimental stations—two to be located in California and one in Oregon.

Resolved, That our Senators and Representatives in Congress be requested to procure suitable appropriations to carry out the objects of the preceding resolutions.

STATE CONSTITUTIONAL AMENDMENT RECOMMENDED.—By S. T. Coulter:

Resolved, That it is the sense of this State Grange that the Legislature ought to be made with all possible speed, to submit to the voters of the State an amendment to the State Constitution, empowering and requiring the State Board of Equalization to equalize individual assessments.

INTEROCEANIC CANAL.—By J. V. Webster:

WHEREAS, The material interests of the Pacific coast are seriously circumscribed and embarrassed by combinations controlling the present lines of transportation from the Pacific to the Atlantic seaboard; and,

WHEREAS, The prosperity of California and the adjoining States depends largely on the opening up of a commercial highway above and beyond individual or corporate control; therefore, be it

Resolved, By the State Grange of California, that all the moral and financial aid possible should be extended in the direction of the promotion of the commencement and completion of an interoceanic canal across the isthmus connecting North and South America.

ENDORSEMENT OF THE REGAN BILL ON FREIGHTS AND FARES.—By J. V. Webster:

WHEREAS, The agricultural and commercial prosperity of the nation is largely under the control of railroad combinations. And

WHEREAS, The Supreme Court of the United States has declared the jurisdiction of State and federal authority over the regulation of freights and fares on all lines of railroad transportation. Therefore, be it

Resolved, By the State Grange of California, that we demand such Congressional legislation as will secure an equitable and uniform rate for freight and passenger transportation on all inter-State railroad lines, to the end that all discrimination, as between individuals and places, and the "pooling" of freights and fares shall cease. A id we further declare that the Regan bill (so-called) presented for the consideration of the last Congress by Judge Regan, embodies the sense of this Grange on the subject under consideration.

COMPLIMENT.—By Christian Bagge:

Resolved, That by giving this Grange the use of the spacious store in his Central Avenue Block for our Pomona Feast, Dr. Samuel Merritt generously conferred a great favor upon our Order, for which we hereby extend him our hearty thanks.

PACIFIC COAST BRANCH AGRICULTURAL DEPARTMENT.—By Amos Adams:

Resolved, That in view of the radical difference between

the agriculture of the Eastern States and that of the Pacific coast, we require a branch of the Agricultural Department, whose special function shall be to collect and diffuse information respecting the peculiar wants of this coast; and we respectfully ask Congress for a continuance of the appropriations made for that purpose in the last agricultural appropriation bill, and an increase of the same, and our Senators and Representatives are requested to press this demand.

Closing Evening.

At the evening session the Master fully exemplified the secret work to his deputies, the Masters and representatives of subordinate Granges and other Patrons present.

Resolutions bearing earnest sympathy to the bereaved relatives and friends, and eloquent tributes to the noble departed, were offered by the committee on the death of Sisters Colby and Adams, and adopted in silence by a rising vote of all present.

Resolutions of thanks were offered and passed as follows: To B. R. Spilman for his impartial, efficient and able services as Master; also to Amos Adams, Secretary; Otis Clark, Assistant Secretary; J. V. Webster, editor *California Patron*; J. F. Deming, wife and daughters, for rare floral offerings; Temescal Grange, and the entire committee on Pomona Feast and hall preparations; the Grangers' Bank and Grangers' Business Association for use of room.

The session was closed with a series of fraternal remarks by a number of brothers and sisters. The Love Feast was a social success, enlivening music, fraternal feeling and general good humor prevailing to the very close of the pleasant and profitable feast. The session was harmonious in every respect and considered by its most enthusiastic members the best ever held in the State.

[Our report has of necessity been hastily prepared and greatly condensed, but if any important omission has occurred, proper attention will be given upon our receiving due notice of the same. Further concerning the session will be found in another article. We shall report at least some further items hereafter.—EDS. PRESS.]

State Grange Mention.

The action of the session was markedly harmonious. There is a better understanding and acquaintanceship among the members, and consequently more confidence and respect entertained for one another's opinions. This was very manifest in the vote against conferring the 6th and 7th degree in the State and Pomona Granges, so that any Patron might become eligible to all the degrees.

The opinions expressed by Master Spilman and P. Master Steele against the proposed amendment were loyally respected with a great degree of unanimity.

The magnanimous and unselfish manner in which the Sacramento County Patrons gave Santa Rosa the next session, will long remain in the memory of all present, and indelible in the records of noble acts of Patrons and Matrons.

Bro. and Sister Nelson Carr were the only representatives present who assisted in organizing the State Grange at Napa, July 15, 1873.

Sister Maria B. Landers ably officiated as Chaplain in conferring the Pomona degree. Bros. M. Woodhams (formerly A. S.), Geo. W. Hancock, Otis Clark and Sister H. L. Carr also rendered creditable assistance. The work was given in a manner reflecting much credit upon those officiating.

The general acts of the session seem well grounded and well devoid of any possible ill effects.

Many Past Masters and Matrons were present, adding to the number of sincere fraternal greetings, and otherwise aiding by their countenances and counsel the noble work of the Order. To I. C. Steele (P. M. of State Grange), the session is indebted for some of its ablest, good-hearted speeches. Bro. Nelson (as big and good-hearted as Santa Claus) appeared in excellent health and spirit, and as full of good zeal as ever.

The W. M. of the National Grange, J. J. Woodman, sent his fraternal greeting and his regrets at being unable to attend. Wm. G. Le Duc, Commissioner of Agriculture, also expressed his regrets for being obliged to postpone his visit to this coast until after the next Congress, at least.

Many samples of the fruit displayed at the Pomona feast were worthy of "first premiums" for both fine looks and taste. Bros. Lewelling and Strentzel generously contributed especially rare and numerous specimens.

The Masters and Matrons of the State Grange will carry home to their subordinate Granges in various quarters of the State, much new information and fraternal zeal as fruitful seed of the pleasant session of 1880.

NATIVE PORCUPINE.—Josiah Pool, of Isleton, informs us that near Woodworth's wharf, on Andrus island, some dogs were recently discovered battling, with doubtful result, with what was supposed to be an enormous coon. To assist the dogs the animal was dispatched with an ax, and afterwards discovered to be a genuine porcupine, quills and all. Question—Where did it come from?

THE Treasury Department has ordered that on the 15th inst. the work of printing the internal revenue adhesive stamps be transferred from the Columbia Bank Note Company of New York to the Bureau of Engraving and Printing in Washington.

AGRICULTURAL NOTES.

CALIFORNIA.

COLUSA.

TOBACCO.—*Sun*, Oct. 9: J. M. Agnew, of Grand island, sent us, this week, some stalks of tobacco grown by him this present season. It was not first-class tobacco. Tobacco grows wild here, and it would seem that its cultivation ought to be a success, but we have never seen any first-class tobacco grown here. J. P. Rainbridge grew quite a crop, and being an old hand at the business, produced an article fit for use, but it was not the best. The specimen we received from Mr. Agnew was cut too green, and not otherwise well handled. So we could not tell well what its real quality was. Those who experiment with such things deserve credit, because it is only in this way that we can tell the capacity of soil and climate.

LOS ANGELES.

MAMMOTH APPLES.—Gen. Shields in Los Angeles *Herald*, Oct. 9: Calling, last Monday, at the farm of Mr. Harter, that gentleman, in the kindest manner, threw aside the implements of husbandry to show me the wonderful results of patient and judicious handling of the implements. First were the group of pippin trees, one of which in 1879 produced an apple which weighed 44 ounces. Mr. Harter presented this apple to the Hon. Albert M. Stephens, Los Angeles. The relative importance of Mr. Harter's specimen on the score of magnitude, in the opinion of those supposed to know all about the largest apples in the world, will appear from the following statement: Nevada sent to Washington an apple weighing 29 ounces. This apple was taken in plaster, painted to life, and permanently placed on exhibition at the National Department of Agriculture as the largest of specimens. Oregon subsequently sent an apple to Washington weighing a few ounces more than the Nevada apple. The Harter pippin weighed many more ounces than the Oregon specimen. Is it, therefore, at all hazardous to say that the Harter 44-ounce pippin was the largest apple in America, or at any rate the largest apple known to American pomological records?

PEANUT GROWING.—*Anaheim Gazette*: The great apostle of peanut culture in this bailiwick is Ah Bing. He is a very enterprising Celestial, and knows a thing or two. He knows, for instance, that he can make more out of one acre of peanuts than he can out of five acres of vegetables, and that is why he pays so much attention to the groundnut. He is now gathering his crop, part of which he has already sold at six cents per pound. For whatever of value is given in the following the world is indebted to Mr. Bing: The proper time to plant peanuts is in March. About 20 lbs. of seed to the acre should be used. The nut will sprout much quicker if the shells are taken off and only the kernels planted. Plant 4 or 5 inches deep, in hills (the same as potatoes), and put the hills about 18 inches apart. When the nuts first appear, they should be irrigated; and irrigation should be repeated every two or three weeks when it is practicable. The nuts will grow without irrigation, but by a liberal use of water they will fill better and give a much larger yield. The weeds should be kept down, and the ground kept loose with the hoe. The nuts ripen generally from the 15th of September to the same date in October. We have seen it stated somewhere that peanuts impoverish the soil quickly, but that is certainly not true of this place. The soil is quite sandy and has never been fertilized. After the nut crop is gathered the ground is planted to vegetables which mature before March, and this constant cropping does not appear to have any effect upon the fertility of the soil. The crop this year will average 60 sacks to the acre, each sack containing 40 lbs. At five cents a pound this would give \$120 per acre. The yield would have been greater had the crop received copious irrigation. But one watering was all it received.

MERCED.

HEAVY YIELD OF WHEAT.—*Valley Argus*, Oct. 9: J. L. Crittenden, of Cottonwood, on the West Side, informs us that he harvested this year, on his farm, a field of 150 acres of wheat that averaged 51 bushels to the acre, on an aggregate 7,650 bushels. The ground was irrigated in September, 1879, and plowed deep with single plows, and harrowed well, after which the wheat was sown, and harrowed in and no more irrigation. The product is classed as "gilt-edged." He says it is the best wheat he ever saw. Mr. Crittenden is now irrigating the same field for a crop for next year and designs giving the land the same treatment as proved so successful last year.

SAN BENITO.

PAJARO VALLEY.—*Pajaronian*, Oct. 9: Probably the finest crops ever raised in any country, have been produced this year in Pajaro valley. While prices are lower than usual, yet the large amount of grain raised in excess of former years, will compensate in a great measure for lower prices. The quality of the grain, as well, is far better than usual, and consequently a better price will prevail for Pajaro wheat. If \$1.25 per cental could be obtained a good profit would accrue to our farmers.

SACRAMENTO.

CHICKEN DISEASE.—*Folsom Telegraph*, Oct. 9: There seems to be a fatal disease of some kind prevailing among the chickens in town, some of our citizens having very recently lost large numbers.

RAISIN MAKING.—The Natoma water and mining company, have commenced sun-drying their grapes for raisins near their vineyard below town—will also soon commence making wine at their distillery near the Central Hotel.

SANTA CRUZ.

MUSTARD SEED.—*Transcript*, Oct. 2: James M. Rodgers this season raised 22 tons and 620 lbs. of English white mustard seed on 19½ acres, an average of about 2,257 lbs. to the acre, which is the largest yield ever reported in this valley. Last year the same land averaged about 900 lbs. to the acre.

SONOMA.

POTATO BLIGHT.—Orton Hubbell, one of the oldest and most successful farmers in the county, informs the editor of the *Petaluma Courier* that potato blight prevails to an alarming extent in the Bodega district, and thinks there will not be half a crop raised there this season. The potatoes look bright and healthy until about half grown, when the blight sets in and the vines look like the frost had bitten them, and smell like frost-bitten vegetation. Mr. Hubbell believes that the blight is caused by planting the same kind of seed so many years in succession, and the remedy can only be found by introducing foreign seed. He formed this opinion several years ago, and this spring he imported half a ton of Peruvian potatoes, which he planted on his farm. Not having quite enough to plant his whole field, he filled out by planting a strip of Bodega potatoes right through the centre. All looked about the same until half grown, when the blight set in destroying nearly all the Bodega seed, while the Peruvians are bright, green, healthy and growing vigorously, with no indication of disease among them. Bodega is not alone in being afflicted with potato blight, it prevails throughout the State. The best remedy is to import seed from Peru, the native home of the potato.

THE COLT STAKE FOR 1881.—*Democrat*, Oct. 9: A colt stake for the foals of 1879 has been offered, free for all colts in the district, one mile and repeat, to harness and to rule. Entrance fee \$50—\$25 to accompany each nomination, and \$25 ten days before the race. The entries, instead of closing Oct. 1st, as was determined, have been extended to Jan. 1, 1881. The stake will be divided as follows: 50% to the first horse, 30% to the second horse, and 20% to the third. The race to be trotted over any track in the district that will add the most money. Entrances to be made with Charles Hoffer, Santa Rosa.

TULARE.

GROWTH OF SORGHUM.—*Delta*, Oct. 9: The different species of sorghum undoubtedly do as well in our valley as in any other country. To say nothing of the great success with Egyptian corn, which is only a species of this plant, several farmers in the Mussel Slough country have raised the amber and imphee varieties with entire success. Mr. Thos. Thornton planted some seed of an African variety last April. Its stalks are now eight ft. high and over two inches through near the ground. Mr. Clough, south of Hanford, made considerable syrup from the amber cane and imphee last fall. He found the yield in syrup was about 300 gallons per acre. This fall he has more and will try to make sugar, as he finds it granulates easily. He prefers amber. Progress in such important experiments we shall report from time to time.

CONSTRUCTION OF HEADGATES.—*Delta*, Sept. 23: We learn that a new mode of constructing the headgates of irrigating ditches, is discussed by some of our enterprising friends of the Mussel Slough district. It is proposed to give the main works of these headgates a solid and permanent form by the use of Portland cement. The directors of the People's ditch have had the matter under consideration, and after learning plans, specifications and cost of such work, a majority of them now favor the use of the Portland cement to make the new headgate. Earnest L. Ransome, of San Francisco, has lately been in consultation with the directors on this point. He controls the right to this cement in California. Estimates are, that a headgate like that of the People's ditch can be built in this permanent form at a cost of \$4,000 or \$5,000. Several of the headgates, made of timber, as they all are, cost that amount in the first instance. These wooden headgates have to be renewed about once in five years. Made of this cement, which becomes hard as stone, they will last as long as the ditches. The coarse gravel needed for the purpose can be secured on King's river near Centerville, and with large teams it can be delivered at a cost of between \$2 and \$3 per ton. This cement can be used to advantage not only in the large headgates, but for the smaller ones, or checks, and for flumes. It is estimated that a flume can be made of this Portland cement at very little more cost than if made of lumber. Such flumes would become permanent aqueducts, with lasting qualities like those about Rome, some of which have been in existence over 1,800 years. We are glad the attention of our irrigating companies is now turned to the important improvements that can be made for their ditches with this valuable artificial stone. From what we can learn of it, we believe its use can be introduced to great advantage in many ways to increase the efficiency of the numerous and ever increasing irrigation works of our great valley. It is safe to say, that a headgate properly constructed of this material can never be washed out by any river flood, and hence can protect stockholders from the heavy damages occasioned by such disasters.

APRICOTS.—"Twelve thousand dollars from

12 acres of apricots," is the beginning of a sentence in a late number of the *San Francisco Chronicle*. No doubt that is a big thing for Alameda county, but it would be nowhere in Tulare. A neighbor of ours in Visalia kept an account of what he sold from the trees in his yard, and an acre producing at the same rate would have returned him \$2,100. Tulare can beat the world, not only in quantity but quality, and within a few years we will supply all creation with canned apricots.

TUOLUMNE.

EDITORS PRESS.—The labors of the agriculturist and horticulturist are approaching its end for 1880; still busy are the farmers in selling and storing grain. Every mill in the county is full of wheat. Fireproof buildings in Sonora are being utilized for storage. It seems to be a well-established fact that winter-sowed land yielded a large percentage above summer-fallow. One farmer mentioned "that he had most of his land summer-fallowed, which only produced 12 bushels to the acre; while a neighbor raised 25 from winter-plowed land of the same quality. Early-sowed grain seems never fully to recover from a set-back; while the late sowed grows right along to maturity. The peculiar condition of the season will affect either way of cultivating the soil. No prophet being gifted enough to give a true horoscope of the future, chance must decide. A little of both ways might ensure a half success. Mr. Pickle seems to be disgusted with his 12-bushel production, for he has just sold his little farm for \$6.25 per acre, or \$3,000 for all. If horticulturists do not begin a war against the codling moth, the codling moth will end his enterprise. Few sound apples will be left for winter use. Grapes, figs, plums and berries, and may be peaches, will do to cultivate extensively, but in this section, apples seem doomed, unless some unknown agent appears as a deliverer. It is seldom we see a fruit peddler. The loss this season must be a serious affair to the county, for many families laid in their winter stores from their dried fruit. To-day (Oct. 8th) the first rain of the season has fallen; enough to dampen the dusty roads. There is every appearance of a small rain storm. Much wheat remains still uncut, and a larger amount to thresh. We may look for a month's good weather after this autumn shower. The fruit crop is still exposed. It is supposed that the present rain will not do much damage; the dried fruit being, as I have said, very limited, no injury can occur. There seems to be a disposition amongst the foothill farmers to introduce "Surprise" oats for hay, instead of wheat, which has ruled hitherto. Oats will grow on almost any sort of land, making, when well cured, the very best of hay. Farmers went extensively into wheat growing, and thus reduced the supply of hay. Consequently, hay is worth \$25 per ton, while wheat will scarcely command any price, the market being more than supplied. Hay will receive more attention in the future. Each year calls for more than the preceding one, while the supply seems to be growing less, owing to the "craze" on wheat. Would it not be much better for foothill farmers to change the proportion? If hay is in demand at a good figure, be sure and have some to spare, so as to take advantage of the market. If wheat is high and hay low, then have wheat ready to secure the advantage. Above all things have a mixed supply to meet the demand.—JOHN TAYLOR, Mt. Pleasant.

VENTURA.

SORGHUM SUGAR.—*Signal* Sept. 11: "In about six weeks," said Mr. Thielon to a *Signal* reporter one day this week, "we will have all our machinery here and in running order, and all the necessary arrangements perfected for refining the cane, which will then be ripe." "But how about the growth of the crop—has it come up to your expectations?" queried the reporter. "I never saw anything like it in my life. Why, the stalks attained a growth of ten ft. in height and six inches in circumference, and of an excellent quality. From all quarters we receive encouraging reports of the prospects. That which was planted late, however, is prospering a great deal better than the early crop which for some cause or other does not appear to thrive as it ought. Nearly all our machinery is here now, and some of the minor parts we can get manufactured here, but there are some portions of intricate construction which we must procure from the East. We are now engaged at the planing mill, where the refinery will be located, in preparing and setting such machinery as we have on hand. Our intention is to utilize the power of the planing mill in running the refinery. It is amply sufficient for that purpose."

YOLO.

HARVEST NOTES.—*Democrat*: Harvest in Yolo county is virtually over. Some have sold their entire crops, some have sold only enough to pay harvest expenses, but a large majority of our producers have stored their grain and drawn enough money thereon, at low rates of interest, to pay the threshers and settle the year's accounts. Money is plenty, as is evidenced by the extremely low rate of interest demanded by lenders. The crops were phenomenally large, and it is estimated that over 70,000 tons are now in store in this county, waiting an advance in the prices. To a great extent prosperity reigns among all classes, and should a marked advance in the price of our great staple occur within the next three or four months, old Yolo would experience such a boom in the way of general good times as she has not seen since the balmy days of 20 years ago.

News in Brief.

HEAVY rains have fallen at Yale, B. C. WILLIAM LASSAL, the English astronomer is dead.

A SERIOUS uprising of Kurds is reported from Teheran.

TRAVEL to southern Arizona is rapidly increasing.

THE victims of the Pittsburg collision now number 28.

THERE is a great insurrection of Mohammedans in Kashgar.

SATURDAY was the ninth anniversary of the great fire at Chicago.

IMMIGRANTS to the number of 6,044 arrived at New York last week.

DURING last week 588 deaths occurred in New York city, and 522 births.

THE Montenegrans require money aid to keep up their present armament.

INDIANS are now compelled to reside outside the city limits of Victoria, B. C.

FOURTEEN deaths from yellow fever occurred at Havana during the past week.

THE track of the Southern Pacific railroad is now laid 18 miles in New Mexico.

DURING a hurricane at St. Michael, Azores, two British steamers were wrecked.

TROOPS have been ordered to the scene of Indian trouble in Washington Territory.

THE Laporte stage was robbed by highwaymen recently, near Brownville, Yuba county.

THE Sultan declares he would rather abdicate than give way to the demands of the powers.

WATER is lower in the ponds, rivers and lakes of central New York than was ever known before.

THE government will suspend the habeas corpus act in Ireland, if agrarian outrages continue.

INTENSE excitement prevails in Colorado over the recent butchery of young Jackson by the Indians.

THE rivers in Pennsylvania, Delaware and New York were never so low as they are at present.

IT is again reported that Jay Gould has bought the New York *World*, paying therefor \$400,000.

THE German steamer *Asia*, from Amoy to New York via the Suez canal, is stranded in the Indian ocean.

THE Secretary of the Interior has arranged for paying \$75,000 to the Utes, under the treaty with them.

THE corner stone of the obelisk was laid in Central Park, New York, Saturday, with appropriate ceremonies.

SECRETARY EVARTS declines to recognize Don Celso Caezar Moreno as the accredited agent of the Hawaiian government.

THE Monterey Whaling Company last week caught two fine whales of the humpback species—the first catch of the season.

THE report of the United States surveyors being driven from their work on the Skagit river, W. T., by Indians is confirmed.

THE House of Representatives of Mexico has declared Gen. Gonzales President of the Republic, his term to begin December 1st.

SPOTTED TAIL asks for a fair trial for the young Indians of his tribe sent to Omaha for alleged offenses committed by them.

THE markets during the past week in the East, notwithstanding the intense political excitement, show but few changes.

THE National Board of Health sustains the recent report of the Inspector stating that yellow fever has existed on the lower Mississippi.

ONE of the murderers of Dr. Parsons, the American missionary, has been condemned to death, and 2 others to 15 years penal servitude.

BRADSTREET'S *Journal of Trade* estimates the wheat crop of 1880 at 465,000,000 bushels of which 184,000,000 bushels will be for export.

THE succession to the Roumanian throne has been definitely settled upon Prince Charles Antony, third son of Prince Leopold of Hohenzollern.

THE Buenos Ayres National Congress has proclaimed General Roca President of the Argentine Confederation. Perfect tranquility prevails.

CAPTAIN AYERS, the oldest railway conductor in the United States, died at Oswego, N. Y., last week. He was on the Erie railroad 38 years.

THE gross earnings of the 34 principal railroads for the month of September amounted to \$15,365,964, against \$12,551,557 for the same month last year.

THE *North German Gazette* says: We hear from St. Petersburg that China has given its Ambassador, Marquis Tseng, full power with a view to ending negotiations between Russia and China satisfactorily.

THE American and English Ministers to Chile are said to have sent a joint communication to the Chilean government, expressing a hope that hereafter foreign properties and lives will be more respected by its troops.

INVESTIGATION by the Census Bureau proves that the census of South Carolina has been accurately taken. Presumptive evidence is afforded that the census of 1870, taken under the census law of 1850, was grossly inaccurate.

NEW YORK advices state that San Jose de Guatemala will be the last port of call of the Pacific Mail steamers between Panama and San Francisco, the Mexican government having failed to pay the subsidy granted to the line.



Our Neighbor's Ways.

Naow I tell yew, 't' fin' whut farmin' pays,
Jest come clus hum; study yer neighbor's ways.
Look et—we wun't be pus'nal—call him Black;
No fence, no critters, nothin'—drefful slack!
Huntin' an' fishin' w'ile things go 't' rack:
A sportin' farmer's baoun' 't' be—a sack.

An' then there's White; he's one o' yer stiddy kin';
Looks aout ahead, an' never runs behin';
Follers his plough, peroooses corn 'n' taters;
He don't resk nothin' 'th' them speckleaters.
Gold up er' down, he hain't 'o call 't' worry;
They wun't, gittin' o' hizin' in a hurry.
No, no, White's akerful; I arns us anthin', 'ally;
Wun't drive a hoss 't' eath he hopes 't' sell ye;
But drives a bargain pooly keen, I tell ye.

Green—wonder ef ye know wat's ailin' Green?
He works like blazes, fur 't' l' hev seen;
No better farm 'n' hizin' in Saugheonic,
Er savin' wife from Kernap to Hustonic;
Sober's a deacon on a Sabba-day—
Can't tell rye from Jawaiker, so they say;
Stays to his bum; lives low. Wut hinders, naow,
Th't Green c-a-n-'t git a livin' et 'th' plough?
W'al, we've hed dea in's some; I'll tell ye, then—
No jelgement, more'n a settin' Brahmar hen,
An' thet's the nub on't. Ef ye plan ez he doos,
Yer poor ez Laz'rus wuz—whoever be wuz.

Don't know Brown much, ner mean ter—grumpy feller!
All his hard eider couldn't make him nieller;
But they do say he's savin' up at las',
Supplyin' village folks w'it garden sase:
He'd orter lay some by, fer yew may bet
He don't foot much on't off 't' pay a debt—
Owes me three shillin'. W'al, it ain't no gre't.

Le's look et Grey; wust thing 'bout Grey is—books;
Grey reads 't' much, 'n' keers 't' much for looks;
Believes in puttin' pi' turs up in baouces,
An' puts on airs, 'n' dasn't wear patchel trousers:
Ef 't' wun't 'er money lef' bim, goodness knows
He might be naow a wearin' poor 'aouse clo'es.
W'al, nut thet I've gut anythin' agin' 'im;
On'y I du say there ain't nothin' 'in' 'im;
No dicker in 'im, sartin—not a booter;
C-a-n-'t swop 'n' make a cent—a cent o' pooter.
Sech farmers scurely make the salt they're eatin';
They 'pear 't' think thet haq'lin's 'z bad ez eheatin';
Mebby it is; ef thet's the way 't' figger,
We'd ciphered aout aout jail a little bigger;
High-sheriff Roo' hed jist rejice 't' du it,
App'int more depooties, an' puts us thru it.

Ha, w'al, w'al, it takes all kin's o' folks, about,
't' make a waird. I've guessed the reason aout.
Time wuz I wished some on 'em hadn't come
Till arter I was borned, an' dead, I yum.
Ye see, these puzzlin' p'int's I under-tan'
Sence they made chice o' me for Sele'man.
Can't all on us be rulers—akes alive!
'T'wun't w'ik 't' hev all kin'-bees in a hive.
Dung 'em an' cultivate 'em ez ye will,
Th'e alluz some small taters in a hill,
An' 'pint o' fac', yer small-plater men
Will kin' o' work 't' th' bottom uv the ben.
—Harper's Magazine.

A Charming Kitchen in Colorado.

[Written for the RURAL PRESS by MRS. MARY SIZER.]

EDITORS PRESS:—In reply to "Mary Mountain's" request, that if any reader of the PRESS had a kitchen she was proud of she would write and let the readers know it, I will say that I have a kitchen that, if not prond of, I am not ashamed of—that is, when I have not so much to do but that I can keep it clean and in order. It is a good frame kitchen, with best quality dressed and matched flooring, doors and windows of best quality, woodwork painted outside and in, one corner devoted to a stationary cupboard, with a deep drawer at the bottom, set on castors, to hold flour and meal. I never want any movable cupboards—they just leave space for accumulation of dirt where it is impossible to sweep out without moving the whole cupboard, which is very hard work and not convenient to do at all times.

But the kitchen is not so much what I am proud of as the surroundings; but the kitchen, with its surroundings, is perfectly charming. That is what a great many say who see it; and I find it so in my daily labor, where there are weeks together (during the busy season) that I never have time to sit down only as I prepare fruit or vegetables for the table or winter use. I believe and have always said that the farmers are the ones that should have the very best kitchens in way of conveniences and attractions; as it is, there the wife spends the greater part of her time, and as a rule the farmer's wife has more hard labor and less recreation than any other class, and less attractions in way of household furniture and ornaments, etc., except the beauties of nature, in which a good well-kept farm is richly arrayed.

I must describe the surroundings of my kitchen and leave it for you and your readers to judge whether I am justifiable in answering to the call of "Mary Mountain." The kitchen is on the west side of the house, with a door opening on the south side and one on the west side, a window on the south and one on the north; a good dressed floor extending around the kitchen on all three sides, the one on the west being 16x16, inclosed with panels and covered with grape and other vines—the flowering vines being in bloom about half the day, from early summer until frost. Extending from the south and west of this arbor is a vineyard of a thou-

sand Coucord grapevines, surrounded by evenly-set rows of the stately cottonwood, protecting all from the fierce winds as well as forming a beautiful framework around the lovely picture. On the north of the house is a fine orchard of various kinds of fruit—each tree of which looks like an immense bouquet in spring, filling the air with their rich perfume. I can stand by the stove and bake battercakes with my window open in full view of this beautiful sight, the fresh morning air laden with the delicious fragrance of the "apple blossom," which imparts a new life and vigor to every nerve. Later in the season the rich green foliage and growing fruit present a beautiful picture which never becomes old or tiresome to look at. Still later, when the fruit puts on its golden hues, it is charming to the eye and tempting to the palate.

In the summer the arbor is our dining room; in the morning we eat our breakfast in the cool, fresh, pure air, in full view of all these beauties of nature which gives us fresh vigor for the day's labor. The north side makes a splendid place to do all the work of preparing fruit, vegetables, etc., and washing, and in fact anything that can be done away from the stove.

Now do you think I am justifiable in replying to M. M.'s request? I think I am! I also think that if people knew how easily they could make such a nice place to work during the hot weather, and how much it would add to the comforts of the over-taxed wife and mother, there would be a great many more such. I do wish that the farmers and everybody else would take more interest in making their homes and surroundings with a view to comfort and cheerfulness than they do, instead of having home like a penitentiary where so much work must be done in a day, with nothing to divert the mind, all bare and dreary walls surrounding them with their task before them. My heart aches for such; for are there not hardships enough to endure in this life, even where everything is as pleasant and cheerful as is possible to imagine? My experience is that there is. How often we see women grown old and careworn, when they should be in the prime of life; and no wonder with all they have to endure, with work enough for two strong women, besides the care of the children, never having a moment's rest free of care. Even at night she cannot have her quiet rest, but must be disturbed at all times during the night with the restless little ones who are not large enough to care for themselves. Then she has to worry her brain continually over the question, how to accomplish the most in the least possible time and with the least possible expense.

I do not believe there is a man in the world that can fully realize how great such a burden is on a woman. If they did, they would be more thoughtful to lighten her burden as much as possible, and have her take a little rest and recreation occasionally. It is not that men do not care for their wives, but they do not know how trying it is to their constitution, nor how much good a little rest, free from care, and a change of scenery does them.

West Las Animas, Colorado.

[Our correspondent draws a charming picture of her kitchen. Who can describe another?—EDS. PRESS.]

Surprise Parties.

Surprise parties have been much less frequent this season than in former years. This will doubtless be interpreted by optimists as an evidence that the world is growing better, and that wicked men and women are growing convinced that surprise parties are a form of crime which admits of no palliation, and are, therefore, devoting themselves to burglary, poisoning and other lesser and more excusable offences. This is a pleasant view of the case, but it is unsupported by any evidence. The truth undoubtedly is that the means of defence against surprise parties have of late years so greatly increased as to render all but the holdest criminals unwilling to incur the risk of invading a household where they may be welcomed with hospitable hucketa to boiling or ice-cold baths. Of the various methods of defence to which reference has been made from time to time by the press, one of the most recent and effective is the plan of connecting the bell-handle with a powerful battery. This was tried in an Ohio village, not long ago, by an ingenious person, who soon had the satisfaction of seeing from his upper window a surprise party, headed by a large local justice of the peace, enter the front yard. The justice of the peace seized the door-bell, and instantly broke into such unearthly yells and abandoned himself to such frightful writhings that his companions fled in horror; and when the triumphant householder turned off the battery, the wretched invader of domestic sanctity rolled in an exhausted state from the front steps into the snow, where he would probably have frozen to death had not his intended victim nobly let the dog loose to bite him back to consciousness. Incidents of this nature have an undoubted tendency to deter all but exceptionally reckless persons from committing surprise parties, and abundantly account for the decrease of this variety of crime.—N. Y. Times.

ACCIDENT TO A CONTRIBUTOR.—We learn with great sorrow that our veteran contributor, John Taylor, of Tuolumne county, has been caused much pain and enforced idleness by a fracture of a rib, but is now recovering and able to take up his pen again.

Thoughts on Character.

[Written for RURAL PRESS by JAMES A. SMITH.]

Growth, perfection and decay, is the order of life. In but few instances do we see in the works of any of God's creatures anything like perfection and where we do see this perfection the individual producing such work is in all cases short-lived and apparently of comparative unimportance to the human family. As we ascend the scale of intelligence, from the animalcula contained in water to the highest intelligence as found in man, we see a greater variety of capabilities, a result a greater variety of wants to be supplied, and in consequence, a slower growth to maturity and slower decay. In all God's creation we see an adaptation of the individual in form, size and muscular power to the wants of its existence. Hence the rational conclusion that the physical form indicates to the practical eye the character of each distinct kind of animal or reptile. This principle, that each being has its nature and is what it grows to be as a result of its birth and surroundings, gives no exception in the case of man.

That man is what he grows to be cannot be, I think, successfully refuted; and what are we to understand constitutes man? Beyond a doubt we can only judge of man—what he is—by the sentiments he utters and acts he performs. Character is individual. Every individual has a character peculiar to himself, and that character is the result of growth as truly as are the kernels or grains of wheat found in the wheat-head. It certainly is true that all are born innocent, but with faculties capable of being trained to great beauty of perfection or great deformity of perversion. So we see that evil is of growth in the human mind. How important then to the human being that the surroundings which nourish and perfect us, are of proper and moral bearing. God has told us that as we sow, so shall we also reap. "If we sow the wind, we reap the whirlwind." How clearly do we see this in the results developed in the drunkard, in the libertine—in the conduct of all evil doers. It certainly is true that all our powers should have their legitimate use, but when man commits the error of thinking any one faculty of mind should govern his being, and that he lives solely for the gratification of that individual organ or faculty, he commits a very grave error.

Our duty to the rising generation is to see to it that our conduct is proper that the young may grow up amid proper surroundings. Imitation is the strongest faculty and very useful in formation of character, but the surroundings must be good. That the young imitate the drunkard is not desirable. That he or she imitate vulgarity or profanity is not good food for proper growth of mind, and we should always think of these things when we show an evil example in the eyes of the youth.

Relief Hill, Nevada Co., Cal.

How to be Beautiful.

One of the most fascinating women I ever saw was very homely, but she had such a charming manner that no one remembered that she was plain. One of the most beautiful had prominent eyes, rather prominent teeth, and altogether irregular features, yet no one could see her and not recognize the fact that she was beautiful; it was the beauty of a lovely soul shining through and transfiguring the whole.

I will give you a very short rule for being pretty—think prettily, act prettily, live prettily. You can all remember that; and the more you think of it, the more you will see how much is comprised in it. Be always neat in your dress; dress as tastefully as you like or are able, but dress appropriately to your form and complexion, to the time and place, and to your circumstances; endeavor to have the different articles of your attire in harmony with each other; there is far more in harmony and appropriateness than in elaboration and expensiveness. But the question of dress, aside from neatness, should be considered subordinate; the rest depends more on your character and manner than you can at present realize.

A girl who is cross, selfish, petulant, over-hearing and discontented, cannot prevent the expression of those qualities from writing their character indelibly upon her face sooner or later; while one who is, or tries to be good, patient, thoughtful, loving, gracious and full of a charity that thinketh no evil, also has written on her face the testimony of her real life, and grows more beautiful as she grows older. This is the kind of beauty to strive to obtain.

Be regular in your habits; have society, but not to dissipation. By late hours, excitement, unhealthy living, lack of occupation and lack of exercise, you lessen the tone of your system, lose the bloom of health, and, so intimately are mind and body connected, impair also the tone of your mind; the effect is, of course, to make you lose even the beauty that is always, to a greater or less extent, the accompaniment of the freshness and fairness of youth.

Youth should only be, however, the promise of the bud; the full flower of beauty should come with the fullness of life and development, and it will do so where the heart is pure and the life righteous, for the writing comes from within, not from without.—Arthur's Home Magazine.

A GOOD COMPANION.—A Nevada county reader says: "I have been a reader of your valuable paper for nearly three years and it gives me great pleasure to testify to its value. It is truly a good companion."

A Royal Roll of R's.

Rely on yourself.
Render good for evil.
Resolve on doing your duty to all.
Rather suffer wrong than do wrong.
Resignation sweetens many a bitter cup.
Rare gifts are seldom used with discretion.
Rude remarks manifest a lack of refinement.
Rely not on the promises of untruthful persons.

Revenge is a mean pleasure, and it dwells in little minds.

Ruin usually follows swiftly on the heels of extravagance.

Recede not from an honorable position when once taken.

Regard the rights of others while seeking to secure your own.

Restraint is always necessary to those who have unbalanced minds.

Resolve to be the first in every good thing which you undertake.

Reason is given to shed light upon the pathway of human life.

Rest and recreation are essential to man's welfare and happiness.

Repel an evil thought and you will therefore always have room for a good one.

Rail not at him who disagrees with you; for the wisest men sometimes differ.

Remedies are sometimes worse than the diseases which they are intended to cure.

Remember, if young, that soon you will be old; if old that once you were young and sometimes foolish.

A Dinner of Goats.

A public dinner of a novel description was given last month at the Alexandra Palace, London. All the dishes were of kid, and eight kids had been killed to furnish the feast. Nearly every particle of the kid had been used to show how cookable the animal is. The horns had been boiled in the soup, the hoofs had been stewed down to make the jelly, lemon pudding was served on purpose to show the excellent effect of kid snet, and all the creams were made of goats' milk. The kid had not been seethed in its mother's milk, but was served up almost together with it. Applause greeted the entry of the principal roast—a fine billy kid of six weeks old, which weighed 15 lbs. live weight, and was carried proudly round the hall, his head wagging at the guests as he went. A nanny which has been kept back may be eaten up to the eleventh month; a billy goat after he is six months old becomes rank. The dinner was given by the Goat Society, which has been organized by the energy of Mr. Stephen Holmes Pegler, and the chairman was Prof. Symons. The chef, who envolved curry of rabbit out of kidding, and made the same meat up to represent lamb, mutton, chicken, etc., was Mr. Vardelot of the Alexandra Palace. The dinner was quite nourishing and agreeable to the taste. The meats were tender and appetizing; they had a slight gamy flavor, and were much like venison. After dinner there were speeches.

Three Things Needful.

EDITORS PRESS:—A successful journalist once summed up his experience of business by saying that to ensure the success of a newspaper three things were requisite: "Put money in it," "put more money in it," "keep on putting money in it."

Let me sum up part of my experience and say that to ensure the failure of the most capable man in the nation but three things are required: Put whisky in him! Put more whisky in him!! Keep on putting whisky in him!!!

EDW. BERWICK.

Carmel, October, 1, 1880.

To accustom the young to be and to do is even more important than to induce them to learn and to know. What they think out with their own thoughts and work out with their own hands is worth far more to them than any amount of passive reception of other men's thoughts or doings, even through the very best hooks or the very best teachers. Let the child feel, not merely that he is preparing for something in the future, but that he is also living a true and real life in the present, taking his own share of work and responsibility, strengthening his powers by continual action, and building up his character by continual well-doing.

THE ARRANGEMENT of our homes and the management of our hospitalities, to be truly agreeable and inviting, must not have cost an undue or painful effort. The elegantly furnished drawing-room loses all its charm and attractiveness when we discover that it has been adorned at the expense of the family comfort, or health, or education. The splendor of an entertainment fascinates no longer when it is found to be the result of a mean parsimony and a persistent paring in other directions.

TRUE.—It was Epictetus who said: "If evil he said of thee and it be true, correct thyself; if it be a lie, laugh at it." It is a curious law of human nature that the man who argues on the weak side is sure the first to get angry, and if a man becomes furious at a story that is being circulated about him, and defies the whole world to prove it, it is generally because there is some truth in it, and he is afraid you will find it out.

Chaff.

A GOOD bony gentleman of 170 pounds will yield on cremation one and a half pounds of first class ashes.

LATELY the blueberry plains in Washington county, Maine, were a vast camp ground, 1,000 pickers tenting there.

SHARKS won't bite a swimmer who keeps his legs in motion. If you can keep kicking longer than a shark can keep waiting, you'll be all right.

ACTIONS undoubtedly speak louder than words. The wasp cannot speak, but when he says "drop it," in his own inimitable way, neither boy nor man shows any remarkable desire to hold on.

GAS, it is reported, is going out of fashion in London dining and drawing rooms, because they have just discovered that it ruins pictures and furniture, blackens curtains and ceilings and poisons the air.

NOW is the season of the year when the man who sees the sign, "fresh paint," will walk up to the door, leave the marks of his dirty fingers on it, and go away muttering to himself, "That's so." This proves that he is just about as "fresh" as the paint is.

"vate affairs," said a mother, in sending her daughter away on her first journey. "Mon-sieur, a third-class ticket, if you please," said the daughter at the ticket office. "For where?" asked the employee. "Is that any of your business?" answered Mademoiselle indignantly, remembering her mother's advice.

A TENANT had been dancing all night over the head of his landlord. At six in the morning the latter comes up stairs and complains bitterly of the annoyance. "What annoyance?" asked the tenant. "Why, I haven't slept a wink all night," is the answer. "Neither have I," says the tenant, "and yet I do not make any fuss about it."

Wrinkled Sirens.

There is something radically wrong in the present state of things which makes the whole upper class of the female sex—the sex least exposed to toil or disease—very little better than the inmates of a convalescent home. Few ladies are able to do any real work of head or limb for a few days consecutively without breaking down deplorably. The chance of a wetting in a shower, which ought to hurt them no more than it hurts the roses, is a serious source of alarm to their friends. This state of things cannot be remedied in one generation; but it will never be remedied at all by a few fashionable calisthenics. Perhaps the hints I propose, or rather the remedies for wrinkles, may shock many lady readers, but they are remedies which will appeal strongly, if prejudice is not allowed to block up the way of approach. In the first place, the ladies of our best society on the Pacific coast, like those of New York, London and Paris do not go to bed early enough. It should be the habit to retire at half past ten, and this, as a habit, is absolutely invaluable to vigor, freshness and eyesight. If you do not want this vigor and freshness and clear eyesight, sit up until midnight, and your wish will be gratified. Another typical female defect, and source of wrinkles, is eating too little solid food—eating too much such rubbish as sweets and pickles, hot cakes, pastry, and drinking only water or tea, whereby a healthful appetite is spoiled. Nothing like this will force a woman to the habit of falling back on nervous excitement, for want of natural strength. It would be a great blessing to women if they were more, as men are, sensible of imperious hunger and thirst, and desire for sleep, and less able to draw on their nervous capital when their daily income of strength is exhausted. One of the sad results of society swagger or ostentation is the checking of the appetites of young girls, and causing them to dwindle into what vulgar people consider "genteel" proportions. The remedy for this is to commence at once to treat defective table duty not as a feminine grace, but as a disagreeable, ghoul-like phenomenon. With its many evils and absurdities, it may be questioned whether some pounds of superfluous adipose matter be not, on the whole, a pleasanter burden than a perpetual dyspeptic pain in the side. Naturally, exercise follows here. Nobody wants ladies to train like pugilists, but the truth is that, however good and wholesome exercise may be, its occasional taking can never make a thoroughly healthy woman. It is the whole 24 hours which need to be spent healthfully; not one hour of vigorous exercise and ten of sitting in overheated rooms, or walking in thin shoes on cold pavements. Of the two kinds of strength, muscular strength and brain strength, it is the latter which it most concerns our women to obtain. But the training for strength of brain includes a certain, although secondary, degree of muscular training also.—*Boynton Carlisle, in November Californian.*

WELL SAID.—It would be no privilege to be the wife of the larger proportion of the men one meets on the street; and I not unfrequently find myself analyzing masculine faces, and guessing at the relationship existing between such a one and his wife. It is but rarely, I confess it, that I meet a face which tempts me to say, "Happy is the woman that calls thee lord!" And yet I repeat my honest conviction that the relationship of wife and mother is the purest, the noblest, the most sacred, and the most elevating in the entire range of the humanities.—*A non.*

Young Folks' Column.

Our Puzzle Box.

Cross-Word Enigma.

My first is in plike, but not in trout;
My second is in aches, but not in gout;
My third is in ride, but not in walk;
My fourth is in speak, but not in talk;
My fifth is in fail, but not in try;
My sixth is in mean, but not in sigh;
My seventh is in youth, but not in age;
My eighth is in den, but not in cage;
My ninth is in joy but not in rage;
My whole is niggardliness.

OLD JOE.

Decapitations.

1. Behead cold and leave an elevation; again, and leave sick.
2. Behead to conflict and leave to scourge; again, and leave a tree.
3. Behead to cook and leave to disturb; again, and leave an unctuous liquid.

CEPHA.

Orthographical Puzzle.

What word of five letters, signifying to repair, contains all the following words, without transposing any letter?

1. A preposition.
2. A heavy weight.
3. A musical sound.
4. An individual.
5. Upon.

DICK N. S.

Word Square.

1. Daringly brave.
2. A mixture.
3. The period of existence.
4. One who accomplishes.

AUNT HANNAH.

Transpositions.

1. Transpose terror into a fee.
2. Transpose a beverage into a meadow.
3. Transpose a small quantity into duration.
4. Transpose a wild animal into a mineral.

Answers to Last Puzzles.

NUMERICAL ENIGMA.—

"Those who in quarrels interpose,
Must often wipe a bloody nose."

DECAPITATIONS.—1. Shave, have. 2. Bowl, owl. 3. Dream, realm. 4. Bride, ride. 5. Peat, eat. 6. Shark, hark.

DRY GOODS STORM.—1. Handkerchiefs (hand-cur-chiefs). 2. Cuffs. 3. Cot-tens. 4. Neck-ties. 5. Hosiery (hose-err-rye).

WORD SQUARE.—

O M E N
M O R E
E R I E
N E E D

CURTAINMENTS.—1. Mandate, man. 2. Margin, mar. 3. Hatred, hat.

Another Solution of the Pasture Problem.

EDITORS PRESS:—Having read in your issue of Sept. 25th "How a Little Girl won a Prize," I proposed the same problem to our little daughter Alice, who is 11 years and 3 months old. She readily elucidated it by 3 different methods of reasoning, arriving at the proper conclusion each time; following is her most concise method:

If 10 oxen eat 5 acres of grass in 3 months, how many sheep will 15 acres of grass pasture for 5 months if 7 sheep eat as much as 1 ox?

If 10 oxen eat 5 acres of grass in 3 months 1 ox will eat $\frac{1}{2}$ acre in 3 months, and since he eats $\frac{1}{2}$ acre in 3 months, he will eat $\frac{1}{6}$ of $\frac{1}{2}$ an acre, which is $\frac{1}{12}$ of an acre in 1 month, and as 7-sheep eat as much as 1 ox, therefore 7 sheep will eat $\frac{1}{12}$ of an acre in 1 month, and 6 times 7 sheep, which are 42-sheep, will eat 1 acre in 1 month; now if 1 acre will pasture 42 sheep 1 month, 15 acres will pasture 15 times 42 sheep, which are 630 sheep 1 month; and it will pasture 1-5 of 630 sheep, which is 126 sheep, 5 months, therefore 15 acres of grass will pasture 126 sheep 5 months.

I will add that little Alice used neither pen nor pencil, but made all her computations mentally; she received no suggestion from any person in regard to the problem. She has been instructed in "Colburn's Mental Arithmetic," and mastered every problem in it before she was 11 years old.

You may publish the above if you think it will have a tendency to excite a spirit of emulation among the younger portion of the readers of the PRESS.

MRS. S. S. HEATH.

Hanford, Tulare Co.

THE PUZZLED CANARY.—A pretty incident is related of a canary bird by a Georgia paper. The door of the cage was occasionally left open that he might enjoy the freedom of the room. One day he happened to light upon the mantle shelf whereupon was a mirror. Here was a new discovery of the most profound interest. He gazed long and curiously at himself, and came to the conclusion that he had found a mate. Going back to his cage, he selected a seed from its box, and brought it in his bill as an offering to the stranger. In vain the canary exerted himself to make his new-found friend partake, and, becoming weary of that, tried another tack. Stepping back a few inches from the glass, he poured forth his sweetest notes, pausing now and then for a reply. None came, and moody and disgusted he flew back to his perch, hanging his head in shame and silence for the rest of the day, and although the door was repeatedly open, he refused to come out again.

"I'LL TAKE MINE SPOILED."—A Western editor's wife writes:—Millie P.—, who is exceedingly fond of sugar, often wishes it in her potato, soup, and other like dishes that are not usually sweetened. She generally yields the point, however, on being told that it would spoil her food. The other morning when the first buckwheat cakes of the season were brought in, she asked if sugar spoiled pan-cakes? Her father, absent minded, replied, "Yes." "Well, then, I'll take mine spoiled," replied the three-years-old wit.

GOOD HEALTH.

Popular Fallacies.

It is not true that sugar and candies are of themselves injurious to the teeth or the health of those who use them; so far from it, they are less injurious than any of the ordinary forms of food when employed in moderation.

Any scientific dentist will tell you that the parts of the teeth most liable to decay are those which afford lodgment to particles of food; such particles being decomposed by moisture and heat, give out an acid which will corrode steel as well as teeth; but pure sugar and pure candies are wholly dissolved, there is no remnant to be decomposed to yield this destructive acid; we remember now no item of food which is so perfectly dissolved in the mouth as sugar and candy. When visiting the sugar plantations of Cuba the attention was constantly arrested by the apparently white and solid teeth of the negroes who superintend the process of cane grinding; they drank the cane juice like water, there was no restraint as to its use, and the little urchins playing about would chew the sugar-yielding cane by the hour. It is much the same in Louisiana, where the shining faces and broad grins of the blacks are equally indicative of exuberant health and "splendid teeth."

How does it happen then that there should be "the prevalent belief" that sugar and sugar-candy destroy the teeth and undermine the health? Perhaps the most correct reply is *tradition*, the father of a progeny of errors in theory and practice; of errors in doctrine and example, "too tedious to mention."

One of the common faults of the times is an indisposition to investigate on the part of the masses. We take too much for granted. A very common answer to a demand for a reason for a time honored custom is, "Why, I have heard it all my life. Don't everybody say so?"

It would be a strange contradiction in the nature of things if sugar and candy in moderation should be hurtful to the human body in any way, for sugar is a constituent of every article of food we can name, there is not a vegetable out of which it cannot be made, not a ripe fruit in our orchards which does not yield it in large proportions, and it is the main constituent of that "milk" which is provided for the young of animals and men all over the world. Perhaps the child has never lived which did not love sweet things beyond all others; it is an instinct, a passion not less universal than the love of water. A very little child can be hired to do for a hit of sugar what nothing else would. The reason of this is, that without sugar no child could possibly live, it would freeze to death; it is the sugar in its food which keeps it warm, and warmth is the first necessity for a child.

But to use this information intelligently and profitably, it must be remembered that sugar is an artificial product, is a concentration, and that, if used in much larger proportions than would be found in our ordinary food, as provided by the beneficent Father of us all, we will suffer injury. We should never forget that the immoderate use of anything is destructive to human health and life if persevered in. The best general rules to be observed are two:

1st. Use concentrated sweets at meal times only. 2d. Use them occasionally and in moderation.—*Hall's Journal of Health.*

AURAL DISTURBANCES FROM BATHING.—The frequency of attacks of aural inflammation from bathing demands more than a mere mention, for complete deafness may result from the injuries to the ear from this cause, and partial impairment is frequent. These injuries from bathing are mainly due to the fact that man is not afforded the protection to the ear that amphibious animals possess, and hence the water may act injuriously in various ways. In surf bathing the mere force of contact, when the water flows into the ear, may injure the tympanic membrane, and when an incoming wave dashes against the face, water may freely enter the mouth or nose, and thus bedriven into the ears through the eustachian tubes. The presence of cold water for a long time in the canal leading to the ear, as when much diving is done, may set up much inflammation in the canal or in the tympanic membrane, which may extend to the drum cavity itself. Ill effects may be produced by allowing the ears, head and body to dry in a current of air after coming out of the water. Sea water is probably more obnoxious than fresh, on account of its comparatively low temperature and the large quantity of salt it holds in solution. A long continuance in the water should be avoided. The Russian bath should not be taken without protecting the ears when the cold plunge is used. Diving is, however, the most dangerous practice connected with bathing, for it is difficult to keep water from entering the ears, or nose or mouth. In diving, the pressure of water on the tympanic membrane from without may cause vertigo. Even syringing the ears gently is known in some instances to occasion decided dizziness.—*Harper's Magazine.*

ONE CAUSE OF INSANITY.—At a recent meeting of German doctors interested in the treatment of insane persons, a paper was read by the director of the Brunswick State Lunatic Asylum, in which he maintained that much of the increase of insanity in Germany is attributable to the excessive amount of work imposed upon the pupils in the national schools.

DOMESTIC ECONOMY.

VINEGAR.—A method employed in France, which converts cider or other liquid into vinegar much more expeditiously than do ordinary practices, prefaces the process with preparing the barrels or casks by first scalding with water and next pouring into them boiling vinegar, rolling the barrels and allowing them to stand on their sides two or three days, until they become thoroughly saturated with the vinegar. This preparation over, the barrels are filled about one-third full with strong, pure cider-vinegar and two gallons of cider. Every eighth day thereafter two gallons of cider are added until the barrel is two-thirds full. In 14 days after the last 2 gallons are added the whole will have been converted into vinegar, one-half of which is now drawn off and the process of filling with cider begun again. In summer the barrels during the process of conversion are exposed to the rays of the sun, and in cold weather are stored where a uniform temperature of about 80° can be maintained.

COOKING IN GERMANY.—The fundamental principle of German cookery is to mix together as many incongruous things as possible. My countrymen have a special talent, recognized the world over, for inventing mixed drinks, but his combinations pale before those of the Germans in mixed cooking. That compound which is so toothsome to a German, a herring salad, is concocted from 16 different articles. A German beefsteak is made of hashed meats, rolled into a ball and fried. What they call roast beef is a chunk of meat boiled awhile and then haked; it usually looks like a lump of india-rubber. With the meats is always served a *compote*, made of stewed or preserved fruit. The vegetables are deemed at their best when they are floating in grease. Sausage, however, is the great national delicacy. It is produced in great varieties of size and quality; and the sausage shops of Berlin are the most elegant in the city.

TO PACK GREEN CORN IN SALT.—Choose full, tender corn; cut close to the cob, and mix two teacups of salt with eight of corn, or pack the same proportions in alternate layers in a stone jar. Put a cloth, an inverted plate and a weight on top to keep it under the brine which it will make. To cook, rinse some of the corn in cold water until the salt is all gone; then cover with plenty of cold water and bring slowly to a boil; pour off this water and replace with boiling water—just enough to cook it in. Season with butter and a pinch of sugar, and add a little corn starch mixed smooth with some sweet cream; bring to a boil and serve.

PAPER DISH MATS, which can be washed without the slightest injury, and which very nearly resemble the wicker dish mats commonly used on the dining-table, are among the most recent novelties. The mats are stamped out of cardboard, in both round and oval form and in any desired size. The wicker-work pattern is lithographed, after which the work is finished up by the application of a very hard kind of varnish. The paper mats, it is claimed, will last as long as wicker ones, are much cheaper, and possess the additional advantage of a smooth surface.

TO KEEP GRAPES.—Take full bunches, rip and perfect; seal the end that is cut from the vine so that no air can get in, or the juice of the stem run out, and let them stand one day after sealing so as to be sure they are perfectly sealed (if not they will shrivel up); then pack in boxes of dry sawdust and keep in a cool place. They will keep nicely all winter without losing their flavor. In packing do not crowd the bunches; sprinkle the sawdust over the bottom of the box, then sawdust and grapes, alternately, until the box is full.

STUFFED PEPPERS.—Choose large, smooth, green peppers, like those used for mangoes; wash them, cut out the stems and remove the seeds, being careful to avoid breaking the peppers; parboil them for five minutes in boiling water and salt, then stuff them with sausage meat, or any cold meat or poultry chopped fine and seasoned with salt, and bake them half an hour in a quick oven. A little meat gravy, or broth of any kind, put into the baking pan with them gives them a nice flavor.

GUAVA JELLY.—Slice six lbs. of sour guavas in brass or agate iron kettle and add one teacup of water. Boil for an hour or more until well cooked; strain through coarse cloth by dripping; do not squeeze a particle; measure the juice; after it has boiled and been skimmed, add granulated white sugar, measure for measure; cool until jellied. It jellies better in small than in large quantities.—*Florida Agriculturist.*

AN inventive genius filled a small tarlatan sack with a spoonful of cayenne pepper, and tacked it over a rat hole. When the rat bounced out his eyes were peppered by the sifting from the shaken sack. He squealed like a pig and escaped. The whole tribe have since migrated. This is a novel riddance for rats.

CEMENT FOR TIN CANS.—Melt four ozs. resin, two of gum shellac and two of beeswax to gether. Use while very hot. If little bubbles rise, break them and put in a drop of cement.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine. St.

ANNUAL SUBSCRIPTIONS, \$1; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 30.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, October 16, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Watermelon Industry; A Curious Animal from South Africa; Examination of Seedling Grapevines, 241. The Week; Metropolitan Butter Making; Sorghum Sugar, 248. A Lesson in Water Distribution; Agricultural Progress in Mexico, 249. White Russian Wheat, 252.

ILLUSTRATIONS.—The Moholl (Galago moholl) from South Africa, 241. Diagram Showing the Proposed System of Water Distribution, 249.

ENTOMOLOGICAL.—Progress of Insect Depredations, 248.

QUERIES AND REPLIES.—Paint for Farm Buildings; Sickly Plum Trees, 248.

CORRESPONDENCE.—Agriculture in Tehama County.—No. 1, 242.

HORTICULTURE.—Curl Leaf; Packages for Prunes; Santa Barbara Horticultural Society, 242.

POULTRY YARD.—Bone Food for Poultry; Dusting Boxes, 242.

THE APIARY.—The Cyprian Queens; Bees in Tulare County; Fresno County Apiary; A Shipping Experiment; The Honey Harvest, 243.

SHEEP AND WOOL.—The Philadelphia National Show, 243.

THE DAIRY.—Ayrshire as Dairy Cattle; The Channel Islands Cattle, 243.

THE FIELD.—Sorghum Sugar Making, 248.

PATRONS OF HUSBANDRY.—State Grange Meeting; State Grange Meeting, 244.

AGRICULTURAL NOTES from the various counties of California, 245.

NEWS IN BRIEF, on page 245 and other pages.

HOME CIRCLE.—Our Neighbor's Ways (poetry); A Charming Kitchen in Colorado; Surprise Parties; Accident to a Contributor; Thoughts on Character; How to be Beautiful; A Good Companion; A Royal Roll of R's; A Dinner of Goats; Three Things Needful; True, 246.

Chaff; Wrinkled Sirens; Well Said, 247.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; Another Solution of the Pasture Problem; The Puzzled Canary; "I'll Take Mine Spoiled," 247.

GOOD HEALTH.—Popular Fallacies; Aural Disturbances from Bathing; One Cause of Insanity, 247.

DOMESTIC ECONOMY.—Vinegar; Cooking in Germany; To Pack Green Corn in Salt; Paper Dish Mats; To Keep Grapes; Stuffed Peppers; Guava Jelly; Cement for Tin Cans, 247.

MISCELLANEOUS.—Soldering Liquid; To Make a Strong Paste, 248. Items from the Stockton Fair, 250.

Business Announcements.

Gorham Seeder and Cultivator.—Baker & Hamilton, S. F.
Sherrill Gang Plow.—San Francisco.
Firemans Fund Insurance Company.—San Francisco.
Wilby's Patent Pruning Shears.—Joseph Wilby.
French Merino Sheep.—Centerville, Cal.
Norman Horses.—San Francisco, Cal.
Seed Grain.—Jones & Co., S. F.
Sheep Range for Sale.—E. Kelly, Merced Falls, Cal.
Homeopathic Pharmacy.—Bocricke & Tafel, S. F.
Strawberry Plants.—C. M. Silva & Son, Newcastle, Cal.
New Hydraulic Ram.—Isaac B. Millington, Chester, Pa.
Business to Exchange for Ranch.—Dr. Morton, S. F.
Santa Cruz County.—Exchange & Mart, Santa Cruz.
Hay Presses.—I. J. Truman, S. F.
Fourth Annual Sale.—Robert Ashburner, Baden Station.

The Week.

All themes seem to pall upon the popular taste just now except the excitement of the political campaign, which is now at its height. The State is roused from end to end with mass-meetings and barbecues and joint discussions, and our exchanges are so busy saving the nation that they have no time to gather the little items of agricultural progress and achievement which make their columns so interesting to us. Even the fairs are somewhat overshadowed by the flags and banners of the contending parties. To-day the city is engrossed with the accounts of the Ohio and Indiana elections, the streets are blocked with people watching for inscriptions on the newspaper bulletin boards, and to-night there will be wild scenes of celebration and congratulation by this successful organization.

Meantime wheat has worked its way upward about 10 cents to the cental, and the trade has become to move with more life. The rains have as yet been but sporadic showers, and another week's journey toward the sheltering and harvesting of produce has been made. Still the season is rapidly closing in, the shortening days and the heavy dews betoken the return of the reign of the green and the subjugation of the forsaken yellow. The first intimation of a northern reached the bay on Sunday.

Last week several fairs were held, and the early reports speak of them as generally successful. Next week we expect to present a number of the lists of awards, that all may see who are the successful breeders and crop growers, as judged by "fair" standards.

Metropolitan Butter Making.

Although our butter-makers have had to contend with shamefully low prices for the last two or three years, until the recent advance occurred, they have never suffered from the deeds of those who would ruin their good name or put their product to shame by selling it alongside of the product of the butter counterfeiters. Both these iniquities have been heaped upon Eastern butter-makers, and the result has been an outrage to their pride as honest producers, and a reduction to their rewards as honest workers. Both of these tendencies in recent affairs have worked hardship.

The most grievous wrong to the Eastern butter makers is the continued production of "oleomargarine," as the counterfeit butter is called, which is made by churning prepared calf fat in butter milk or sour milk, gathering it together again, coloring, salting and packing it in a style in which genuine butter is marketed. When this manufacture of artificial or counterfeit butter began about eight years ago in New York city, few dreamed that it would assume this importance that it has reached. Not only has the artificial material to some extent taken the place of the lower grades of butter in the Eastern cities, but it has gone largely into the export trade and has supplanted a certain amount of genuine butter which might then have been profitably disposed of. The great amount of oleomargarine shipped as compared with the butter shipments is a surprise even to those who have watched the growth of this counterfeit. Joseph Nimmo, Jr., Chief of the Bureau of Statistics, gives the exports of the two articles from New York for the fiscal year ending June 30, 1880, as follows:

	Pounds.	Value.
Butter.....	31,061,610	\$5,179,071
Oleomargarine.....	19,833,330	\$2,581,317

One can easily see that such a mass of counterfeit must to some degree depress the genuine product by filling a demand which should come to it.

Another wrong done to Eastern butter-makers is in the work of the butter doctors, who operate chiefly in the Western cities. Their plan is to gather up all the poor stuff from the country stores, put it through a course of treatment in their city establishments, and by systematic dosing with salt and coloring matters, and reducing rancidity by copious bathing, they obtain a material of uniform color and consistency, and then packing it in the style adopted by the finest creameries, they are able to put forward a resurrected butter, which has the form and semblance, but none of the life, fragrance and flavor of the genuine article. Until recently these butter doctors have been content with these comparatively innocent operations, but they have now advanced in guile, and we find them introducing a certain weight of powdered soap-stone into each package they send out. This soap-stone powder, it is said, is not recognizable by the consumer. It has no appreciable taste, it has no grit, and it is perfectly incorporated in the butter. Its presence was found by careful tests, after the increased weight of packages of the old size made some purchasers suspicious.

It is had enough to contrive and profit by an abomination of this kind, but it is still worse to attempt to throw the suspicions of your wrong doing upon others, who are innocent. These butter doctors, as soon as the soap-stone leaked out, pointed to the farm butter makers as the guilty ones, but the stigma did not long remain out of its proper place. All the evil of adulterating western butter has not been done by these farmers, but by the butter doctors of the cities.

Fortunately, such abominations as those we have described have not yet obtained a footing upon California soil. The manufacture of oleomargarine, which was attempted here some years ago by an adventurer, who has since languished in a Chilean prison for other misdeeds, was nipped in the bud. Consumers of California butter may be assured that they are not eating counterfeit fats, dressed up to deceive the senses, nor are they introducing into their systems a mass of soap-stone. The assurance is also one of great satisfaction to producers, for they must always look with chagrin and disappointment at the success of efforts to win patronage for a counterfeit article, which belongs to their honest product. We trust the evils we have spoken of may never find a lodgment here.

A CHEAP CROP.—The Record-Union notes that H. M. Larne, of Sacramento, owns land in Yolo county, upon which has occurred a remarkable growth, illustrating the favorable character of the climate of this year on the production of cereals. On the sink of the Putah Mr. Larne had last year 100 acres in barley. The land had been in use for 20 years, but 12 years ago it was overflowed by Putah creek, and since then it has been grown to grain entirely. Last year it was put in with barley. During the fall, winter and last spring it was pastured to stock. As the spring advanced a crop of volunteer barley came. The stock was removed from the land and the volunteer allowed to grow. It was harvested, and yielded 4,400 bushels of grain, or 44 bushels of good, solid, heavy barley to the acre, weighing 110 lbs. to the sack. There was in this case no harrowing, no raking in as is usually done. It only cost \$4 an acre to harvest and thresh it. The success achieved in this instance is due entirely to the character of the season. The case is a remarkable instance of cheap cultivation.

ENTOMOLOGICAL.

The Progress of Insect Depredations.

EDITORS PRESS:—As the apple, quince and pear crops are nearly gathered for the season, we take the liberty of answering, through the columns of the PRESS, enquiries made of us concerning the extent of damage done this season by insects injurious to fruit, and also the prospects of growing choice marketable fruit in the future. From careful investigation we think the amount of damage done throughout the State is far from being fully understood by those interested. Reports we have received from different parts of the State and personal observation convince us that the amount of fruit destroyed by codling moth, scale insect, red spider, etc., exceeds that of any previous year at least 100%, and the spread over new territory, to say the least, is greater than we had any idea of four weeks ago.

We do not wish to be considered as attempting to create unnecessary alarm, but will state facts, as no good can result from assuming ignorance of the dangers threatening the fruit-growing interests of the entire Pacific coast, especially so far as the growing of apples, pears, quinces and (from present appearances we may add) plums are concerned. This question to be decided within the next two years is, can California orchards produce the above varieties of fruit profitably?

At present we think the answer would be in the negative. In order to secure an answer in the affirmative, united action of all fruit growers, in a well-organized warfare for the destruction of all pests of the orchard wherever found, must be inaugurated. The crusade should include all orchards and nurseries in southern California, northern California, on the lofty Sierra and valleys, Coast range and valleys, central California, Sacramento valley and foothill regions. It matters not what the pest is—codling moth, red scale, apple scale or red spider, the warfare should be commenced this fall and fought unflinchingly until the pests are exterminated in every orchard and nursery large and small, throughout California. The reason a general warfare is necessary is because of the quantities of trees and fruit transported from one section of this State to another. This allows every opportunity for spreading insect pests. Our northern growers buy their semi-tropical plants and trees from southern nurseries. Our northern fruits and plants are shipped to southern counties, but the greatest danger arises from the packages coming in contact in market. We exhibited at last State fair, a cover, taken off an empty apple box returned from market, containing 19 larvae of codling moth, enough to destroy the largest orchard in California in one season.

In a warfare against the orchard pest, every person, or persons owning land on which there are fruit trees, should be enrolled. We have met and conferred with a large number of persons owning extensive orchards, all being in favor of fighting the pests could they make the crusade general. We fear they will have to seek legislative aid, as the fruit growers of Tasmania are doing, as there are many owners of orchards that can only be made do their share of the work by the strong arm of the law. The following refers to a specimen of the class of growers referred to: Last spring an extensive fruit growing company cleaned their pear orchard thoroughly at a cost of \$150, or six cents per tree (2,500 trees), as late as the 18th of July. When the second brood of moths should have matured, no signs of larvae could be found in their orchard. In 1879 the pear crop was totally destroyed. Adjoining their orchard is an apple orchard containing less than 75 trees, neglected and filthy, whose owner refused to do anything toward cleaning it. The number of moths produced destroyed all the apples on the trees. The owners of the pear orchard for their own protection, offered to pick and destroy the wormy fruit on the trees at their own expense, but were refused the privilege excepting they would purchase the orchard; consequently a large part of their Winter Nels and other late varieties of pears were destroyed by the moths from the apple orchard.

Such men the enterprising fruit growers have to contend with, therefore we think that legislative aid will be necessary, and fruit growers should not lose any time in maturing a line of action to be pursued this fall and winter, as in some cases we fear that in one year the evil will have grown beyond control, so far as saving the orchards are concerned.

Mildew has done serious damage to fruit in this neighborhood this season, especially pears, but we think this can be easily remedied in future.—Cooke & Son, Sacramento, Cal.

AMMONIA IN VEGETABLES.—H. Pellet has lately found appreciable quantities of ammonia in various kinds of grain, as well as in beet root. In wheat the weight of ammonia is one-tenth as great as that of the ashes. He thinks that ammonia and phosphoric acid enter into vegetables under the form of an ammoniacal magnesium phosphate, which is very soluble in all vegetable acids. He is now studying the effects of ammoniacal manures, and of nitrogen, under different forms, upon the amount of ammoniacal vegetables.

QUERIES AND REPLIES.

Paint for Farm Buildings.

EDITORS PRESS:—Will you have the kindness to give me the formula for making that paint described by a correspondent and suitable for barn and fences? I understand it is both inexpensive and durable.—S. E. B., Cloverdale.

We suppose our correspondent refers to the paint used by Mr. Sneath, of San Mateo county. It is excellent for use on rough surfaces. Mr. Sneath had used different paints and whitewashes for many years and at last hit upon this, which has given great satisfaction. He uses fish oil at about 37½ cents per gallon by the barrel, brown mineral paint at 1½ cents per pound, and rosin at \$2 per barrel. He uses one-fifth of a barrel of rosin to a barrel of mixed paint. He mixes the oil and rosin in a large kettle and boils it over a slow fire, until the two are thoroughly incorporated, and then mixes in the paint to the thickness of ordinary paint and applies with the usual flat paint brush, either warm or cold. It will take a week to dry, but will then make a coating impervious to the weather, and one coat will give a gloss if put on thickly. He uses cheap white lead for the doors and trimming, with the fish oil and rosin, and makes the shade to suit, and by stripping the roofs white and brown it gives a most desirable effect, with but little more expense than common whitewash that needs renewing every year.

Sickly Plum Trees.

EDITORS PRESS:—I noticed in one of your papers that a lady wrote about her trees (plums and prunes, I think) turning yellow and having the appearance of having been frosted, asking if others were similarly affected. I think, from her brief description, that ours are just the same, that is our plums. They turned yellow in July, having the appearance of early fall. On close examination the under side of the leaf was found to be covered with a white, crystalline substance, as of fine salt or alum, which I judged to be the sap of the leaf crystallized, but would like to have had them examined by an expert. The crystals almost entirely disappeared later in the season. I would like to give further particulars, but will wait until another time, should you deem it of sufficient importance.—M. S. S., West Las Animas, Colorado.

Sorghum Sugar.

Robert Strong, of Westminster colony in Los Angeles county, brought us on Wednesday a sample of raw sugar made from the juice of the Amber sorghum cane by Silkwood & Young, of Westminster. It was of course just from the juices in which it had granulated without attempt at refinement, having been drained from the syrup through a sack. It had dried well and the crystalline structure of the mass was apparent. The flavor was very good. Mr. Strong had been entrusted with samples of the syrup and mush sugar by the producers to bring them to this city, and learn if the material would be purchased by our city refiners. The Los Angeles cane growers are not prepared to undertake refining, but can easily crush and evaporate the juice, if the resulting raw sugar finds a market at a fair price. There are in Westminster two sorghum sugareries, one owned by Silkwood & Young, the other by L. S. Gates; and if these enterprises do as well as they expect this year, it is likely that many other similar establishments will be built up. There seems practically no limit to the production of sorghum and the returns per acre are large. Mr. Strong reports a yield of Mr. Young's cane of 220 gallons of juice per acre, but this was the very best result that was obtained. Other growers obtained much less because of less favorable soil or care. The averages according to Mr. Strong will not be far from 150 gallons to the acre of cane. The cane is not grown on the best land; if it were put on this soil it would produce above the 220 gallons per acre mentioned above. The cans matures perfectly without irrigation; in fact the dryness of the soil seems an advantage in concentrating its sweetness. We are very glad to see so good a sample of sorghum sugar, and we trust the other experiments this season will result as well. We have on hand a letter just received from Col. Olden, of Anahim, describing the sugar experience of his county, which we will print next week. It contains additional information concerning the enterprise which has produced the sugar brought to us.

MR. REED'S WHEAT.—The Democrat says that Hon. C. F. Reed, of Knights' Landing, has completed loading the ship *L. J. Moss*, which he has chartered on his own account to convey his immense crop of this season to foreign markets. The ship has a carrying capacity of 2,250 tons, and this amount of wheat Mr. Reed furnished from his own fields. Not one bag was shipped which had not been run through a cleaner subsequent to its being threshed, and that no better ship load of wheat, both as to the quality of the grain and its freedom from foreign substances, ever left the port of San Francisco.

NEGOTIATIONS for peace between Chile and Peru have been opened at Arica, with the intervention of the United States.

A Lesson in Water Distribution.

Although we are quite young as irrigators in this State, we have already learned many valuable lessons by experience, and some of them have cost a considerable outlay of money. When irrigation for the San Joaquin valley was first proposed, there were devised most elaborate schemes for water distribution, as the gently sloping surface of some parts of the valley invited the most exact drawing of ditch lines. We propose to show one of these early elaborate schemes and what came of it, as many times the description of a failure is as valuable generally as that of a success.

In the report of the commission appointed in 1873 to report upon an irrigation system for our interior valleys, there was given an outline of a system of water distribution to be practiced upon the San Joaquin and King's River canal, which is shown in the engraving on this page. The main canal has a slope of 1 ft. per mile, the ground sloping at the rate of 8 ft. per mile. In the accompanying plat, the slope is shown by dotted lines at each foot of elevation. Water is not taken immediately from the main canals to the irrigated ground, but to the "primary ditches," which follow the highest part of the ground and are about a mile apart. The section is partly in excavation, and partly in embankment. As a general rule water should not be taken from primary ditches, but through secondary ditches. In this example, the latter are about a quarter of a mile apart, running parallel, with a slope of 4 or 5 ft. per mile. Each secondary ditch irrigates the land between it and the next one below it, embracing about 80 acres. The land is subdivided, first, by plow-furrows, 40 yards apart, parallel to the primary ditches designated on the plat by the figures 1, 2, 3, 4, 5, 6, etc. It is again divided by cross-furrows, called "checks," 50 yards apart and parallel to the primary ditches, shown by the dotted lines 41, 42, 43, 44, etc. The secondary ditch, A B, has the capacity to fill 10 boxes at the figures 1, 3, 5, 7, 9—19, leading into the plow-furrows. By closing the gate at the middle of the ditch, all its contents are discharged into the 10 furrows above, through little gates at the head of each. The first "check-furrow" will arrest the flow and cause it to spread over the strip between it and the secondary ditch. When this is sufficiently irrigated, the check-furrow may be opened with the hoe, and the water will then overflow the second strip; and the process may be continued till the first 40 acres, represented by the parallelogram, A C E D, are irrigated. Then close the small gates 1, 3, 5, etc., and open the gate at C in the secondary ditch, and in like manner irrigate the lower 40 acres, C B F E. As the ground slopes from the secondary ditches at the rate of 8 ft. per mile, the level of each check-furrow will be 2.7 inches below its predecessor. There will then be an inequality of depth of water at different points of a strip between the two furrows, but in porous soils there is a compensation in the percolation of the water in the check-furrows to the land just below them. In impervious soils, or in irrigation for alfalfa, or permanent pasture, the furrows and check-furrows must be more numerous. The surplus water is caught in catch-drains for irrigating land further down.

Such is the description of a beautiful system of water distribution. What became of it is shown by the report of J. D. Schuyler, Assistant Engineer, included in the report of State Engineer Hall to the last Legislature. After noting briefly the character of the scheme which we have described above, Mr. Schuyler remarks:

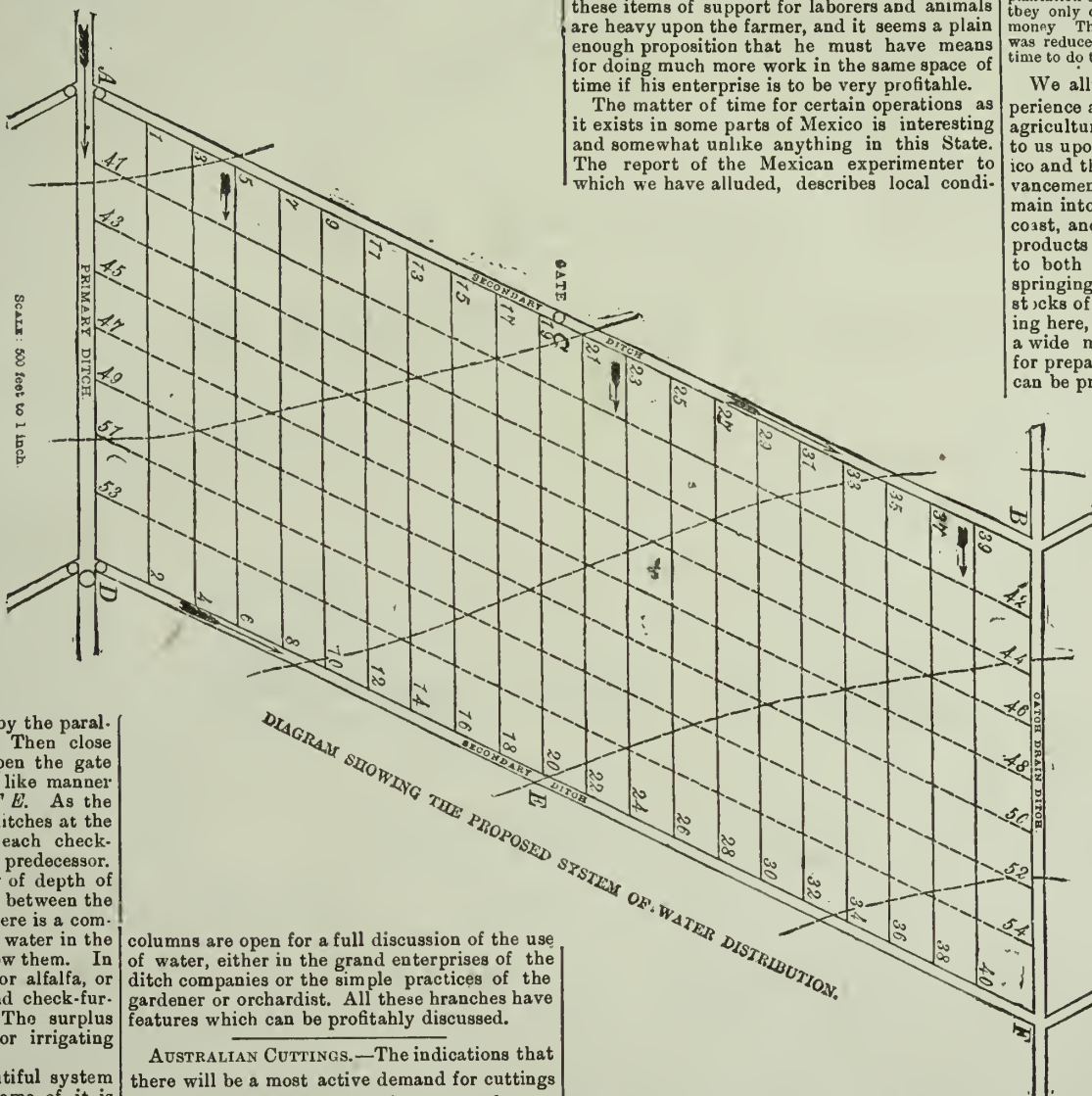
"The experiment proved a disastrous failure, after the expenditure of \$50,000, and was abandoned. The secondary and tertiary ditches were removed, and between the primary ditches check levees were constructed on 6-inch contour lines, varying in horizontal distance with the slope of the ground, and an intermediate division levee was built midway and parallel with the ditches. By this method the cost per acre for labor at each irrigation was reduced to 3 cents, where it had formerly cost 33 cents, and it is thought that when gates are constructed in the levees to drain the compartments into those next below, the cost will be still further reduced, as it will save the labor of cutting a hole in the levee and closing it again at each irrigation.

"In other parts of the valley irrigated by this canal the check levees are less regular in their alignment, as they follow the contour of the surface, which is generally not quite so smooth as upon the farm to which allusion has just been made, but they present no such winding lines as are necessary in some other portions of the State. The compartments inclosed by the levees generally contain from 8 to 25 acres, seldom more. They are, therefore, quickly filled and drained off again. This is a great desideratum, as it is the aim of the irrigators to keep the water constantly in motion, and perform the

operation of wetting the lands and draining them again as quickly as possible, except in the case of dry lands being wetted for the first time, when the compartments are filled to their utmost capacity, and the water is allowed to soak away.

"The average cost of preparing the ground with ditches and check levees is about \$1.50 per acre, varying but a few cents either way from that figure. The check levees cost about \$12 per mile, and are thrown up with a "V" scraper. Three men and 26 animals will build a mile of levee in a day. Their sides are generally too steep to be driven over with farming machinery, which is an objection. Doubtless the extra cost of constructing the levees with broad base and flat side slopes would be amply compensated for by the increased facility attained in the harvesting of the crops."

We are continually learning lessons in the art and science of applying water to lands, and the report of Mr. Schuyler's investigation during the present summer will no doubt be rich in records of improved practices. The subject is one which can, however, be profitably discussed, aside from the formality of official reports; and if our readers who, attacking the irrigation problem, each in his own way, would communicate the results of his later experiences for publication in the *RURAL PRESS*, there would be a better general understanding of the practical features of irrigation among us all. Our



columns are open for a full discussion of the use of water, either in the grand enterprises of the ditch companies or the simple practices of the gardener or orchardist. All these branches have features which can be profitably discussed.

AUSTRALIAN CUTTINGS.—The indications that there will be a most active demand for cuttings of choice grapes this fall are abundant and many of our vineyardists can doubtless increase their revenues considerably by this trade. We learn from the *Adelaide Observer* something which is another proof of the old saying that one has to go away from home to learn the news. In the report of a recent meeting of the South Australia Farmers' Association, it was announced, "that an order from Dr. Bleasdale, of California, for 2,000,000 vine cuttings had been received in the colony, and if the cuttings suited, next year a further order would be received for 20,000,000. It was only a short time since that an order for 200,000 gallons of one particular class of wine had been received in California from Germany, and although they could not supply the whole quantity, still 150,000 gallons had been sent. That showed what California could do with a climate similar to ours. We were almost entirely neglecting this important industry, and the only persons who were carrying on the business in anything like a systematic manner were Messrs. Hardy and Seppelt."

APPLES.—Southern California is continually yielding new evidences of her fitness to produce apples. Gen. Shields tells of a monster in our "Agricultural Notes" in this issue. Mr. Strong, of Westminster, tells us of the growth of Rhode Island Greenings on his trees. He gathered 750 lbs. from one eight-year-old tree, and they were of large size. He has kept Newtown Pippins and Nickajack apples in good condition until March. The locality is near the coast, and the trees thrive and the fruit is firm and durable.

Agricultural Progress in Mexico.

Since our note last week concerning the uprising of the progressive spirit in the agriculture of Mexico and the Central American states, there have come to hand new proofs of the tendency to which we alluded. Orders are coming to our advertisers for live stock, poultry, improved tools, etc., and the last request was for information about growing silkworms and how to get the stock to start with. Surely our southern friends are reading our columns to some purpose, and we are glad to be able to bring them tidings of things which will enable them to develop their industry, and improve their products.

There has lately been published in Mexico a report to the Mexican Agricultural Society by a planter, who has been introducing new American agricultural machinery and superseding the old styles and means of tillage. The old style was based upon the ancient Egyptian plow drawn by oxen; the threshing was done by trampling out with animals. In order to accomplish even a small amount of plowing a large gang of laborers has to be supported, and there are large numbers of horses which have to be fed the year through, chiefly because of the labor they do in treading out the grain. Both these items of support for laborers and animals are heavy upon the farmer, and it seems a plain enough proposition that he must have means for doing much more work in the same space of time if his enterprise is to be very profitable.

The matter of time for certain operations as it exists in some parts of Mexico is interesting and somewhat unlike anything in this State. The report of the Mexican experimenter to which we have alluded, describes local condi-

though there was naturally some objection to their introduction by the laboring class, who were dispossessed of the chance to pursue the old system which called for their peculiar services and gave more of them employment. The advantage of the new system has, however, become so apparent to the farmers that there is quite a disposition among them to follow the example set by the man whose experience we are citing. The contrast in methods and expense of the two systems is outlined as follows:

Plowing generally begins in the early part of July and terminates on the 4th of October. The first plowing is intended to turn over the soil, so that the moisture may be integrated; the second is crosswise, so that the ground may be well stirred, and the third leaves it clean, level and loose to receive the seeds. Under the old system, the three plowings had to be performed during the three months of July, August and September, to enable us to begin covering the seed early in October. Under the new system, the first two plowings can be done in the three months stated, and the last can be commenced a few days only before planting-time, which operation can be performed in October and up to the middle of November. The result is that the plowing can be done with two-thirds of the stock, plows and bands formerly required; and as a greater interval elapses between the three plowings, the land receives a greater benefit. The rains start the weeds to growing; they have a longer time to grow, and on being turned under they have more time to decompose, thereby furnishing a green fertilizer to restore the waste of the land. I commenced using the turning plow at the second plowing. It opened a furrow from 10 to 12 inches in depth, and one-half yard in width. Three mules and a hand worked it, and left the ground well pulverized, free from weeds, and so prepared that the natural moisture was retained for a longer period, and the land perfectly clean. In the last five years the three plowings on this plantation cost on an average \$1,595 annually. This year they only cost \$1,211. The result is a saving of \$384 in money. The quantity of stock and number of laborers was reduced to one-third, and we have one-third more time to do the work in.

We allude to this account of Mexican experience as of general interest to the student of agricultural progress and of special importance to us upon the coast. The awakening of Mexico and the taking up of a line of industrial advancement will bring that vast and rich domain into closer commercial relations with our coast, and will bring about an interchange of products which will be highly advantageous to both parties. The demand which is now springing up for our improved animals and for stocks of the fruit trees, etc., which are thriving here, will give our breeders and propagators a wide market. There will also be a demand for prepared and natural food materials which can be produced here better than there.

There would seem from all her natural conditions and resources a grand future in store for Mexico, if peace and enterprise can supplant the turmoil and demoralization which have so long prevailed. The great stores of mineral wealth, the wide range of climates and productions secured by her various altitudes of surface, would in the end, one would think, make her a self-sufficient domain, and yet a prosperous neighbor with a neighborly disposition is always an advantage; and as a sister republic, albeit her republicanism thus far has proved quite unlike our own, will always be a bond of sympathy between the two countries.

ORANGE MARMALADE.—A friend in southern California sends us a brightly-colored trade card showing a marmalade factory at Seville, Spain, in full operation. The scene presented is in the court-yard. In the background rises the factory chimney and a tall palm tree. Along the outside of the building are the cooking tubs from which steam is puffing. Nearby are the pails into which the marmalade is put for transportation, while across the foreground are groups of men and women carrying and sorting the oranges from which the famous marmalade is made. The scene is a stirring one, and the business of marmalade making evidently an active one. Our friend asks if the card does not give us a suggestion as to the possibility of orange industry in southern California? We see no reasons why such an industry could not thrive here if one should grow fruit suitable for marmalade making.

SEED GRAIN.—The approach of another seed-time is awakening interest in seed grains. There are several new and very promising varieties being now introduced to our grain growers, having already proved notably good in the countries whence they came. We would call attention to the announcement of Australian wheat and New Zealand oats by Waterman & Co., 113 Clay street, and S. L. Jones & Co., 207-9 California street. The "purple straw" and "white jammas" are said to be both favorites in Australia. The purple straw is the hardier, while the white jammas is considered better for milling purposes. Seasons and soils, however, make so much difference in the character of grains, that local growers are about equally divided in opinion respecting the relative merits of the two grains. The oats from New Zealand are also favorite varieties, and are said to yield from 50 to 70 bushels per acre in a fair season.

THE Tribune's London special says: Mr. Parnell talks of another tour to the United States to replenish his exchequer for the agitation. He wants to start a League newspaper.

tions in the district of Huejotzingo, as follows:

In this climate the land soon becomes dry and hard, and the season for planting soon passes away. Consequently planters were required to reduce their acreage of cultivation or increase their stock, in order to make the most of the planting season. Planting was done by the Egyptian plow, which, with the shallow furrows, although producing favorable results, did comparatively little work in a day. The moisture in the lands in this elevated portion of the country, quickly evaporates, and the planter, if it does not rain, or if he cannot irrigate his land, is compelled to suspend sowing, losing his previous preparation of the soil from the result of the slow operations, in practice in matters naturally requiring rapidity of action.

To free his operations from this embarrassment of slow work in a short working season, this enterprising Mexican resolved to introduce the best agricultural machinery from the United States, and the reasons he gives for choosing our machinery are well worth quoting, as showing a foreigner's opinion of the relative qualities of American and English machinery. In his report he says:

My attention was directed to the implements and machinery manufactured in the United States in preference to those of European manufacture, not only on account of the saving of time in their transportation and at less expense, but also because I consider that the people of North America have devoted more attention to the cultivation of the soil by machinery, and are at the present time producing the largest crops of grain at the lowest possible cost. From what I have seen, European agricultural implements are more solid, better made, more highly finished and constructed of better materials than the North American; but, on the other hand, if they are not more expensive, they are generally so cumbersome and heavy that our animals and our workmen cannot handle them as well.

It was found that the common laborers soon learned to operate the improved machines, al-

Items from the Stockton Fair.

Notes of interest concerning some of the praiseworthy exhibits at the San Joaquin District fair at Stockton last week are furnished us by our representative who was on the ground:

A New Buck-Board Buggy.

A vehicle which the San Joaquin farmers and others have found very convenient to run about in, is a patent buck-board buggy made by Joseph Hansel, of Hunter street, Stockton. This buck-board has great advantage over the ordinary style, because of its superior spring and bracing parts. There is a joint in the brace from the back axle to the board which gives it spring. There is a spring running from the board to the front axle which also acts as a brace. This improved buck-board excited much favorable comment.

Windmill.

A new windmill which will no doubt make a mark in the list of this style of machinery is the "Boss Mill," made by N. B. Jenks & Sons, of Stockton. Its claims are durability, simplicity and beauty, and the makers claim that they can be made for less money than other good mills. We are promised more about this new mill hereafter.

Clark's Grain Cleaner and Grader.

Lewis Clark, of Sacramento, exhibited his new cleaner and grader, which is attracting much attention where it has been shown in the grain countries. It is to be placed in the fanning mill in the place of the gang of sieves, and is made to fit any good fanning mill. It has been in use in Yuba and Solano counties about one month—a part of the time—and has fitted about 5,000 bushels for seed; and is now engaged in fitting the whole of 300 acres of wheat for Capt. R. H. Waterman, of Fairfield, Solano county, the seed of which was imported last year from Australia. The committee at the Stockton fair after examining Clark's cleaner, report as follows: "In our opinion it does superior work in grading and making a first quality of seed grain, and we most cheerfully recommend it to the public."

Pantry and Dresser.

L. O. Hudson, of Stockton, exhibited an arrangement which will please the housewife, in his combined pantry and dresser. It is the most complete and handy contrivance of the kind we ever saw, and should be examined by all who believe in improved kitchen appliances and true helps to our kitchen queens.

Pumps.

Quite a sensation was made at the fair by the working of Ruhl's patent pumps. They are both lift and suction in their working, and are of different sizes, from 3 to 10 inches in diameter. They are especially adapted for raising considerable quantities of water at small cost for power. A pump with two-horse power discharged a small river of water. Ruhl's pumps are being largely introduced for irrigation purposes.

The Sweepstake Plow Company Exhibit.

Our readers are quite well informed concerning the excellent farm machinery made by the Sweepstake Plow Company of San Leandro. We need only say that their exhibit at Stockton was very creditable, and was well set before the public by R. E. Burns, who had charge at the fair. The works at San Leandro are being increased to meet a growing business which is satisfactory to all who rejoice in the progress of home manufacturing.

Thomas Powell's Harvester.

Thomas Powell, of Stockton, well known as an inventor of harvesting machinery, exhibited at the fair his new combined harvester, which has very novel and interesting features. He substitutes an endless draper instead of the usual cylinder, and rubs out the grain by contact and friction instead of knocking it out with the teeth of the cylinder and concave. If this proves a success, he believes he can avoid the cumbersome character of the old style separator, and combining the new threshing with a header, can produce a machine which six horses can handle instead of 15 or 20, as with the other combined harvesters. He expects to be able to cut, thresh and sack grain for two cents per bushel. Mr. Powell's experiments will be watched with much interest.

H. H. Moore & Son.

This enterprising Stockton firm made a most attractive exhibit of their famous "H. H." horse medicine, condition powders and tonic bitters. These remedies have secured wide use throughout this coast, and the popular verdict is seen in the call for their increased manufacture.

H. C. Shaw's Exhibit.

Among other exhibits from the long established and popular works of H. C. Shaw was the Stockton gang plow, of which 300 to 500 have been sold yearly since the implement was first brought out. This gang has a seedling arrangement attached. Mr. Shaw's manufactures include a general line of farm machinery. He has been in this business for 20 years and has a wonderful fund of experience which is very valuable. He has all extras for the old Baxter plows.

Pepsin Wine Bitters.

An attractive display of Pepsin wine bitters was made by J. H. Gates, of San Francisco. This remedy is highly spoken of as a tonic composed of port wine, wine of pepsin and elixir of Peruvian bark, and consequently valuable as including these sterling restorative materials.

Pianos.

The splendid Piano establishment of T. M. Antisell & Co., of this city, was fully represented by the exhibit of fine instruments at Stockton. The Antisell pianos have secured introduction far and wide over this coast, and the demand has led to the fitting up in this city of what is believed to be the finest piano warehouses in the country.

Metallic Window Screens.

John Reardon, of 323 Bush street, S. F., showed his new metallic window screen, which is an effective excluder of flies, mosquitoes, etc. This constant protection from these pests will be found a blessing. The new screen being adjustable to any opening of the window or readily removed will be found a vast improvement over old styles of stationary screens.

John R. Williams' Exhibit.

A striking show of medicinal preparations was made by John R. Williams, of Stockton, including the well known ague cure, hair tonic, etc. The ague cure is in great demand in shaking localities.

Medicine for Varmints.

Another class of medicaments is shown by C. E. Williams, of Stockton, being for the ridance of sheep parasites and ground pests. Moore's sulphuric dip for scab and Moore's prepared squirrel poison are manufactured by Mr. Williams, and are well spoken of by those who used them.

Sherrill's Gang Plows.

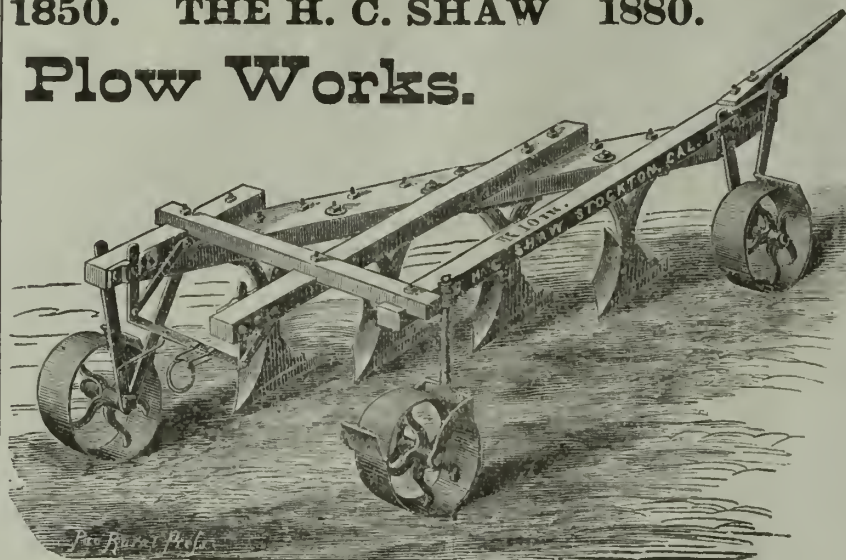
The Sherrill Plow Co., of Perry street, S. F., exhibited the Sherrill gang plows, which were introduced to the public last spring and achieved marked success at different localities in the San Joaquin valley, as evinced by the published testimonials of those who used them. The main plow carries four 20-inch plows in one gang and is fitted for the attachment of five 3-inch plows, for use when cross-plowing and seeding. This makes the Sherrill gang a combined plow and cultivator and seeder, for there is a seed-sowing apparatus attached. It is claimed to be well adapted for use on a sidehill or for plowing to a uniform depth on uneven ground. The Sherrill plows are from three to twelve gang to suit different soils. There are many points claimed in favor of these implements which are worthy of careful examination.

Carriages and Wagons.

Bowley Bros., of San Francisco, had a handsome exhibit of 9 carriages from the well-known factory of R. F. Briggs, of Mass. The assortment of Bowley Bros. includes all styles of desirable vehicles. A noticeable feature of the exhibit was the umbrella shades for buggies and wagons, which can easily be adjusted to any slant of the sunbeams and are a great comfort to the driver.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Genl Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags.

Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

CEO. F. SILVESTER,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

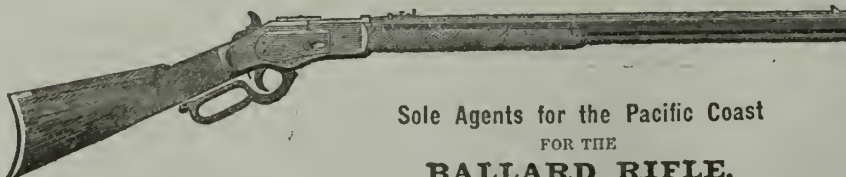
GREAT REDUCTION IN PRICES.

Seed Warehouse, 317 Washington St., San Francisco.

C. D. Ladd,

821 Kearny Street, San Francisco, Cal.

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street.

CHICAGO, ILLINOIS.

Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the Mixing and Scientific Press, San Francisco at favorable rates.

A KEY THAT WILL WIND ANY WATCH.

AND NOT WEAR OUT. SOLD by Watchmakers. By mail, 30 cts. Circulars FREE. J. S. BIRCH & CO., 38 Dey St. N.Y.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

1,000,000

Strawberry, Raspberry and Cranberry PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 1.50	\$ 5.00
N. J. Scarlet, Sterling, Great American.....	0.40	1.20	5.00
Pres. Lincoln, Triumphant de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.40	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cutbert Early.....	1.50	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Heratline, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Mammoth Cluster, Vina Seedling.....	1.00	3.00	20.00
Kittatiny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Blk Hamburg, Blk Prince.....	2.00	8.00	50.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address.

H. NYLAND, Bouldin Island, San Joaquin Co.

PENSIONS! NEW LAWS. Thousands entitled. Any disability, however slight, if contracted in the service, entitles the soldier to a pension. Pension laws are now more liberal and many pensioners are now entitled to increase of Pension. Apply at once. Delay is dangerous. Bounty due to thousands! Land cases of all kinds settled. We prosecute claims before any of the Departments and Congress. Original and Duplicate Discharges obtained. Dishonorable Discharges, or draft is no bar to receiving pension. Send two stamps for new laws and instructions to E. H. GELSTON & CO., Pension and Patent Attorneys, Lock Box, 725, Washington, D. C.

LASH'S

ADJUSTABLE FRUIT GATHERER.

Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. A. K. O. sole agent for Pacific Coast of HECOR FORCE PUMP, with patent stone cylinders, making them acid proof. The best pump yet invented.

T. M. LASH, 601 N St., Sacramento, Cal.

HOPE FOR DEAF

Garmore's Artificial Ear Drums

PERFECTLY RESTORE THE HEARING and perform the work of the Natural Drum. Always in position, but invisible to others. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address JOHN GARMORE & CO., B. W. Corner 5th & Race Sts., Cincinnati, O.

MENZO SPRING.

Manufacturer of the Best

Improved Artificial Limbs.

OFFICE AND ADDRESS:

9 Geary Street, Junction of Market and Kearny, S. F.

AUTOMATIC STOCK FEEDER! FOR HORSES AND CATTLE.

A simple contrivance for saving time and labor, and feeding regular. The Clock and Trap complete, ready set in barn for use, \$15. Each extra \$10, \$5.

J. B. TUPPER, Agent.

Petaluma, Sonoma County, Cal.

JOSEPH F. HILL,

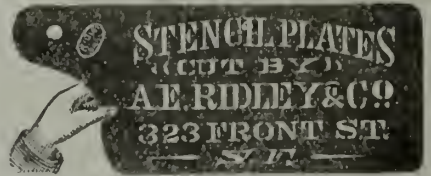
MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to



PATENT

CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental. To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

REMOVAL.

H. N. COOK,

Manufacturer of LEATHER BELTING & HOSE.

Has removed from 415 Market Street, to 405 Market Street, corner of Front.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING SEPTEMBER 21st, 1880.

232,441.—ATTACHMENT FOR WAGONS.—G. W. Blake, Port Townsend, W. T.
232,336.—CARPET LINING.—E. K. Cooley, Antioch, Cal.
232,339.—MACHINE FOR FILLING CANS.—L. Cutting, S. F.
232,495.—COUPLING.—D. D. Hayes, S. F.
232,520.—PUMP.—A. H. Lighthall, S. F.
232,360.—TELEGRAPH POLE.—W. H. Milliken, S. F.
232,364.—ORE GRINDING MILL.—A. B. Paul, S. F.
232,417.—TARROT.—R. H. Savage, S. F.
232,381.—EXPLOSIVE COMPOUND.—Max Tahrner, S. F.

FOR THE WEEK ENDING SEPTEMBER 28th, 1880.

232,506.—COIN COUNTER.—P. Clark, Milpitas, Cal.
232,440.—BLASTING.—R. F. L. Hallock, Vallecito, Cal.
232,441.—HARROW.—S. Harris, S. F.
232,608.—ATTACHMENT FOR ELEVATORS.—P. Hinkley, S. F.
232,719.—SAUDER BOX.—G. W. Horne, S. F.
232,763.—SAUDER HORN.—O. Rubarts and J. J. Du-brille, Albany, Oregon.

NOR.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Live Stock Awards at the Stockton Fair.

The following are the awards in the live stock classes at the recent fair of the San Joaquin District Association:

Cattle.

Herds—Cattle of one breed, with not more than one yearling and one 2-yr-old, consisting of not less than six head and including one bull 2 yrs old or over, all owned by one person; awarded to Col. Younger, \$30. Best herd of cattle of one breed, all under 2½ yrs old, including but one bull and not more than one calf, consisting of not less than five head, all owned by one person; awarded to Col. Younger, \$30.

Jerseys—Bull, 3 yrs, Hugo of Yerba Buena, H. Pierce; bull, 2 yrs, Toronto, S. B. Kingsley; bull, 1 yr, Oliver, S. B. Kingsley; bull calf, Hero, 2d prem, S. B. Livingstone; heifer calf, Jennie, S. B. Livingstone; cow, 3 yrs, Pearl II., H. Pierce; cow, 2 yrs, Mignonette, H. Pierce; cow, 1 yr, Annie Cary, H. Pierce; special prem for Guernsey, cows Monica and Daisy, H. Pierce.

Durham—Bull, 2 yrs, Prince, Charles Clark; cow, 1 yr, 18th Maid of Monterey, J. D. Carr; cow, 2 yrs, Fairy Queen the IV., J. D. Carr; bull, 3 yrs, Red Thorndale, Col. Younger; bull, 1 yr, 7th Red Thorndale, Col. Younger; calf, 10th Red Thorndale, Col. Younger; cow, 3 yrs, 2d Rose of Forest Home, Col. Younger; heifer, Oxford Rose the III., Col. Younger.

Ayrshire—Bull, 3 yrs, Melancthon Callaghan, George Bement; bull, 1 yr, Archie, George Bement; cow, 3 yrs, Stella, George Bement; cow, 2 yrs, Stella, George Bement; cow, 1 yr, Highland Maid, George Bement, dip. Sweepstakes—Bull, any breed or age, 7th Red Thorndale, Col. Younger; cow, any breed or age, 6th Rose of Forest Home, Col. Younger.

Horses.

Roadsters—Stallion, 4 yrs, Nutwood, J. W. Knox; 2nd best, Priam, W. E. Morris; stallion, 3 yrs old, Jackson Temple, Daniel Brown; stallion, 2 yrs, Hawthorne, L. U. Shippee; mare or gelding, Queen, Alex. Chalmers; 2d best mare or gelding, Jennie, Thomas Cunningham; mare or gelding, 3 yrs, Carrie F., Dan McCarty; 2d best mare or gelding, 3 yrs, Libby B., Wm. Johnson; mare or gelding, 2 yrs, Clara D., J. H. Dodge; 2d best mare or gelding, 2 yrs, Molly J., Wm. Johnson; best span, Billy and Fanny, Alex. Chalmers; span of roadsters, Charles Dallas; 3-yr-old filly, Carrie F., D. McCarty; horse, 4 yrs, Hancock, Dan McCarty; 3 yrs, Jackson Temple, Daniel Brown.

Carriage Horses—Span carriage horses, Reuben and Prince, Joseph K. Meyers; 2nd best span, Lucy and Mite, O. Johnson; single buggy horse, Alice Carratt, Dan McCarty; 2nd best, Winthrop Maid, G. F. Rosecranz; 2-yr-old stallion for all purposes, Geo. S. Evans, by W. H. Douglas.

Draft Horses—Stallion, 3 yrs, General, Charles McLaughlin; stallion, 2 yrs, General Grant, Charles McLaughlin. Jacks—Best jack, John Henry, W. A. Munton; best jennet, Lexington, Swain & Freeman.

The awards for thoroughbred horses and for other animals have not yet been published by the Stockton papers.

White Russian Wheat.

We alluded briefly last week to the White Russian wheat, which has been grown with such success in some of the rust-ridden districts along our southern coast. In fact, this wheat has saved some farmers from abandonment of their lands. The production of barley, which did not yield its cost to the producer, had discouraged farther effort on his part, and the fortunate introduction of White Russian wheat proved the saving clause in the record of experience. It is natural that growers, who thus found a variety of wheat which they could grow with profit, should be loud in their praises of the new grain. It is quite probable that this year the White Russian will be tried in all districts liable to rust.

We have been shown by Mr. Gerberding, of 214 California street, samples of White Russian wheat grown in Ventura, and we can bear out the truth of the following description of a sample of similar wheat which was shipped to London, to obtain the opinion of English experts upon its desirability. The English receivers of the sample write as follows:

We have received your sample of California wheat, grown from Russian seed, and have submitted it to the opinion of some of our best judges. The wheat is not hands-me, nor regular in shape, but it is of a large, bold grain, which is much liked here, and a cargo of the quality of your sample would probably sell for London and this district, as well as for some parts of the continent, at more money than the present quality of California White wheat.

This assurance of marketable characteristics will be encouraging to growers of the new grain. The White Russian wheat was first introduced to the United States by a Wisconsin grower, and has been tried and found valuable

in a number of the wheat-growing States, as we remarked last week. The following is a description of its standing in Wisconsin:

The White Russian wheat is a bald, white chaff wheat, of a much lighter color than most varieties of spring wheat, and has proved itself to be the best spring wheat ever grown in Wisconsin. The White Russian wheat has astonished all who sowed it. Such long, strong, healthy, yellow straw, standing straight several days after ripening, and bearing large, long, white chaff heads, well filled with plump kernels, weighing oftentimes from 60 to 62 lbs to the measured bushel, while the wheat produces 5 to 10 bushels more per acre than once well thought of varieties. The White Russian wheat stands well after being ripe, and is not liable to lodge or rust when green; it is decidedly healthy, and has in many cases produced a full average crop, where other varieties alongside of it failed.

Nothing short of Unmistakable Benefits

Conferred upon tens of thousands of sufferers could originate and maintain the reputation which AYER'S SARSAPARILLA enjoys. It is a compound of the best vegetable alternatives, with the fodies of Potassium and Iron, and is the most effectual of all remedies for scrofulous, mercurial or blood disorders. Uniformly successful and certain in its remedial effects, it produces rapid and complete cures of Scrofula, Sores, Boils, Itumors, Pimples, Eruptions, Skin Diseases and all disorders arising from impurity of the blood. By its invigorating effects it always relieves and often cures Liver Complaints, Female Weaknesses and Irregularities, and is a potent renewer of vitality. For purifying the blood it has no equal. It tones up the system, restores and preserves the health, and imparts vigor and energy. For forty years it has been in extensive use, and is to-day the most available medicine for the suffering sick anywhere.

For Help or Employment

Call on C. R. Hansen & Co., a prompt, enterprising and reliable firm. Their New Female Employment Office, at No. 110 Geary Street, has never been excelled in this city. For help of all kinds, call on them, or write for information, or send your orders to the above address.

What Experience Teaches.

PUBLISHERS RURAL PRESS.—Gents:—We have received your valuable paper regularly containing our advertisement. We must say that it is the best advertising medium in the State, as we receive more letters from your patrons than from any other paper in which we advertise. Yours, H. D. NASH & CO.

Manufacturers of the Improved Nash & Cutts Grain Cleaner.

To Exchange for Ranch in Healthy Locality
A Legitimate Business, netting over \$400 per month, and can be largely increased. Value, \$8,000, including Machinery, Stock, etc. Owner obliged to leave city on account of health. Thorough investigation solicited. Address "J. B.," care of Dr. Morton, corner of Sixth and Harrison Sts.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

A GOOD HOME AT A BARGAIN.—EDS PRESS:—The land of Mr. Parrish, which I advertise to-day, joins my Sequel Fruit Farm, and is well adapted to growing fruit, as well as grain, it having been tested with orchard fruit and grapes. M. P. OWEN.

Sequel, Santa Cruz Co.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Prop.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Oct. 13, 1880.
The trade during the earlier days of the week was quite active; a considerable advance was gained in Wheat prices and transactions were large. To-day there seems a tendency to lie upon the oats and await developments. Tidings of the foreign market has been somewhat interrupted by the storm which prostrated the wires in Nebraska, hence we cannot give our table of Liverpool prices nor the review from the *Mark Lane Express*, which has not come to hand this week.

Freights and Charters.

The latest charters reported are the British iron ship *Canmore*, 729 tons, Wheat to Cork at 23 1/3d, prior to arrival; British iron ship *Moma*, 1,437 tons, Wheat to Cork, 23 1/3d, prior to arrival, and bark *Oriente*, 595 tons, Wheat from Wilmington to England, prior to arrival, private.

Eastern Grain and Provision Markets.

NEW YORK, Oct. 8.—Reports to Broadway from the entire wheat growing regions of the United States up to September 25th indicate that the total output of wheat for 1880 has been greatly over-estimated, and will not exceed 405,000,000 bushels. The output for the Pacific States is based on trustworthy returns and estimates, and is calculated to be 38,000,000 bushels. The export of

wheat from the United States last year was, in round numbers, 185,000,000 bushels. It is estimated that the requirements for home consumption from this season's crop will amount to 281,000,000 bushels. On this basis, and taking the total output at 455,000,000 bushels, there will be about 174,000,000 bushels surplus from the wheat crop of 1880. The best advices from California and Oregon indicate that the yield for 1880 will exceed that of the year preceding by about 15%, which places the crop of California and Oregon this year at 38,000,000 bushels. These States will have a surplus for shipment of about 23,000,000 bushels.

CHICAGO, Oct. 9.—The Grain markets, weak at the closing to-day, have been fluctuating nicely from a speculative point of view, but to-day and yesterday prices took such a sudden and marked upward turn that the excitement for a while was intense and speculation was lively. There was only a trifling reaction at the extreme close from the highest point of the week. The strong tenor of European advices and smaller receipts than had been expected were the prime causes of the great advance. Corn was comparatively easy, because of the advancing tendency of Lake freights. Provisions have been gradually strengthening during the week and close strong, especially for Lard. The prices for the November option were as follows: Wheat, 94¢@99¢; Corn 39¢@41¢; Oats, 29¢@31¢; Pork, \$17.90@18.00; Lard, \$7.80@8.10. Closing cash prices were: Wheat, 97¢; Corn, 39¢; Oats, 30¢; Rye, 83¢; Barley, 76¢; Pork, \$18; Lard, \$8.32@8.35.

Eastern Wool Markets.

BOSTON, Oct. 9.—The Wool market is quiet and steady at last week's prices with sales aggregating a fair average, and buyers operating cautiously. Transactions in fleeces show a considerable falling off from last week, but all grades are steady and firm, and holders are not disposed to ease off in the least. Combining and delaine fleeces continue in demand, and in unwashed and unmerchantable fleeces a fair business is doing. Transactions in California Wool are moderate. Pulled Wools are in steady demand at current rates. There is no change in foreign Wool Sales include Ohio, Pennsylvania and West Virginia X, XX and XXX at 44¢@47¢; Michigan X and No. 1 at 39¢@45¢; Wisconsin X and fine No. 1 at 40¢@43¢; combining and delaine, 44¢@52¢; Kentucky combing, 36¢; Georgia, 36¢; Missouri, 33¢; Texas, 19¢@30¢; Territory, 18¢@37¢; unwashed and unmerchantable, 18¢@40¢; Spring California, 23¢@33¢; Fall California, 19¢; super and U pulled, 40¢@50¢; scoured, 46¢@52¢; Magdalena and Montevideo, 30¢@37¢; Australian, 42¢@46¢. The total sales for the week were 1,697,500 lbs, of which 1,381,500 were domestic.

BAGS—Bags are quiet and unchanged.

BARLEY—Barley has lost a little of last week's advance and is now neglected and sales hardly noticeable.

BEANS—There is no change.

CORN—Corn is stationary. Stocks are large and there is little selling.

DAIRY PRODUCE—Choice fresh roll has gained another advance, and fancy dairies are now bringing 42¢-c. Cheese is unchanged.

EGGS—Large lots of Eggs are still coming in by rail. Prices are a shade lower than last week.

FEED—There is no change, either in Hay or ground Feeds.

FRUIT—The only notable change is the advance in Bartlett Pears and the gradual cheapening of grapes.

HOPS—Hops are rather weaker, owing to the large amounts arriving. Still, holders are firm, and the outlook is fair, so far as one can judge. Emmet Wells, in his New York circular of October 1, says: "Some very fine samples of new California are also on exhibition at this office; these goods must meet with more than usual favor this season on account of being entirely free of mold and rust."

OATS—The receipts are large and the demand slack. Prices are at a lower range than last week. Washington Territory is sending down large shipments.

ONIONS—Reds are a point lower and Silverskins advanced. Reds are now 65¢ @ 71¢; Silverskins, \$1.25 for the best.

POTATOES—Receipts have been large again and prices have shaded off again. Sweet Potatoes are in excess, and very low.

POULTRY AND GAME—Fowl have been flocking thickly this week, and there is a reduction of about 50¢ @ doz for ordinary lots. The finest coops still bring the old prices.

VEGETABLES—There is no change worthy of note.

WHEAT—Large sales have been made, and rates have been advanced nearly 10¢ @ 11¢ for good lots of fine Milling and Shipping. The following sales show about the range of the grades: 500 cts Gilt-edged Milling, \$1.65; 700 do choice do, \$1.52½; 500 do do, \$1.52½; 6,000 do good No. 1, to a shipper, \$1.50; 6,000 do No. 2, \$1.45; 250 do pinched, to a miller, \$1.45; 800 do fair No. 2, \$1.40; 1,000 do Coast, \$1.30 @ 11¢.

WOOL—The situation is unchanged, and rates rule about the same as last week.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Oct. 13, 1880.

FRUIT MARKET.		Flgs. pressed....		7 @	8
Apples, basket....	40 @ 75	do, loose.....	4 @	6	
do, box.....	50 @ 1 25	Peaches.....	— @	10	
Apricots, bx.....	— @ 1 00	do pared.....	18 @	20	
Bananas, bunch....	2 50 @ 4 00	Pears, sliced....	9 @	10	
Blackberries, chst..	— @ 10 00	do, peeled.....	9 @	11	
Cherry Fruit, bx....	— @ 1 00	Plums.....	5 @	6	
Citrona, Cal, 100..	— @ 1 00	do Pitted.....	14 @	16	
Cocoanuts, 100....	7 00 @ 8 00	Prunes.....	15 @	17½	
Crab Apples, bx....	50 @ 60	Raisins, Cal, bx..	— @	1 50	
Cranberries, bbl. 11	00 @ 12 00	do, Halves.....	1 75 @	2 00	
Figs, black, bx.....	40 @ 60	do, Quarters....	2 00 @	2 25	
Grapes.....	— @ 1 00	Eighths.....	2 25 @	2 50	
Guava.....	60 @ 75	London Layer bx..	— @	2 00	
Sweetwater.....	40 @ 50	do, Halves.....	2 25 @	2 50	
Muscats.....	35 @ 50	do, Quarters....	2 50 @	2 75	
Rose Peru, bx.....	30 @ 50	do, Eighths.....	2 75 @	3 00	
St. Hamburg.....	25 @ 50	Zante Currants..	8 @	10	
Tokay.....	40 @ 50	VEGETABLES.			
Limes, Mex.....	17 00 @ 25	Asparagus, bx....	— @	1 00	
do, large, box.....	5 00 @ 7 00	Beets, cut.....	— @	3½	
Lemons, Cal bx....	3 00 @ 3 50	Cabbage, 100 lbs..	40 @	60	
Sicily, box.....	8 00 @ 9 00	Carrotoups, crt....	75 @	80	
Australian.....	5 00 @ 6 00	Cantelous, sk.....	— @	50	
Nectarines, box....	— @ 1 00	Cauliflower, doz..	— @	75	
Oranges, Cal bx....	3 75 @ 4 75	Chile Peppers, sk..	50 @	75	
do, Tahiti.....	40 @ 45 00	do, Bell.....	— @	1 00	
do, Mexican.....	— @ 1 50	do, Cucumbers, box.	25 @	40	
Peaches, bx & sk 1 25	@ 1 50	Egg Plants, bx....	— @	60	
Pears, box.....	75 @ 1 25	Garlic, New, lb....	4 @	5	
do, Bartlett.....	2 75 @ 3 25	Green Peas, lb....	3 @	15	
Plums, bx.....	60 @ 75	Green Peas, lb....	3 @	15	
Pineapples, doz....	50 @ 1 25	Lettuce, doz.....	10 @	—	
Prunes, German....	75 @ 1 00	Mushrooms, lb....	— @	—	
Quinces, bx.....	75 @ 1 01	Parasols, lb.....	— @	1	
Raspberries, chst..	— @ 20 00	Horseradish.....	— @	10	
Strawberry, chst..	9 00 @ 13 00	Rhubarb, bx.....	— @	—	
Sugar Cane, bbl....	— @ 2 50	Squash, Marrow..	8 00 @	10 00	
GREEN FRUIT.		Summer box.....	30 @	40	
Apples, sliced....	7 @	do Tomato, box....	45 @	75	
do, quartered....	— @	do Turnips, cut....	50 @	60	
Apricots.....	17 @	do White.....	50 @	60	
Blackberries.....	— @	do Watermelons..	6 00 @	8 00	
Citron.....	28 @	do.....	30 @	40	
Dates.....	9 @	do.....	30 @	40	

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.
CASH ADVANCES Made on CONSIGNMENTS

DALTON & GRAY,

Commission Merchants
And Wholesale Dealers in all kinds of
Country Produce, Fruits, Etc.
404 and 406 Davis St.,
Bct. Washington and Jackson, SAN FRANCISCO.
CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,
Wholesale Commission Merchants,
GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, FELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA AND OREGON PRODUCE OF ALL KINDS.
208 Washington Street, San Francisco.
Consignments Solicited.

(Established in 1863.)

BRYANT & COOK,
Commission Merchants,
— AND —
DEALERS IN HAY, GRAIN, FLOUR, ETC.
8 Davis St., near Market, S. F.

DAVIS & SUTTON,
No. 75 Warren Street, New York.
Commission Merchants in Cal. Produce

REFERENCE.—Traders' National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed, Sacramento, Cal.; A. Lusk & Co., San Francisco, Cal.

L. G. SRESOVICH & CO.,
Importers, Wholesale Dealers and Commission Merchants in
Foreign and Domestic Fruits.
All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.
505 & 507 Sansome St. (Natic Building), S. F.
Canning Factory and Packing House of all kinds of Green and Dried Fruits.
Third and Fourth Sts., bct. Julian & Empire, San Jose, Cal.
Branch House in Honolulu, H. I.

PAGE, MOORE & CO.,
WOOL and GRAIN

Commission Merchants.
NOS. 211 AND 213 CLAY STREET,
San Francisco.

SHOEBERT & BEALE,
Commission Merchants,
FOR THE SALE OF
Wool and all Kinds of Live Stock.
405 & 407 Montgomery St., S. F.
ADVANCES MADE ON WOOL AND LIVE STOCK



Liberal advances on consignments. Wool Sacks, Twine, Shears, and Ranch Supplies furnished

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Sequel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,
Sequel, Cal.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.
SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE.

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,
Merced County, Cal.

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

A few dozen plants set now will yield enough for a family's use next Spring.
Large Stocky, Healthy Mountain Grown Plants.

"SHARPLESS,"

THE LARGEST OF ALL.

"Capt. Jack," "Cumberland Triumph," "Seth Boyden," "Miner's Prolific," Etc., Etc.

SELECTED PLANTS, 50 Cts. Per Dozen.

POSTAGE PAID.

Many other varieties, new and old Give us a trial Address

C. M. SILVA & SON,
Newcastle, Placer County, Cal.

Dr. A. de Labrousse, VETERINARY SURGEON.

(Graduate of Alfort's College, Paris.)

Blisters, Ointments, Blood Purifying and Restorative Powders and Medicines for Horses, Cattle, Hogs and Sheep, sent on application. Cure guaranteed. Address, giving full particulars, INFIRMARY & LABORATORY, 1125 Market St., S. F.

COMBINED Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bins can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

RUSBY & MERY'S IMPROVED FEED MILL,

Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain heating. It is used by the leading grain raisers in preference to feed ground with burs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

CLARK'S Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair, with Nash & Cutts' No. 3 Grain Cleaner. Its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

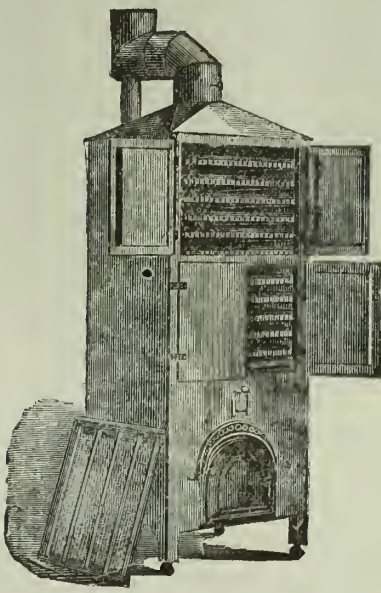
The MECHANICS' INSTITUTE

(Of the City of San Francisco.)



FIRST PREMIUMS---OFFICIAL.

Awarded at Fifteenth Industrial Exhibition—1880.



OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50, is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

Improved Galvanized Iron, Portable Combined FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speed of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

AWARDED A SILVER MEDAL

BY THE MECHANICS' INSTITUTE, San Francisco, Sept. 1880.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,
General Agents for Pacific Coast,

Nos. 323 and 325 Market St., San Francisco, Cal.
LOCAL AGENTS WANTED.

Davis Vertical Feed Sewing Machine VICTORIOUS AGAIN!!

FIRST PREMIUM Gold Medal at Mechanics' Institute Fair, 1880.

FIRST PREMIUM for work done on the spot, Silver Medal, 1880.

FIRST PREMIUM Oregon State Fair, 1880.

FIVE FIRST PREMIUMS Central New York Fairs 1880.

FIRST PREMIUM and the only machine placed in First-Class at Australian International Exhibition, 1879-80.

[THE REPORT OF COMMITTEE OF AWARDS WAS THAT]

THE NEW DAVIS SEWING MACHINE,

Being a complete departure from the ordinary style of sewing machines, possessing all the advantages of such ordinary machines, and in addition an increased range of work, with the greatest simplicity of construction, and reduction of number of working parts, we consider it to be entitled to the first place in the awards.

Agency—130 POST STREET, San Francisco.

INSURANCE AGENCY.

Hutchinson & Mann,

N. E. Corner Sansome and California Sts., San Francisco.

LA CAISSE GENERALE (of Paris.)

Assets, January 1st, 1879.....\$4,636,302

Surplus, as to policy holders.....\$2,127,983

GIRARD INSURANCE CO. (of Philadelphia.)

Assets, January 1st, 1879.....\$1,131,838

Surplus, as to policy holders.....\$829,340

ST. PAUL INSURANCE CO. (of St. Paul.)

Assets, January 1st, 1879.....\$841,900

Surplus, as to policy holders.....\$561,172

WATERTOWN FIRE INS. CO. (of New York.)

Assets, January 1st, 1879.....\$764,816

Surplus, as to policy holders.....\$526,166

HOME INSURANCE CO. (of Columbus, O.)

Assets, January 1st, 1879.....\$271,271

Surplus, as to policy holders.....\$239,681

NEW ORLEANS INS. ASS'N (of New Orleans.)

Assets, January 1st, 1879.....\$504,192

Surplus, as to policy holders.....\$365,997

PEOPLE'S INSURANCE CO. (of Newark.)

Assets, January 1st, 1879.....\$303,040

Surplus, as to policy holders.....\$358,207

REVERE INSURANCE CO. (of Boston.)

Assets, January 1st, 1879.....\$274,573

Surplus, as to policy holders.....\$206,655

TEUTONIA INSURANCE CO. (New Orleans.)

Assets, January 1st, 1879.....\$358,893

Surplus, as to policy holders.....\$295,463

DWELLING HOUSE UNDERWRITERS (N.Y.)

Assets, January 1st, 1879.....\$1,948,925

Surplus, as to policy holders.....\$1,532,772

LA CONFIANCE INSURANCE CO. (of Paris.)

Capital and Assets.....\$5,229,321

Surplus, as to policy holders.....\$2,265,112

BERLIN-COLOGNE INS. CO. (of Berlin.)

Capital and Assets.....\$2,064,966

MARINE.

Paris Underwriting Ass'n (of Paris.)

Assets.....\$1,355,528

London Provincial Marine Ins. Co. (London.)

Capital and Assets.....\$5,727,975

Cash Assets Represented, \$25,715,540.

HUTCHINSON & MANN, Gen'l Agents for the Pacific Coast.

W. L. CHALMER, Z. P. CLARK and J. C. STAPLES, Special Agents and Adjusters.

SEED GRAIN.

AUSTRALIAN WHEAT.

500 Bags Australian Seed Wheat. "Purple Straw and White Jammas."

NEW ZEALAND OATS.

580 Bags New Zealand Oats. White Tartarian and Canadian.

The above Grain has been selected with great care from the best varieties and all re-cleaned previous to shipment; is just landed ex-Steamer City of Sydney, and will be sold in lots to suit purchasers. Apply to WATERMAN & CO., 113 Clay Street, or S. L. JONES & CO., 207 and 209 California Street, San Francisco, Cal.

Dewey & Co. { 202 San- } Patent Agts
some St.

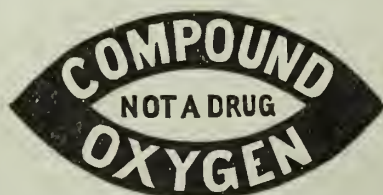
VETERINARY HOMŒOPATHY!

Every Farmer and Stock Raiser should have a Veterinary Homœopathic Manual and Medicine Chest.
Send for Veterinary Index (mailed free on application).

BOERICKE & TAFEL,

Homœopathic Pharmacy, 234 Sutter St., S. F.

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STAR-KEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATTHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

For Deaf People. For hearing through THE TEETH! Avoid sending abroad for IMITATIONS. Trial before purchasing if desired. Ask terms.

FOR SALE!!

SIX HUNDRED GRADED ANGORA EWE GOATS, Cheap for Cash; or will let them out to responsible party on the shares. Apply to

H. W. CHAPPELL,

Bell's Bridge, Shasta County, Cal.

Music Books for Schools.

THE WELCOME CHORUS.—(\$1. or \$0. per dozen.) By W. S. TILDEN.
This is a new and superior High School Song Book with advanced elements, and a great variety of music, secular and sacred, to be sung in one, two or four parts. Mr. Tilden's previous works have been highly approved.

SONG BELLS.—(50 cts.) By L. O. EMERSON.
No more attractive School Song Book has for a long time appeared. It is not graded, and will do for any class. Great variety of songs, subjects selected with great skill, and music is of the best.

Introduce our new SABBATH SCHOOL SONG BOOK, WHITE ROBES, (30 cts.) at once to your Sunday School. No better book exists!

Books for Music Teachers for the Fall Campaign. All are good and practical books. Do not fail to examine them.

EMERSON'S VOICE OF WORSHIP (\$1.), for Singing Schools.

PERKINS' TEMPLE, (\$1.), for Singing Schools.

JOHNSON'S NEW METHOD FOR SINGING CLASSES, (60 cts.)

JOHNSON'S PARLOR ORGAN INSTRUCTION BOOK, (\$1.50)

N. E. CONSERVATORY METHOD FOR PIANO, (\$3)

Also, subscribe now for The Musical Record, (\$2.), a Weekly Musical Paper with all the news.

Any book sent post-free, for the retail price.

OLIVER DITSON & CO., BOSTON.

O. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE BUCKEYE FORCE PUMP

Never Freezes in Winter Time.

Send for our Circulars and Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERRICKSON,

Clayton, Contra Costa County, Cal.

THE DINGEE & CONARD CO'S BEAUTIFUL EVER-BLOOMING ROSES

We deliver STRONG POT ROSES for Winter Bloom and Fall Planting, safely by mail, at all post-offices. Five Splendid Varieties, your choice, all labeled, for \$1; 12 for \$2; 19 for \$3; 26 for \$4; 35 for \$5; 75 for \$10; 100 for \$13. Send for our New Guide to Rose Culture, and choose from over 500 Finest Sorts. Our Great Specialty is growing and distributing Roses. THE DINGEE & CONARD CO., Rose-Growers, WEST GROVE, CHESTER CO., PA.

TRADE MARK.

LITTLE'S CHEMICAL FLUID.

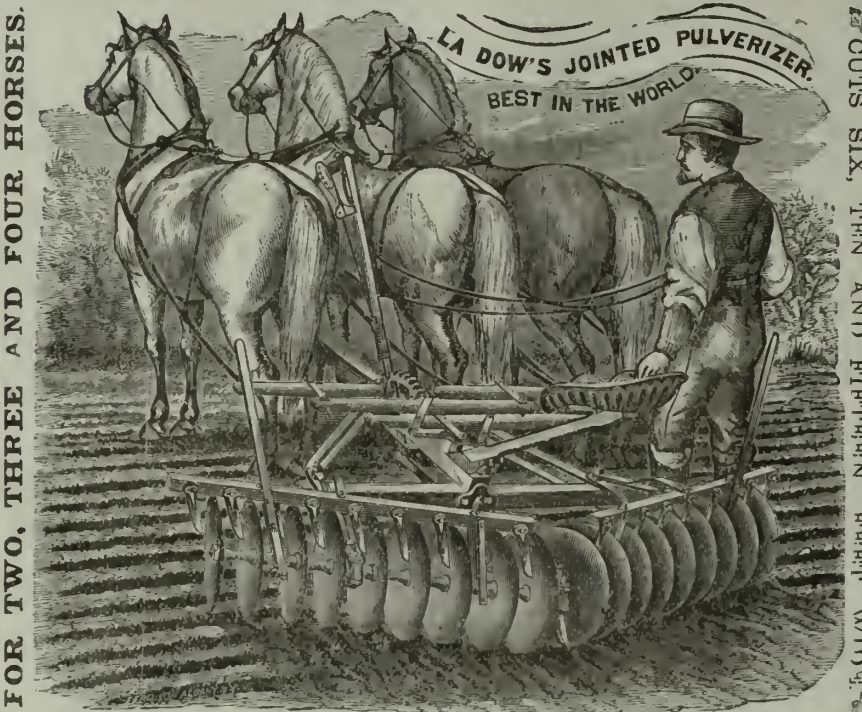
The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.00 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

LA DOW'S JOINTED PULVERIZING HARROW



The Average Days Work for these Harrows may be Estimated as Follows:
2-horse, 15 Acres; 3-horse, 25 Acres; 4-horse, 35 Acres.

Each Gang Independent. With Weight Boxes and Patent Reciprocating Scraper Bar Attachment.

THE MOST PERFECT DEVICE EVER USED FOR CLEANING THE WHEELS IN STICKY SOILS!

EACH BAR IS INDEPENDENT! EACH SCRAPER IS INDEPENDENT!

Judges Report, Sharon, N. J., March 15, 1878.

We, the undersigned, having made a comparative test of the quality of work done by the La Dow and Randall Pulverizing Harrows, find that there is no perceptible difference in the depth of the cut, nor in the pulverizing of the soil, the wheels in both Harrows being of equal size and curve and working at the same angle. But we find that the La Dow Jointed Harrow leaves the ground in the best shape, without furrows or ridges, while the Randall leaves both. We have, also, repeatedly and carefully, tested the draft of each Harrow, with the same team and driver, and having the wheels set at an equal angle, and we find the average draft of each Harrow as recorded by the Dynamometer, to be as follows:
La Dow Harrow, with driver on seat—Draft 300 pounds.
La Dow Harrow, without driver on seat, " 150 pounds.
Randall Harrow, with driver on seat—Draft 300 pounds.
Randall Harrow, without driver on seat, " 150 pounds.
(Signed.) JOSIAH BUZZLY, Crosswicks Mills, N. J. Judges.
JOHN A. TAYLOR, Sharon, N. J.
DANIEL D. NORTON, Sharon, N. J.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axes of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES. Use no other, as you can see at a glance that this Harrow has the right principle.

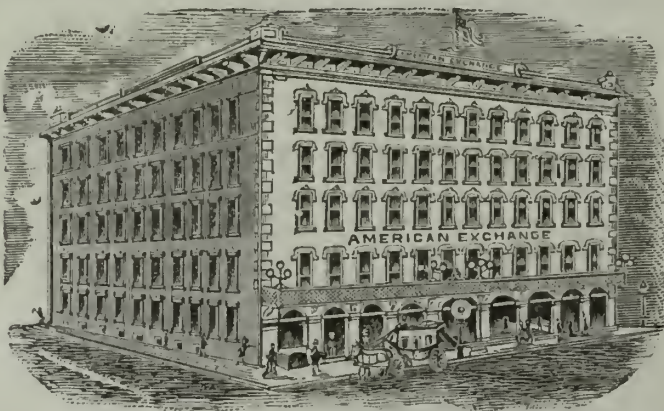
CEO. A. DAVIS, No. 327 Market Street, S. F.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.

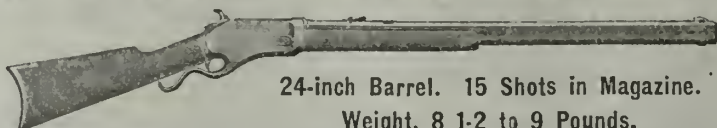


The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Customs House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street., Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno Medical Institute, 633 California street San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchitis, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '73 we have given special attention to diseases of the brain and nerve-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

RUHL'S PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principals houses in San Francisco.

JOS. HANSEL,

Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for Sale at the Lowest Rates, and guaranteed to give satisfaction. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on and of my own make, the Latest Improved Harrows and my Patent Buck Board and Breaking Carriage. Painting and Trimming Native Done. HUNTER STREET, STOCKTON, Cal. Adjoining the Baptist Church.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

Adams' Patent Pillow Sham Holder

Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. G. W. WAGGONER, 408 Tehuac St., Oakland, Cal., General Agent for Pacific Coast.

50 Elegant, All New, Chromo & Scroll Cards, no 2 alike Name nicely printed, 10c. Card Mills, Northford, Ct

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Coun. Card Co. Northford, Ct

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes.

Positively self regulating with no coiled spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, **LINFORTH, RICE
& CO.,** 401 Market Street.

MATTESON & WILLIAMSON'S

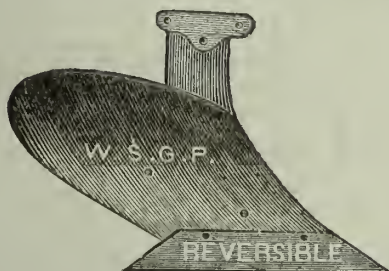


Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the share. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to **MATTESON & WILLIAMSON,** Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by **THOS. POWELL,** Stockton, Cal.

TO POULTRY MEN.

-THE-

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street, San Francisco.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of
Lockhart's Patent Self-Feeder & Elevator.

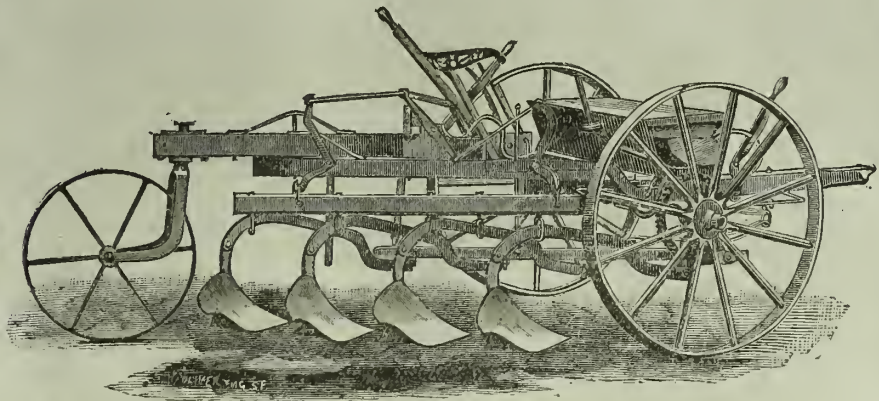
Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

Brown Leghorn Eggs.

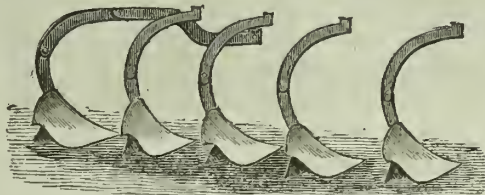
BEST THOROUGHED STOCK ON THE COAST.
For two months, August and September, will sell eggs at \$2.50, for setting.
C. E. NAYLOR,
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

SHERILL GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows.



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

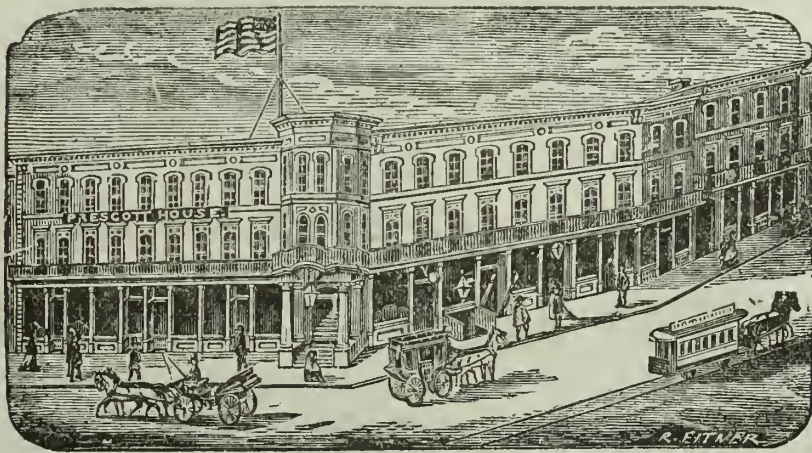
The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco,

Prescott House.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

O. F. BECKER, Proprietor.

Free Coach to the House.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price cannot be excelled, if equalled, on the Pacific Coast. Also, importers of Gun material, Breech loading Implements, Ammunition, Fencing Folds, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks, Card's Rotating Glass Ball Traps and Glass Balls.

IMPORTANT TO FARMERS!

White Russian Seed Wheat.

This new variety of wheat commends itself to the California farmers, for its strong and healthy growth; its great productiveness, and above all, its **NON RUSTING** qualities. It has been successfully grown in Ventura Co., on the sea coast, where until the introduction of this variety and the "Odessa," all other kinds have invariably failed in consequence of rust. It is a hard, white chaff wheat, stands well after ripening, and not liable to lodge when green. It has proven itself to be a healthy and sure crop wheat, yielding this year an average of 50 bushels to the acre. The White Russian Wheat was first grown in Wisconsin, where it proved itself to be the best Spring Wheat ever raised in that State. It astonished all who tried it for its great productiveness, and no Wheat ever grown in this country received such unanimous commendation. It was increased from a small quantity received from Russia, and has been known as the White Russian, though it is not exactly white, but much lighter than most varieties of Spring Wheat.

A limited quantity of this Seed Wheat, and of the celebrated **Odessa Non-Rusting** Wheat grown from seed imported from Russia last year for sale by

A GERBERDING, 214 California St., S. F.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

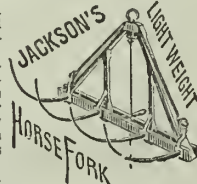
P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Roadway Straws, Burners and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. **WINDMILLS** for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address **BYRON JACKSON, Prop'r.**



DO

NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, **MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.**

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wickets. Apply to **A. SCHULLER,** 209 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best
GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$9 per doz. Address, **C. W. JOLLY, Paraiso Springs, Cal.** Pat. ap'd for



A. AITKEN.

F. N. FISHER.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.

THE CORHAM SEEDER and CULTIVATOR COMBINED.



CORHAM SEEDER AND CULTIVATOR.

Corham Combined Seeder and Cultivator.

The most Complete and Successful Combination of Seeder and Cultivator in use, and the only machine known that sows perfectly all kinds of GRAIN, Flax Seed, Clover, Grass, and other Small Seeds from box. The increasing demand for these Seeders proves beyond the shadow of a doubt that they are the Best and Most Reliable ever offered to the public.

ITS CONSTRUCTION.

It is constructed upon the theory that by placing the seed-droppers the greatest practical distance apart, it not only increases the size of the seed-cups, which ensures greater accuracy in measuring the seed, but also enlarges the passage through which the grain flows to the ground, thereby rendering the machine less liable to clog. The seeding device consists of a series of seed-wheels or droppers, placed two feet apart, and attached to a shaft that runs through the center of the box. To each of the seed-wheels five cups are attached; each wheel is enclosed by partitions on either side that are open at the bottom to admit the grain to the wheel. Now, when the seed-wheels are caused to revolve, the cups are drawn upward through the grain, each taking a given quantity, and as it passes around pours it on the beveled surfaces in front of the cup, deflecting the seed into troughs on either side, where it runs in a continuous stream upon the scatterer below.

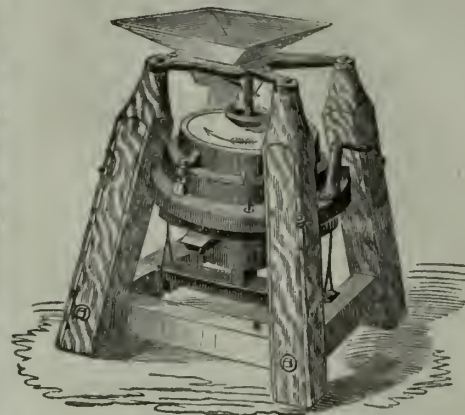
It will be readily understood by the above description that the essential principle is the measuring and pouring of the seeds, and that this result is produced by a device that cannot cut or injure seed in its passage to the ground.

The scatterer is a distinct fixture that receives the grain from the seed-wheels, distributes it equally over every square foot of land, yet being so open in its throat as to pass straw and other foul substances without clogging.

The quantity sown is regulated by different sized gears, placed at the end of the box, which give the seed wheels different required motions. Grass seed, clover seed, and other small seeds are sown by inserting a supplemental cup in the grain cups, closing the grain orifice, leaving an orifice proportionally large for the smaller seeds, when the same series of gears are used to regulate the quantity per acre. Thus it is the finest seeds as well as the coarsest grains are distributed with the greatest accuracy.

The Cultivator Attachment of our Seeder is on the independent sliptooth principle, with a new device, very simple and effective, that six years' use proved perfectly reliable. Our plan for attaching the cultivator beams to the drawbar with wrought iron straps, not only strengthens the beams, but prevents them from swinging sideways, holding them steadily to the work.

Queen of the South
WHEAT and BARLEY
FLOURING BURR MILLS.



PULLEY MILL.

PRICES OF CORHAM SEEDER AND CULTIVATOR.

6 foot, Single Gear, with two Horses, will seed 8 acres per day, weight 580 pounds.....	\$100 00
8 foot, Double Gear, with two Horses, will seed 15 acres per day, weight 730 pounds.....	\$125 00
10 foot, Double Gear, with four Horses, will seed 25 acres per day, weight 1010 pounds.....	\$140 00
12 foot, Double Gear, with four Horses, will seed 34 acres per day, weight 1255 pounds.....	\$160 00
14 foot, Double Gear, with six Horses, will seed 40 acres per day, weight 1400 pounds.....	\$175 00

Queen of the South Wheat and Barley Flouring Burr Mills.

We manufacture Six sizes of these mills and three sizes are expressly for grinding Wheat Flour, and they have all retained a high reputation wherever they are brought into competition with other Mills.

Lately a number of valuable patented improvements have been added. In these mills the under stone is the runner, and it can be driven at a much greater speed than in those mills in which the upper is the running stone, and as speed is everything in grinding, it will therefore outgrind any upper runner made. We are also enabled to get the grain into the mill with a very small eye, and hence grind nearer the center, and of course, with less power than the upper runner requires. They will take a y kind of grain without choking—we warrant this in any and all cases; another important advantage is, that they will not take injury from running empty—the under stone not touching the upper one, no harm can be done. These mills will grind under almost any situation or any motion. The faster a mill stone is run, the more it will grind, because at each revolution the cutting edges pass by each other a certain number of times: thus, at 400 revolutions per minute, double the number of edges will pass each other than if the same stone run only 200 revolutions per minute.

SIZE AND PRICE OF PULLEY MILL.

18 inch, 4 Horse-power, capacity 10 to 12 bushels per hour, weight 700.....	Price, \$165 00.
22 inch, 6 Horse-power, capacity 12 to 15 bushels per hour, weight 800.....	Price, \$200 00.
28 inch, 8 Horse-power, capacity 15 to 20 bushels per hour, weight 1100.....	Price, \$325 00.
30 inch, 10 Horse-power, capacity 20 to 25 bushels per hour, weight 1300.....	Price, \$375 00.
36 inch, 12 Horse-power, capacity 25 to 30 bushels per hour, weight 1700.....	Price, \$575 00.

BAKER & HAMILTON, San Francisco, Cal.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPE PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

FOURTH ANNUAL SALE

—OF—

Short-Horn and Graded Cattle,

WILL BE HELD AT

BADEN FARM, SAN MATEO CO., ON

WEDNESDAY, NOVEMBER 4, 1880,

AT 12 O'CLOCK M.

Further particulars will be given in next week's RURAL PRESS.

ROBERT ASHBURNER.

Baden Station, San Mateo Co., Cal

This paper is printed with ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorsey, 527 Commercial St., S. F.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President

ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART.

Santa Cruz, Cal.

Wilby's Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The smallest twig up to branches two inches in diameter cut with ease. State, County or individual rights for sale. Agents wanted. Address

JOSEPH WILBY,
Santa Cruz County, Cal.

PRESSES

EAGLE HAY PRESS, Old Style, - \$200.

EAGLE HAY PRESS, Improved, - \$250.

PRICES' PETALUMA HAY PRESS, \$450

All kinds of PRESSES MADE TO ORDER, to put TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular.

ISAAC B. MILLINGTON & CO., Chester, Pa.

The New Beekeepers' Text Book.

By A. J. KINA. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.



The Black Knot on Plum and Cherry Trees.

We have had several essays of late upon the growth of the plum and prune trees in this State and mention of the diseases which affect them. It is conceded that the trees are far more healthy in this State than at the East. The attacks of the ourculio have never been reported from California plum orchards. Another foe of the Eastern grower is the black knot. Two years ago an Eastern orchardist sojourning in this State informed us that he had seen the black knot upon plum trees in Kern county, but we were not furnished with specimens of the suspected material and cannot of a surety say that his observation was correct. If any of our readers in that county can either affirm or deny the statement, we should be pleased to hear from them. As the growth of plum trees is engaging general attention, we have thought it timely to present some facts about the black knot, showing its general appearance and minute structure, so that our readers who are not familiar with the evil, may be prepared to detect it if it should intrude itself in this State.

The appearance known as the black knot is produced by the growth of a fungus, *Sphaeria morbosa*. The knots, says Prof. Farlow, are black and vary in size from half an inch to eight or ten inches and even a foot in length, and are about two inches in circumference. In some cases they completely surround the branch on which they are growing, but more frequently they extend only part way round; their course, when very long, being usually somewhat spiral around the stem. If they extend completely or nearly completely around the branch the portion above the knot dies. Frequently the upper part of the stem bends over so as to form a right angle with the lower part, and sometimes the portion involved in the knot forms an irregular coil. The surface of the knot is undulated, and flakes of bark not unfrequently adhere to it. In winter it is more or less cracked and broken open, and the inside is seen to be worm-eaten and hollow, except the woody portion of the stem, which passes through comparatively sound, generally on one side of the knot. Below and above the knot, unless the branch above has been completely killed, the stem is swollen for from half an inch to two inches, rarely for a greater distance. Under the microscope, sections show that, although the bark has been cracked in several places by the expansion of the stem, yet a new layer of bark has formed over the exposed portions. An abundance of threads (mycelium) are seen extending in streaks from the inner bark, or cambium, to the outer bark, or cuticle.

To show the outward appearance and inner growth of the black knot, we reproduce drawings made by the microscopist of the U. S. Department of Agriculture. Fig. 1 shows the general appearance of the knot as attached to the branches and twigs in the manner we have described. These masses of black substance give the tree a most sorry appearance. In the summer they are to a certain extent hidden by the leaves, but in winter the wretched appearance of a plum or cherry badly affected by the black knot is a sight which no tree grower who has seen it can ever forget. When the disease is well developed it is also quite apparent in summer time, for there will project here and there through the foliage, the dead twigs and branches laden with these unsightly excrescences. Neglected trees are a painful sight indeed.

Fig. 2 is a cross section of the mass of the knot, and shows how the branch is embraced

by its enemy. Fig. 3 is an enlarged view of the outer surface of the knot, showing the little cups or conceptacles of which it is composed; and Fig. 4 is a view of the knot cut in halves, lengthwise, so as to expose these chambers or cups in which the fungus growth proceeds. The cups are enlarged so that their character may be plainly seen, although the general outline of the knot is of natural size; that is, there would be in nature a vast number more cups in a knot of the size shown. Fig. 5 shows one of these cups taken from its place in the knot, in order to show its shape more clearly, and Fig. 6 is a highly magnified view of the same body, showing the manner of cell-growth which prevails in it. These cup-shaped bodies are the seat of activity in the knot.

Prunus, the remedy is obvious. When a knot makes its appearance, the branch should be cut off a short distance below the slight swelling of the stem, which is found just below the knot. When cut off, the branches should be burnt, to prevent the spores from spreading the disease; for, although the asci may have begun to form when the branch is cut off, they will grow and ripen their spores, even when separated from the trees, as we know from experience. The question arises as to the best time for cutting off the diseased branches. We should say, cut them off whenever one sees them.

Some of our readers, who have observed the growth of the knotty excrescence on their grapevines, will enquire whether that ill-growth is not like, in character, to the black knot of the



THE BLACK KNOT (*Sphaeria morbosa*) ON PLUM AND CHERRY TREES.

We have refrained from giving a technical description of this disease, because the general notes we have made, together with the engravings, will be enough to draw the attention of growers to any such growth which they may see upon their plum or cherry trees. When the black knot is really found to exist in this State, if indeed such an unfortunate day should ever dawn, it will be time enough to enlarge upon the intimate life-history of the fungus. We will merely add a few considerations concerning the treatment of the pest, if it should ever appear. Prof. Farlow, of the Bussey Institute, of Massachusetts, remarks that from the knowledge that the knot is a contagious disease, caused by a fungus whose ascospores are ripened in midwinter, and whose mycelium does not extend for more than a few inches below the knots, and bearing in mind that the fungus is indigenous on certain of our native species of

plum tree which we have described. This matter is not yet demonstrated. Mr. Moore, in his report to the State Horticultural Society last summer, stated that he had not been able to find any evidence of the existence of the true black knot fungus, or anything akin to it, although he naturally looked for such cause to produce the effect upon the bark of the vine, which is so similar to the knot on the bark of the plum. So far, therefore, the likeness between the two evils, is one of outward appearance only.

THE Surveyors-General Convention at Salt Lake has completed its labors and adjourned. It will present to Congress "An Act to provide for the survey and disposal of the public lands of the United States," and urge its immediate passage.

The Signal Service in California.

We have often urged the extension of the valuable work of the Signal Service on this coast, and the local digest of observations and the deduction of local probabilities therefrom. This seems to be called for by the peculiar meteorological conditions which prevail on this coast, and by the fact that by announcements from a central station here, warning of approaching storms could be given much sooner and with greater precision than could be done from the distant office at the national capital. In view of these facts it is of interest that announcement has been made by Lieut.

W. A. Glassford, of the Signal Service Department at Washington, that he will, on his return, specially recommend a central station for California. In Lieut. Glassford's recommendation of a central station for California, it is first worthy of observation that he remarks as follows: "He has found that we have three or more climates on this coast, affecting distinct sections and having little relation to each other, and that the weather probabilities cannot be as closely cast at Washington for California as desirable, but should be ascertained by a central station to be located in this State, to which all the coast reports should be sent, instead of to Washington station. He is so convinced of this fact, and that the coast, valley and mountain climate here can be better registered at a central station here, that he will, on his return to Washington, recommend the establishing of a branch central office on this coast."

We sincerely hope this establishment will be made. The growth of our agricultural interest and the consequent growth of our shipping trade will be much aided and served by its work. In special features, as well as general, the benefits will be great. Our fruit drying and raisin curing interests are increasing very rapidly, and they are especially subject to the approach of rains. A few hours' announcement of a coming rain at this season of the year would enable our fruit and grape-men to hurry their exposed material to shelter and save thousands of dollars. There are extra arrangements being made each year for shelter; but to make these most available, there should be a foreknowledge of approaching storms. The work of the signal service hitherto has shown that storm predictions are quite feasible and trustworthy, and all that remains to be done is to adapt the general work of the service to our local needs.

If the Government should grant us this local branch, those in charge of it would find their labors greatly aided by the many students of meteorology resident upon this coast. There is much valuable material here awaiting compilation, and this could be made available in a general study of our climate. The results of a systematic study of this kind like that which would be made by the skilled government observers, would be of much advantage to the industrial interests of the coast, and to those persons in all parts of the country who are looking to California climate as a cure for their varied ills. We trust the recommendation of Lieut. Glassford will secure the approval of the authorities at Washington.

FELIX PYATT has been sentenced in contumacious to two years' imprisonment, and to pay a fine of 1,000 francs for his article justifying the attempt of Berchowski to assassinate the Emperor of Russia in Paris in 1867; and Roberts, the manager of Pyatt's paper, the *Commune*, has been sentenced to six months' imprisonment and to pay a similar fine.



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eus

Agriculture in Tehama County—No. 2.

EDITORS PRESS:—As we near the thriving city of Red Bluff from the west we come to several grades of land, which, until lately, was the feeding ground for thousands of sheep, and was considered by the early pioneers to be unfit for cultivation. This season good crops have been harvested from the land, and it is now plowed up on every hand within sight of the city. East of the serpentine Sacramento river a portion of very rich bottom land is within the limits of Red Bluff township, and is a part of that well-known valley known as the Antelope valley, the upper portion of which is dotted with some of our most prolific and best cultivated small farms. The holders are thrifty and thorough in their work, and year after year sees them getting out of debt and improving their splendid property.

Within this township the cream of the wheat-growing land of the county is situated. "El Primer canyon" or Rio de los Berrendos rancho, now known as the Antelope ranch, takes up the bulk of the Antelope valley. Two magnificent farms are formed by this ranch. Mr. Dye, a pioneer of Tehama county, at an early day owned it. J. S. Cone and R. H. Blossom now own the grant and have model farms where, in the days of Dye, cattle and stock only were raised. The Cone farm has over 27,000 acres in it, a very large portion of which has been brought to a high state of cultivation. Over 30,000 sacks of wheat is annually produced on this farm. The Blossom farm is 10,294 acres and has some of the most fertile soil within its boundaries that Tehama county possesses. Fino crops of cereals are annually gathered. These two inexhaustible farms are situated on the east bank of the Sacramento river and run clear back eastward to the foothills of the Sierra Nevada range of mountains. They have extensive ranges for sheep and are very desirable pieces of property. The Bee ranch, which joins the Blossom ranch, runs south into Tehama township. It has some very desirable farming land on it, but for some reason the ranch, for the past 10 years, has not been a financial success.

Crossing the famous Sacramento again we travel southward, striking at first a light grade of red and mixed land until we cross Red Bank creek. Here, again, we find a rich farming country, up and down the south bank of this creek, as well as a fine body of bottom land on the west bank of the Sacramento. Here, in early days, was the winter range of the stock which in summer time were driven to the mountains.

From Red Bank creek to Elder creek a large tract of first-class farming land lies, most of which is in the hands of only a few large farmers. The soil is of a mixed grade, the bottom land, on the river bank, being number one grain-bearing land, and has been under cultivation for several years. The upland, which is of a mixed quality of clay and red land, has of late been brought very prominently before our farmers, and has proved to be good grain-bearing land. H. A. Rawson has rented to Duhig Bros. nearly 2,100 acres, all of which is summer-fallow, and lies in a compact level piece, being excellently plowed, and will make a handsome field of wheat. Westward, A. J. McCorkle rents from C. F. Foster some 3,500 acres of the well-known Geo. Puls' land, some 2,500 acres of which is summer-fallow and ready for the seeder.

A great portion of a very fine quality of red land lies in the west and southwest corner of this township, that has of late come prominently before the county. Many thousands of acres were plowed last fall in that section of the county that never felt the plow before. On the L. H. C. Ide tract, of 2,600 acres, there is now 1,500 all ready for the seeder. Westward again, we strike the knolly rolling land, on which, years ago, thousands of sheep found their winter's feed. These prolific hills are now plowed up, and will next harvest yield a bountiful crop.

Tehama township embraces the finest body of agricultural lands in Tehama county, and is the very heart of the county. In this township are the prolific farms of S. Chard, Foster & Ashurst, A. M. Gedney, S. A. Gyle, J. C. Tyler; also the famed Thomes grant now under thorough cultivation. Two years ago the Thomes grant was purchased by J. Fennell & Sons, who have rented several large tracts to sturdy, industrious farmers who seeded their places, and the whole ranch was in grain the past season. This ranch produced nearly 400,000 bushels of wheat the past harvest. H. Mooney, E. J. Lewis, J. C. Tyler, L. Schultz and many other thriving farmers own land in this township. The Toomes estate, the Capay ranch, and the fine farming lands surrounding the thriving village of Riceville, are in the township of Tehama. In fact very little waste land can be found in this tract. The splendid farms on Elder creek and Thomes creek are all prolific farms, having number one grain-producing land. Ten years from now it will be difficult to find one acre of idle, unproducing land in the township.

Cascade township is a small one, and is situated in the southeast corner of the county. It

comprises timbered land and contains some large lumber mills owned by the Sierra Lumber Co. Very little farming land is found in the section, its inhabitants depending altogether on the lumber interests for their living. The Cascade, Belmont and Arcade saw mills are situated in this township. It borders on to Butte county and portions of it were at one time claimed by that county. FELIX.

Red Bluff, Cal.

Wild Silkworms and Forest Trees.

The following interesting paper was read at the September meeting of the State Horticultural Society by Mrs. T. H. Hittell of this city: In a recent trip to Yosemite valley I picked some specimens of the *Castenopsis chrysopylla* on Eagle Peak road and brought them home with me. Having also taken a deep interest in silk-culture and learned something of the wild silkworm of China, and of the oaks upon which it feeds there, I began making such investigations as were in my power and discovered, at least to my own entire satisfaction, that the chinquapin growing in our California mountains will feed the wild Chinese silkworm, and also that some of the other kinds of oak that grow upon the coast, can be utilized for food for the worm. To make still more sure, I took a branch of the chinquapin chestnut to Dr. Kellogg, and he assured me that my idea was correct. He pronounced our chestnut (*Castenopsis chrysopylla*) to belong to the same species on which the Chinese moth, or *Bombyx Pernyi*, feeds.

The importance of the wild silkworm is so great, that I think the interesting subject should be brought into prominent notice. The wild silkworm is much more prolific than the domesticated. The latter has in fact almost lost its generative power, reproducing only once a year. The wild species is therefore of much greater value than the domesticated ones. In China the wild one is raised in the open air; it feeds itself in the plantations; it reproduces several times a year; it does not cut its cocoon upon emerging, but with seeming intelligence pushes the thread aside so as to admit of its exit without cutting, and thus leaves the cocoon un injured, and in good order for reeling.

Reports contradict one another in naming the different species of silkworm, and also the different species of oak trees on which the wild silkworm feeds. Turnfort says of them: "*Quercus orientalis castaneifolia*," though found wild on every hill in Shan-tung, is specially cultivated for the rearing of the silkworms. Miguel pronounces the (Chinese and Japanese) *Quercus serrata* to be the Georgian *Q. castaneifolia*, which both C. Koch and Grisebach consider identical with *Q. vallauea*; though Dr. Hooker admits *Q. castaneifolia* as distinct from *Q. vallauea* [Journal of the Linnaean Society]. One species of the wild silkworm feeds on the *Ailanthus glandulosa*. The cocoons of that worm were introduced into France in 1856, and are now well acclimatized and may be seen hanging in numbers on the leaves of the ailanthus trees, freely planted in the Parisian boulevards, squares and gardens, where they grow, requiring little or no care. These cocoons are now in constant demand in France, where several special manufactories work up this kind of silk, which is very strong. There are still two other wild silkworms, one Tusseh moth of Bengal, the *Antherera papia*, feeding on the castor oil plant (*Ricinus communis*); but the ailanthus worm will rather die than feed on the ricinus leaf.

Dr. Williamson speaks of a third kind of wild silkworm. It is said to be of a black color and never attacked by parasites, on account of its strong aromatic smell derived from the leaves of the pepper tree on which it lives; its scientific name being *Zanthoryllum pietenitum*.

A Jesuit missionary, F. Annial Fantoni, in the year 1851, sent from the province of Shan-tung to the King of Italy a lot of cocoons, some skeins of silk and some silk piece goods, all obtained from the silkworm of the oak. In 1856, some more were sent and exhibited by the same missionary in the International exhibition of Turin; and the oak moth having been studied and found to be a new species, different from all those known at the time, it was called after the importer, *Bombyx Fantoni*, by which name it is known in Italy.

In 1866, Dr. McCarter, after a short residence in Chefoo, wrote a paper "On Some Chinese Silkworms." Having examined some of the moths procured from the silk growers, he recognized the insect as *Saturnia mylitta*, figured in Jardine's "Naturalist's Library," and also called *Attacus* or *Bombyx mylitta*, the "Tusseh moth" of India. All those names are now forgotten; and in the latest publication on this subject, the insect having been at last recognized as an *Attacus*, on account of the four spots or eyes in the wings, and found different from the *Attacus mylitta*, it is now always designated as *Attacus Pernyi*.

In India the wild silkworm grows so rapidly that the number of cocoon crops are raised to 10 a year. This rapidity of production renders this species an advantageous one for introduction and cultivation in other countries.

There is, however, a great difficulty in transporting the eggs from one country to another. This difficulty consists of the rapidity with which the eggs are hatched out, rendering

transportation very risky. But notwithstanding the risks, the introduction into Europe of so useful an insect, as soon as its productive powers were known, was not neglected. Naturalists excited the zeal of travelers in reference to the subject, and in time the desires of all were fulfilled.

The silk of the silkworm, wound off in Lyons, furnishes a very brilliant thread of a pale brown color, like ecru thread, but much stronger; and it takes all the colors by dyeing. It is desirable that all our silk growers should obtain the eggs of this silkworm in order to make a trial of it.

As for the worm originally from the north of China, it could well be developed in any country of temperate climate. Belonging to a group of insects the most gluttonous known, it could no doubt be well accommodated with our common oak.

France has imported acorns of species of two oaks from China, and is at present growing them for feeding worms. One of the Russian missionaries in China, Mr. Skatchkoff, who has for some years, like other missionaries, devoted his leisure to the culture of silkworms, has of late sent to Russia some eggs of the oak Bombyx. The journal of the Linnaean Society says that from the close alliance of the *Quercus mongolia* and *dentata* to the *Q. robur* of Europe there seems no reason whatever why the Chinese oak worm could not be thoroughly domesticated in any country of temperate climate; and as experiments made on the European species of oaks have proved successful, the problem of acclimatization of the oak worm is greatly facilitated.

From what precedes, we see that the Jesuit missionaries knew that the Chinese manufactured three species of silken fabrics from cocoons of silkworms differing entirely from the *Bombyx mori*; reared in a different manner, and fed upon the leaves of different kinds of trees. Duchalde says that these worms were fed by the Emperor Kang-ksi on the leaves of the Manchurian oak near Gehol.

The *Attacus Pernyi*, being a bivalent species, passes the winter in the cocoon, whilst the mulberry silkworm passes it in the egg. The cocoons of the oak silkworm are before and after the ecoloration fit for reeling; but it is only of late that a method has been discovered in France for reeling them when opened. The method consists in forcing into each cocoon an artificial chrysalis of vulcanized india-rubber, fixed on a pin on which the cocoon revolves.

Some years ago the raising of silkworms was fairly started in California, but it suddenly failed, and silk culture was abandoned. To start again we need animation and encouragement. But we hope our efforts will soon meet with proper sympathy; and we believe that, if we keep on trying as they did in France, we cannot fail of achieving success.

THE FIELD.

Los Angeles County Sugar Interest.

EDITORS PRESS:—Some weeks ago I promised to write you concerning sugar production in Los Angeles county. This year we are testing both beets and amber cane. A very large crop of beets has been raised, sliced up and dried preparatory to being manufactured; but as the machinery which had been erected to work them did not prove satisfactory, some 50 tons of the dried beets were shipped to the Alvarado factory to be tested. Owing to the rush of their raw beets, they were only able to work some eight tons of them at that time, but that was sufficient for a test. There was no difficulty in extracting the sugar, and the article produced was pronounced by experts to be superior to any other crude sugar heretofore produced from beets, and was also almost entirely destitute of the beet flavor and smell which is common to the sugar produced direct from the raw beets. The sample shown was said to be worth from 9½ to 9¼ cents per lb. Prof. Hilgard assayed some of the same lot of dried beets, and their composition was found to be as follows:

Cane sugar.....	51.5
Moisture.....	11.2
Ash.....	5.4
Other organic matter (by difference).....	31.9
Total.....	100.0

It will be seen that these dried beets, which, when dried, can be kept indefinitely, are more than half sugar. There is no difficulty in drying them, although the present season has been very unfavorable for that purpose. The advantage is manifest, because they not only yield a better article of sugar, but it enables the factory that works them to continue its operations throughout the year instead of a few months (four or five), and then have machinery which cost from \$150,000 to \$200,000 lying idle and unproductive seven or eight months of the year. If a factory that is idle two-thirds of the year makes a profit, one here, constantly at work, would pay three times as well.

This section is admirably adapted to beet culture without irrigation; unless, from the want of rain, the ground is not sufficiently moist. In that case the land should be irrigated before planting. It is found by experience that

any land sufficiently moist to grow and perfect a crop of grain will produce a crop of beets. Our beets are planted in January, February and March. The warmer and drier soils are planted first, and the low, cold soils last. Planted at that season, a good stand is assured. This spring, at the time the seed was being planted at Alvarado, our beets were half grown, and were fit to work raw two months sooner than they were there. If it was only desired to work raw beets, we could contract to supply a mill with them for eight months of the year certain; and as there is an immense body of land adapted to their growth, we can supply all of the factories that can be established here with all the beets they can use. As the crop is absolutely certain, the capitalists who provide the factories need not fear any failure in the supply of beets.

I am informed by a gentleman from Austria that there are in that country many sugar mills, perfect and complete in all their parts, that are standing idle from the impossibility of getting beets, continued cultivation in beets having exhausted the alkaline elements of the soil, and the land will not continue to produce beets profitably any longer. The machinery of these mills can be purchased very cheap, as their owners cannot utilize it. If transported by ship to Los Angeles county and erected here, that now useless machinery would prove a bonanza not only to its owners, but also to all the farmers located within five miles of it.

There is abundance of idle capital in San Francisco, the owners of which are at a loss to know what to do with it. If they will invest some of that now useless money in a sugar factory here, it will pay them a rate of interest that will revive their recollections of 1849. This valley can produce the beets required to make all of the sugar consumed in this State. Our farmers would be delighted to contract to furnish them, if capital will provide the mill and machinery and pay them a living rate for their products.

Sorghum Sugar.

Having shown what we can do in sugar beets, I will now proceed to state what has been done with amber cane. In 1879 a few acres of cane were raised in Westminster Colony, the juice of which, worked in an imperfect manner, made an excellent article of syrup, which, after standing one month, was found to have changed about one-third of its bulk into sugar. The success of that imperfect trial induced another and more extensive test to be applied this year. A number of acres of cane were grown, and three small mills and the required evaporating pans were purchased, and have now been in operation about one month, grinding cane and evaporating the juice. The quality the syrup made is so good, and the demand is such that no attempt has been made towards the production of sugar, but they have concentrated a few lots to such a density, that after it cooled it was too thick to flow. It was a solid mass of mush sugar. Later in the season, when the cane has become ripe, they propose to make a lot of this mush sugar and ship it to San Francisco to the refineries for sale, and ascertain if they will pay enough for it to make it pay to make. If they will, there is practically no limit to the amount that can be produced.

The amber cane, like the sugar beet, is very easily raised; given the land with sufficient moisture and decent cultivation, and nothing can prevent a crop of either of them being raised and matured. The difference between them is that the beet requires expensive machinery, while the cane can be utilized to a certain extent for the production of syrup and mush sugar, with an apparatus costing from \$300 to \$500, which is what the mills operating at present in the valley cost. The largest of them makes 80 gallons of syrup per day, weighing about 12 lbs. to the gallon. Good average cane yields about 200 gallons of syrup per acre. According to Prof. Hilgard's test, syrup of that density (12 lbs.) ought to yield 6 lbs. of cane sugar and 6 lbs. of grape sugar or syrup. At 200 gallons per acre that would give 1,200 lbs. of sugar and 1,200 lbs. of syrup per acre besides the seed, of which there is a large crop. If the sugar brought only 5 cents per lb., there would be a return of \$60 per acre, allowing the syrup and seed to go for expenses, which, I think, is a liberal allowance. This calculation is based on the supposition that the farmer who raises the cane also manufactures the sugar, but if the syrup is reduced to mush sugar and sold to the refinery, of course the whole product is disposed of. At present this would have to bear the expense of freight from here to San Francisco—say \$4.50 to \$5 per ton—but not for long, as a refinery would be established here as soon as the production would warrant it, and thus the extra freight would be saved.

When the seaward freights from this county warrant it, a wharf will be built on the Bay of San Pedro (at Bolsa Chica Landing) by an expenditure of \$25,000. At this wharf the largest vessels that come to California can lie and load and unload, without trouble, 360 days in the year. This place is protected from the wind and sea from all directions, except the southeast, and these last blow along shore. This would reduce freights to \$2.50 per ton from here to San Francisco, which is as low as the freight can be handled.

This sugar manufacturing business, I think, offers greater inducements to capitalists than gold and silver mining. The first is a safe and certain business, and the latter partakes too much of the nature and risks of gambling. Probably the latter fact is the reason why there

is such an attraction about it. But there are plenty of cautious men who don't speculate in stocks, who have hitherto found ready employment for their money in loans and mortgages, who find it difficult now to do so. These men can find legitimate and profitable employment for that idle capital in this business of sugar production, and I have written for the purpose of calling their attention to the best opportunity for the investment of capital profitably in California.

WM. R. OLDEN.

Anaheim, Cal.

THE DAIRY.

Dairying in Denmark.

The *Farm*, an agricultural journal published in Dublin, Ireland, says that Danish butter, from its high grade and uniform quality, commands the highest price in the Irish market. The dairy-maids in Denmark and Sweden are sent to a college to be educated for their business, and by serving a regular course under a certified teacher they secure certificates which pronounce them qualified to undertake the management of large dairies. The result is that the butter made in these countries is of uniform quality, because their instructions are defined as to the quality of salt and coloring to be used and the food to be given to the cattle.

Danish farmers were very particular as to the food which was given to their cows, as they understand that it is not the cow, but the food fed to her, which produced the milk. They also understand that in cold stables they have to replace by food the heat lost by the cow; therefore they are careful to keep their cow houses properly heated. In Denmark the whole country is in tillage, principally clover and rye grass, on which cattle are tethered in summer; in winter their food is clover, hay, linseed cake and rape cake. Their great object is winter dairying, as prices in London are nearly double at that season.

The cream is taken off before the milk is the least bit sour, because a superfine quality cannot be made otherwise. They will not churn anything but perfectly sweet cream, because they understand that they cannot secure a superfine quality otherwise, and they lay great stress upon this being the cause of the high prices they always obtain. The cream is usually churned at a temperature of from 57° to 60° and the thermometer generally used, and the very moment the butter is formed into little grains like shot the churning is stopped, because they understand that by continued agitation they are destroying the quality of the article. The buttermilk is let off by a strainer, the butter placed back in the churn with water, they give it a few turns and pass it again through the strainer, repeating this until the water comes out as clear and bright as when put in. In this way every particle of buttermilk is washed out. They salt it at the rate of six pounds to a hundred weight with a very fine salt. The butter is spread out in layers and sprinkled with salt and worked but little.

The principal faults in general butter making are allowing the milk to sour before removing the cream, keeping the cream too long before churning, over-churning and insufficient washing. Danish butter frequently sells 23% higher than other grades in the Dublin market, simply because of its uniformity.

Cleanliness in Milking.

Between the cow and the butter maker, however, there is a point which cannot be too carefully guarded—the way in which the milk is drawn from the cow and handled before it reaches the milk room. A very large part of the poor butter made, results from the milk being spoiled before it is even strained. One lot of butter examined at the fair showed this at once; it was not fit for any use as food. Some, on tasting it, would have said "animal odor." Perhaps so, but not from the cow. If the cow is healthy and has good food and pure water, there can be no odor or taste to the milk in the udder at all objectionable. Nor will there be if the milk is drawn from a well cleaned udder by a clean milker, in pure air, and kept away from all sources of taint. Others would have said this butter was "cowy." Don't lay such a charge on the poor cow; she did her part faithfully. The butter we complain of is not cowy; it is horsey or piggy, or worse yet, filthy. The cow keeper and milker are the persons to blame. Let every butter maker who has any regard for the reputation of his or her product insist upon every possible precaution being taken by the milker to keep the milk pure and clean. No really good butter can be expected if the milk is taken from an unclean bag or by a milker with dirty hands or clothing, or if the milking is done in a filthy or ill-ventilated stable, or the milk allowed to stand, even a short time, surrounded by impure air. It is the greatest mistake to suppose that if dirty or foreign matter gets into the milk, careful straining will remedy the evil; the object may be removed, but the taint remains. It must also be remembered that there are invisible things as sure to spoil milk as those we can see. There are now improved implements which greatly protect the milk, guarding against carelessness and accidents, but nothing will take the place of careful, cleanly milking.—*Report of Hampshire Committee on Butter and Cheese.*

HANDLE DAIRY STOCK KINDLY.—Mr. Parcell, in the report of the New Jersey Agricultural Society, says: It is important that dairy stock, from the young calf to the old cow that is being fed for beef, should be handled and treated kindly. If a calf is handled roughly and becomes wild and vicious thereby, when it becomes a cow you may expect the same, but if handled carefully and treated with kindness, when grown up she will be mild and gentle. It may not always be so, but in general it is. There have always been many cows spoiled by the person having the care of and milking them, by whipping, or frightening them whenever they come in his way, or if, when milking, a cow hoists her foot or kicks (which is generally caused by pain), such a fellow stops milking and commences whipping, or worse, kicking the cow, and she becomes enraged, holds up her milk, kicks back, and is finally ruined. Never whip a cow for kicking, if she does kick the milk pail out of your hand and sometimes upset and knock you over, but be kind and gentle with her, and milk her out with as little excitement as possible, and if she gets over her kicking propensity it will be by mild and not by harsh treatment. Never whip a cow because she kicks, for it will do no good, but will do a great deal of harm.

THE VINEYARD.

The Remedy for the Phylloxera—No. 1.

EDITORS PRESS:—It is not here necessary to detail the enormous amount of destruction accomplished in our vineyards by this insignificant aphidian, the phylloxera. California has begun to groan under its effects. It has been found in most parts of the State, and many vineyards show by the yellow leaves, the drooping appearance of the vines, the greatly diminished crop of grapes and other accompaniments of the evil that this much dreaded "bug" is to figure largely in our grape interests in the future. Nor do I deem it necessary to enter into an entomological discourse on the phylloxera. Those whom this article may concern have already become sufficiently informed of its nature, habits and destructive propensities to appreciate the necessity of an immediate remedy for the evil. It is to this, therefore, that I propose to address myself exclusively.

The conditions favorable to the support of the phylloxera are found throughout the State. The insects thrive alike in rich and poor soil, on the red hill sides as well as in the rich, heavy loam of the bottom lands. Their influence may not be so well marked on strong luxuriant vines as on those of the poorer soil; but the conditions to support them are, nevertheless, there, and there are they found. Wherever the *Vitis vinifera*, or what is vulgarly termed the foreign varieties, exist, there may we look expecting to find, and if not finding, arrive at the unhappy conclusion that time is the only element necessary to produce them. France is at this day literally inhabited by them and has been subject to their depredations for many years past; but not until recently have they proved themselves so formidable as they now appear. Germany, Spain, Austria, Italy and other countries of less importance to the wine industry are badly infested; but France has suffered most. Her many hundred acres which have been rendered desolate are the world's principal monument to their destructive march. We are becoming injured now and are following in the wake of France. Therefore, let us see what France has done to prevent and remove, that we may not needlessly repeat her unfruitful efforts. Let us profit by her experience as far as available, and take up the work where she has left it. We may do this, because the California insect is found to be identical with those of France, the vines are the same and our soils have been proved to act similarly.

No nation could have acted more energetically than the French people have in this cause; prompted, as they were, by its influence on the national wealth, and robbing them, as it seems inevitable it must, of their most remunerative and important industry. Great prizes were therefore held out to those who should invent or obtain a remedy for the phylloxera. The greatest inducements have, ever since the advent of the pest, been held out to individuals and companies to experiment and try every means within their power, with what result we shall proceed to examine. But the question arises, shall we go over the same ground that they have? Fearing the impetuosity and hasty propensities of our California farmers, I am induced to present in what may follow the result of the study of the remedies for the phylloxera as far as it has concerned France.

The Records of French Experience.

The French have innumerable publications on this subject running back into 1865 and beyond. Among these many books and pamphlets we see the evidences of millions of dollars which have been spent in experimenting with different substances. Many methods were introduced and some largely entered into as money-making schemes, which, on authoritative examination, proved worthless, or nearly so. Among those most prominent were the sulphocarbonate of potassium, mixtures of the green and heavy oils of anthracene, numerous antiseptics and "Rohart cubes." These and the many more worthless remedies have now all been abandoned for the two complete and only remedies as yet discovered, which together satisfy all the requirements. These are, inundation from 20 to 30

days where the land is such that it may be flooded, and where not such, the proper application of the bisulphide of carbon.

Now, any substance which will fulfill the following requirements is a good remedy. These are: First, there must be an easily diffusible, toxic atmosphere formed underground, which will kill all the phylloxera and not injure the vine; second, it must not be too expensive, and with proper directions expedient to apply.

The sulphocarbonate of potassium destroys wherever it passes; it favors the construction of the vine and serves to revive the vine when nearly dead, but the requisite most difficult to satisfy with any remedy here arises how to completely saturate the soil with it. M. Mouillefert experimented largely in 1875, and after many endeavors reported as follows: "Out of the many ways in which it might be applied the following is the most feasible, viz., to dissolve the salt in water, and with this water deluge each vine, in fact, the whole affected portion of the vineyard. This treatment will cost at the least 600 francs per hectare" (about \$50 per acre).

The oils of anthracene were found not sufficiently strong to kill the insect, although all combinations and proportions were tried. At a late date the plan was suggested and carried into experiment, of mixing these oils with the bisulphide of carbon, the latter being known to be a certain destruction to the phylloxera, but owing to its easy and sudden volatility, and also to the fact that it injured the vegetation when applied directly in excess, it was deemed of no use unless it was mixed in such proportions as to remove these two difficulties. This was the plan, therefore, and, carried into effect, became quite famous about 1876. The bisulphide killed the insect and the oil of anthracene served as a carrier. Now it becomes plainly visible that if a means could be devised of applying the bisulphide directly, it would save the expense of the oil of anthracene and also a portion of the energy of the bisulphide, which it was afterwards proved conclusively to be absorbed by the oil, as it caused a sudden diffusion of the vapor of the bisulphide at first and then retarded it so as to diminish its effectiveness as a destroyer of the phylloxera. Such a means was soon devised of applying the bisulphide directly without injury to the vine, and in consequence the mixture was abandoned.

Another carrier of the bisulphide of carbon was a cube of wood. This saturated with the liquid and placed near the root of the vine effected the partial destruction of the phylloxera. These formed the famous "Rohart cubes" (which were tried unsuccessfully at Sonoma, in California). With the cubes as with the mixture aforementioned, we may observe that when the application, direct, of the bisulphide itself, which was to work the destruction, could be had, the carrier became a useless expense and also served to weaken the force of the vapors while they continued. The Rohart cubes became important for a time and did a great deal of good, but were afterwards superseded by the pure bisulphide.

It will be seen that carbon bisulphide has, as the essential element of destruction, entered into nearly all the remedies which have been proposed, but its beneficial effects were canceled under the names applied to the various mixtures.

It was long known that inundation was an effective means to the end, but owing to the hilly nature of the vineyards in France it seldom became available; furthermore, it came to be known that the bisulphide of carbon was efficacious, the only question being as to the manner of its application—how to kill the phylloxera and yet not injure the vine? We conclude immediately, that the proper procedure was to make careful experiments and determine its effect. The French people did, too, but not until it had, as we have seen, been many times ineffectually combined with other substances. In 1877 the pure unadulterated bisulphide received official attention, and by the experiments which followed it became and is now an effectual remedy.

The Bisulphide of Carbon

(Symbol CS₂ consisting in 100 parts of 15.8 parts of carbon and 84.2 of sulphur) was discovered in 1796 by Lampadius at Freiburg. When pure it is a colorless liquid, strongly refractive and exhibiting extremely bright colors when in the sunlight; its odor somewhat resembles that of chloroform; the taste is aromatic. Its specific gravity = 1.268; the boiling point is 54° Fahr.; consequently the liquid is very volatile at the ordinary temperature of the air. As commonly used, somewhat impure, it has a very disagreeable odor.

The bisulphide of carbon does not combine with water or spirits of wine; in ether and chloroform, however, it is freely soluble; it is an excellent solvent for resins, essential and fixed oils, caoutchouc, gutta-percha, camphor, sulphur, phosphorus and iodine. It is highly inflammable, burning with a red-blue flame; the products of complete combustion are sulphurous and carbonic acids. The vapor of bisulphide of carbon with oxygen or air constitutes an explosive mixture. It is used largely at present for industrial purposes. These purposes are very varied, but consist chiefly of the vulcanization of caoutchouc, the extraction of fat from bones and oils from oil seeds and olives, the extraction of sulphur, which dissolves freely in it, from its concomitant rocks and of fat from crude wool. It is used in electroplating to obtain a bright and polished surface, and is highly valued for killing all kinds of vermin in corn and grass, and the destruction of gophers and squirrels, for which latter purpose it has been found very valuable to California, and large

quantities were last year consumed for that purpose.

Enough of its chemical properties. As an insecticide it was completely tested in 1877-78 by the *Comite Regionale*, instituted at Marseilles under the patronage of the *Compagnie des Chemins-de-Fer de Paris a Lyon et a la Mediterranee*. Their experiments, as far as is consistent with an article of this kind, I propose here to give; knowing their results to be those of accurate determination, and that by authority rendered reliable by the high standing of those who were engaged in the prosecution of this work. The authenticity of this report is further proved by complete reliance on their results by the National Committee of France and all of the many societies and associations instituted for the purpose of investigating the phylloxera question. They are also cited as authority by all writers subsequent to their determinations.

The report is divided into two parts. The first comprising all the experimental results of the committee itself, both on a small and those on a large scale. The second part is devoted to the work of vine growers and experiments of each individual who has in his own vineyard tried, on a large scale, the action of bisulphide of carbon. Among these are included the leading vine growers about Marseilles and L'Herault, etc.

The report is opened by M. A. F. Marion (Professor of the Faculty of Science of Marseilles and delegate of the Academy of Sciences), and I will give a resume of his introduction. He speaks of the progress the bisulphide of carbon has made as an insecticide, of what the committee have in their work accomplished, as evidenced by the consumption of this chemical, up to December 31st of 1879, to the extent of 1,972 barrels (100 kilograms per barrel), or a total of 433,840 lbs. avoirdupois; and further, that their experiments have proved the following, which he gives as one of the results attained: A single application at the rate of 20 grams of bisulphide per square meter permits the survival of from 6% to 8% of the phylloxera. With charges of 36 grams there remains from 2% to 4%, and it is only by the employment of 55 grams per square meter, if confined to a single application, that complete destruction of the insect has been accomplished, and this amount greatly injures the vine and may kill it if already weak from phylloxera. On the other hand, by two injections, from 4 to 6 days apart and 10 grams per square meter each time, there is found only 1% of the phylloxera living; sometimes they are all killed. By making this a total in the two applications of 28 to 32 grams per square meter, the total extinction of the insect is affected and the vine suffers no injury, a result which in a single application requires from 50 to 55 grams and risks the vine besides. He further remarks on the necessity of conforming exactly to their directions in order to realize the beneficial results which they have obtained, namely, the complete destruction of the phylloxera without any consequent injury to the vine. As to the times best adapted to the operations, he states as a conclusion of study of the different transformations the insect undergoes, of its metamorphosis and periods during which it exists in the winged form, and consequently could not be attacked by a subterranean application, that in winter when all are underground, in whatever form that may be, they are best available to the insecticide bisulphide. Furthermore, the diffusion of the vapor, owing to the colder weather and the moist condition of the soil, and also its uncluttered state, is much less rapid, and this is a great desideratum: that the vapor shall not pass off so suddenly as to have no effect on the parasites. The effect of the reagent on the vine itself is no more in summer than in winter, though, perhaps, more apparent in the color of the leaves, which, if the dose be large, are apt to turn somewhat yellow, or lighter, but in a few days regain their vigor and original color. However, this is of all other times the best, namely, during the winter before the agitation of the soil has been begun by plowing. In the summer the phylloxera takes wings and does not enter the ground again until the last week of May. As soon, therefore, as they have gone down on to the roots another application is necessary, and this, the last, equal to the first in amount, completely terminates their existence. Because of the higher temperature of the summer the two successive applications, which in the winter should be 6 days apart, should in the summer be only 4 days apart. To sum up then, the bisulphide should be applied in doses of 14 to 16 grams to the square meter (usually put into two holes on opposite sides of the vines, 7 to 8 grams to a hole). Two such applications about the last of November or during December, with an interval between of 6 days; then again, soon after the month of May, repeat this double dose of 7 to 8 grams each to the square meter, with an interval of 4 days between the first and second application.

Mr. Marion closes his introduction by saying: "We are now permitted, after the operations which we have completely examined, to say that we are in possession of an efficacious method which has by practical proof resisted all difficulties; we do not desire that our statements appear preclusive nor prejudicial, but from all the proof we are convinced that the bisulphide of carbon will play the part of the all-important remedy in this great struggle against the phylloxera, in which no well wisher of our agricultural interests will be disinterested."

I will here remark that, in relation to the times for the best application of the bisulphide,

[CONTINUED ON PAGE 266.]

PATRONS OF HUSBANDRY.

We Have Been to the State Grange.

[Written for the RURAL PRESS by MARIA B. LANDER.]

"Home from his journey, Farmer John
Arrived this morning safe and sound;
His black coat off, and his old clothes on,
'Now I'm myself,' says Farmer John."

"Home again, home again," said a good Grange man and wife, after best clothes had been replaced by those better suited to farm labor; barn as well as home had passed under the supervising eye of master and wife; radiant faces said there's solid comfort in our welcome home, to say nothing of the barnyard greetings of our two and four-footed friends, the dog, cow, calf and horse, and like

"Farmer John, when I've been off,
To call you again about the trough,
And watch you and pet you, while you drink,
Is a greater comfort than you can think!
And he pats old Bay,
And he slaps old Gray,
Ah! this is the comfort of going away!"

'Twas not my high privilege to be present during the first days of our annual meeting; hence will only weigh in my feeble manner some of those social features, which are at once our pride and delight.

The first glad greetings of these representative farmers were on Tuesday, when real labor and committee work was assigned to those who were first in the field. Unto these primal brothers and sisters should be verified the old adage, "the early bird catches the worm," and all honors of the year 1880 should redound to these early Husbandmen and Matrons, who have sowed late and early, not this year alone, but in seasons past and gone; for among these earnest men and women were two, if not more, pioneer Grangers, who were present at the first session of the State Grange of California, in the city of Napa. This fruitful harvest work has not always been satisfactory, certainly not; for should this Order alone reap of that mystical crop of perfection to which all societies are forever reaching, though none ever grasp?

Wednesday, in response to the kindly invitation of Prof. Hilgard, this representative body of Patrons paid their respects to the State University, and from hearsay, returned stronger than ever in favor of a well-filled agricultural crib, from which the State may feed her country boys, they being the most prolific source from which her populous cities receive brain, muscle and sinew.

Thursday morning these liberal Patrons opened wide their doors and invited the world to take part in their deliberations. Bro. I. C. Steele threw out the gauntlet of free speech, markedly sounding the trumpet calls of the farmer and agriculturist, yet touching not one aggressive tone, but rather conceding all rights and asking only a just balance in the great measure of justice. Prof. Hilgard, Hon. Davis, Dr. McLean, J. H. Burke, Esq., and O. S. Baker, Esq., followed on science and farming, Congressional themes, education, with a "right smart sprinkle" of Constitutional and non-Constitutional truths and quibblings, interspersed with vigorous chipplings by Bro. Nelson from that Constitutional tree, whose growth and shadow he claimed was from that common sense of right embodied in the legally expressed will of the people. Through these intricate excursions in and out of the meshes of the law a patient sisterhood forbore the pleasures of shopping and visiting, and lent an attentive ear, and if I read aright the many speaking faces present, responsive, not new chords of thought were made to vibrate. One intelligent visitor, a stranger to Grange forms and ideas, expressed surprise at the varied range and compass of thought, not underrating the caliber of the agricultural mind, but, rather, giving the speaker's supposition that all meetings, debates and Grange talks were, or should be, on the never-ending themes of weather, crops and soil—so blindly we walk, unconscious of the aims of our neighbors, judging rather from the shadows of ignorance than the light of knowledge. This day, so thoroughly sandwiched with soil, crops, education, legal lore, financial and practical economy, was merged into an evening whose hours were consecrated to "Good of the Order." The centralizing power and vitalizing voice under this head was conceded the California Patron. This once feeble child has grown strong, and the cheering words and helping hands of our subordinate Masters are a guarantee of a like success in the future.

Friday morning found an earnest and zealous band, wearied, but yet ready for those secret labors, whose fruits must lie between weal and woe for the lower Grange households. That harmony which so far had characterized our movements remained intact. Differences, yea and nay, arose, but as the waves of controversy rolled higher and higher, that charity born of brotherly and sisterly love smoothed the troubled waters, while progressive and expanded thought rode safely into the harbor of conciliation and peace. Thus are we brought to eventime, and seems to me in most fitting state of mind to drop into the good graces of Pomona. At her door 24 brothers and 15 sisters paid court, and in the beautiful language of this goddess these votaries stepped upon the fifth rung of the Patron's ladder. Those fabled feasts of the gods pale in the reality of this collation of California fruits, the rich, juicy tints of which paled not by the varied wealth of coloring of the Pacific's Flora. Bro. and Sisters Deming, of Vallejo Grange, had cunningly woven upon a network

of wire flowers in harmonizing tints, thus forming a cornucopia large enough for all fairy sprites of Flora's to revel, and making a most fitting receptacle of the precious gems of Pomona; this flower-clad "horn of plenty," with its fullness of nuts and fruits was a significant emblem of that plenteousness which is the flower of labor. Pomona and Flora had seemingly combined to deaden our worldly senses, and had written lessons of peace, plenty, hope and perseverance in floral letters.

Saturday the finishing touches and clinching nails were driven to a good and profitable week's work. Reports of committees and resolutions seemed interminable, but were safely passed; and the Saturday night "love feast," which usually crowns the fellowship of this week, grew on apace. Being compelled to leave, I again speak as "they say," but having a vivid memory of at least three such scenes, I can safely say that these last hours were dedicated to the renewal of Grange fealty, and the solemn service of a new baptism of faith and hops in Grange work. From the highest sublimation of feeling, tributes of love and respect to our deceased sisters Colby and Adams were read, and silent tears of strong men and women flowed anew in memory of the loved and lost.

These yearly pilgrimages are good for the Patron, and though he go not in "sack cloth and ashes," as did pilgrims of old, the taste of an outer life and contrast to the tread-mill of home life, is of itself another lease of life. Santa Rosa, by inviting the State Grange there next year, not only generously, but gratuitously, grants this farther life-lease, and we hope those accepting will be legions. Surely by so doing, that luke-warmness, whose deadly spell is over many, will be lifted, and in the renewal of the Patron's expectations and in the exaltation of hope will be heartily said:

"For after all, with farmer John
The best of the journey is getting home!
I've seen great sights, but would I give
This spot, and the peaceful life I live,
For all their Paris and Rome!
These hills for the city's stifled air,
And big hotels all bustle and glare;
Land all houses, and roads all stones,
That deafen your ears and batter your bones?
Would you, old Bay?
Would you, old Gray?
That's what one gets by going away."

Martinez, Oct. 17, 1880.

Pescadero Notes.

EDITORS PRESS:—A constant perusal of the RURAL PRESS for many years has often produced a desire in my mind to contribute something of interest to its readers, but its columns are always so filled with many good things, it has seemed needless for me to make the attempt. The files of the PRESS are highly valued by my family for reference, as we find valuable information there, useful in all the practical affairs of life; and its freedom from personal abuse is a feature of its moral tone that commends it as a family paper. The farmer on the Pacific slope who does not take the RURAL PRESS deprives himself and family of a most valuable source of useful information, and the publishers of the support they so justly need.

The harvest in this section is late. Flax and wheat have been largely grown this season. Threshing is now the order of the day. The weather is warm and dry, which is most favorable for that work. The yield and quality are generally good—especially wheat. The norther which proved so disastrous in some sections was a benefit here as it dissipated every vestige of rust.

Increasing interest in agricultural improvement in this vicinity, is one of the hopeful signs of the times, and I think we may look forward to the development of a better system, that will cause less loss of fertility, and be more remunerative to the farmer. Rotation in crops, the use of fertilizers, improvement of domestic animals and experiments with products that have never been tested here, are common subjects of conversation among farmers, and the desire for more knowledge so apparent is most gratifying.

I. C. STEELE.
Pescadero, San Mateo Co., Cal.

Resolutions of Respect.

The following resolutions of respect were passed by the late State Grange:

WHEREAS, Death, like a ministering angel, has freed the pure spirit of Sister MARY H. ADAMS, wife of our worthy Secretary, from the earthly clouds that have held her in mortal suffering for eight long years, with no elevation save the unflinching affection of a noble husband, and the divine nature of her inner life;

Resolved, That we deeply sympathize with our lonely brother, and point him to that higher life where reunion will consummate the bliss of congenial souls.—I. C. Steele, S. H. Dewey, R. M. Coulter, Committee.

Worthy Master, officers and members of the State Grange, your committee on memorials respectfully report:

WHEREAS, In obedience to that inexorable law of nature that removes mankind from this rudimentary life, Sister C. A. COLBY has been taken from mortal sight.

Resolved, That we deeply feel the loss of her mortal presence and loving words of wisdom in the councils of the State Grange, and the pure thoughts shed by her pen for the California Patron.

Resolved, That we deeply sympathize with her husband, children and friends; who so deeply feel the absence of a wife, mother and friend, possessed of such rich affections and rare qualities of mind.

Resolved, That we do not regard her as lost to us; she has only gone before, to bathe her weary soul in the light of Infinite Love.—I. C. Steele, S. H. Dewey, R. M. Coulter, Committee.

SOME well-penned "Recollections," etc., by W. D. A., are in type for next week.

STOCKTON GRANGE.—We had the pleasure of a brief visit with "a few of the staunch and true" in this Grange, which is well known for its fruitful works, Saturday. The subject of the Rev. Dr. McLean's address delivered at the open meeting of the State Grange, was discussed with decided interest. Dr. Grattau, Master, W. G. Phelps, Sec'y, Hon. Sam'l Myers and others offered remarks for the true welfare of the Order. We should be pleased to receive frequent reports of such proceedings of this and other Granges, which may be of interest to Patrons or farmers generally. In this connection we may well remark that it is of the greatest importance to the life and usefulness of every Grange, that one or more questions of special interest to the agriculturists be brought forward (formally or otherwise) and discussed freely at every session. By reporting such discussions to the RURAL, or the local press, other members will be attracted to future meetings, to the great advantage of all concerned.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

HORSE DISEASE.—Oroville Mercury: A new disease has attacked some of the horses in town lately, and is puzzling the livery men very much. The first appearance of the affliction is in the hind legs, which begin to swell, then the fore legs swell, and in a few days both the fore and hind legs are twice their natural size. The muscles are sore to touch, and when the horse moves the joints crack and the animal walks as if in pain. It more resembles inflammatory rheumatism than anything else. All the horses in town thus afflicted are getting better, but are still unable to travel much. One thing very singular about the disease is, that it is only horses that are considered in the very best condition that are affected.

KERN.

COTTON.—Californian, Oct. 14: The experimental cotton crop at the Bellevue ranch, before referred to in these columns, is turning out in a way to exceed expectations. It is thought that the 130 acres may yield 150 bales of the standard weight, or more than the average of a good crop in the Southern States. The pickers employed are Chinese, who give satisfaction, and it is thought may be employed at this work to great advantage. Thus far they have gathered more cotton to the man than is the average day's work of the Southern negro. There is very little doubt but that this experiment will demonstrate this valley to be one of the finest cotton-growing regions in the Union, and if so, the effect on its future agricultural prospects cannot be otherwise than highly favorable.

DITCHING MACHINE.—R. B. Huey and T. W. Standard, of Mussel Slough, have been here exhibiting a new ditching machine that has the merit of great effectiveness combined with simplicity. It is called the "Standard ditching machine." It can be attached to any kind of plow. It moves the soil turned by the plow to any distance and height required on either side. It has been thoroughly tested in the Mussel Slough country, and is found to wonderfully simplify and cheapen the construction of ditches and canals for irrigation.

LOS ANGELES.

GRAPES.—Express, Oct. 16: The price of grapes is very gratifying to the vineyardist. The latest quotation is \$22 per ton. The crop has never been more abundant than this year, though its ripening has been very much delayed, owing to the cold weather and the fogs.

SURFACE CULTIVATION.—Gen. Shields, in Express: Dr. W. Wall has introduced the surface culture of orange trees. Does not plow at all. Harrows, and only harrows. Has brought his orange grove into bearing with harrow culture. His groves are only five years old from the bud, on nursery stock. I counted 35 oranges in one cluster. The trees are as prosperous as any in California. Some of them have heads 13 ft. in diameter. Dr. Wall is enthusiastic on the subject of surface culture. While traversing his extensive and beautiful orange grove, Dr. Wall argued the question of surface cultivation with notable precision. The tree argued too. Why, said he, shall I plow a foot deep? True, I will have a loose soil to that depth and more enduring moisture. But what is the use of it? There are no roots in that foot of soil. The plow has driven them below. There is simply a foot of finely conditioned but idle, useless soil. Soil idle and useless next to the sun and air where the processes of nature are most active and efficacious. As it is, millions of orange roots fill the genial surface stratum up to the points of the harrow teeth. See here, said the Doctor, as he cast aside a few inches of surface soil and caught up a cluster of orange radicles. You can get their spongy ends in the very act of feasting as near the sun as the harrow teeth allowed. And here, Dr. Wall observed, pointing to recently shoveled soil, there, to-day, I went down four feet and found plenty of orange roots as far down as I dug. The Doctor holds that unplowed moist earth is soft enough for free and easy penetration by roots. Dr. Wall irrigates his orange trees twice a year. "But," said he, "when I irrigate I irrigate!" Double stress on the word irrigate first and quadruple stress at the close. Dr. Wall's method of or-

ange culture is being adopted by others in Tus-tin and vicinity.

MENDOCINO.

HOPS AND WOOL.—Ukiah Press, Oct. 16: Most of our local growers have sold their crop at 20 cents, some ranging below that figure. We disposed of one crop through Lynde, Hough & Co., at 21 cents, not of choice quality. The prospects are favorable for maintenance of prices, or a slight advance for strictly choice. English advices report Kent hops badly off color. New York reports a large crop, but low grade, 23 to 25 cents. Germany large crop. San Francisco quotations, 15 to 20 cents. Wool is a good paying price at any quotation given. Rumors of 22 cents are not well founded, it being the extreme for the choicest at Cloverdale. We think it will go off free in this market at 20 @21 cents Saturday. We advise selling at that figure.

NAPA.

GRAPES.—Register, Oct. 16: The price paid for grapes ranges between \$20 and \$25 per ton. Mr. Migliavacca has added a pair of Fairbanks scales, and made other improvements at his cellar, so that wagon loads of grapes are weighed without the handling of boxes, and quickly transferred to the crushers. He expects to convert 800 or 900 tons of grapes into wine this year. This drying hot wind, unless it comes too strong, it is thought will prove beneficial to the grape crop in this valley.

SAN MATEO.

THRESHING.—Times and Gazette: Quite a brisk rain fell on Friday morning the 8th, between the hours of 1 and 2 o'clock. In consequence the farmers besieged the town in quest of threshing engines, but now as several more have arrived, and the weather being fine, the farmers' grain will soon be in sacks. Laboring hands are very scarce, several of the machines running with short crews, and one farmer about eight miles south of here has about enough grain to fill 5,000 sacks if he could get the grain in stack, but workmen now being non est, he may loose it all.

SIERRA.

CROPS.—Loyalton, Cor. Virginia Chronicle: The frost injured the oat crop here at Loyalton, and instead of 40 bushels, as the ranchers expected, they only got 17 or 18 bushels per acre. The price is good, however, oats being worth 2 to 2½ cents per pound, which makes the small yield a paying crop. Were oats and barley as low in price as in the lower valleys of the State, it would not pay to take the chances of raising grain in this frosty valley. The barley yielded all the way from 30 to 45 bushels per acre. The hay is being hauled to the markets found in the lumber camps between here and Truckee, the price ranging from \$18 to \$32 per ton, delivered. The hay was an excellent crop, and of good quality. The alfalfa is being cut the second time without irrigation, and is the coming enterprise of this valley. To Mr. Thomas Meeker of Loyalton the people are indebted for the experiment of its introduction in this locality, and also all over the valley.

SOLANO.

HEALD'S THRESHER.—Vallejo Chronicle, Oct. 16: Heald's new threshing machine, after its trial at Dixon, was taken to Dan McCrary's place near Suisun, and after a few improvements were made on it, Dave Hale gave it a trial and everything worked like a charm. It will only require the strengthening of a few posts, when this will be the most complete piece of threshing machinery ever invented. It is a complete thrasher with all the improvements that years of experience has suggested, and it is in fact a perfect grain separator. It combines two machines in one and it is predicted that it will be the threshing machine of the future.

EGGS GOLORE.—The Suisun Republican, Oct. 16: Mrs. J. J. Findley, of Green Valley, this county, has done so well in the chicken business this season, that we are moved to give the figures, as taken from her daily record, to show what may be accomplished in a short time, with a few good hens. On the first of January, 1880, she started with 100 hens. She did not build any house, letting them roost on fences, in trees, or where else they might choose, and has taken no special care of them. The hens are mostly of the white and brown Leghorn, crossed with the white Poland, and were nearly all spring pullets when she got them. From the 100 hens Mrs. Findley has sold 800 dozen eggs in the San Francisco markets, which have averaged her about 24 cents a dozen. This number does not include the eggs used in her household, nor those set to raise chickens from. Since the grain began to ripen, she has not fed the hens a thing, and the cost of feed prior to that time will not exceed \$50. Mrs. Findley has had the care of the hens herself, and has kept an accurate record of all transactions in relation to the business, and thinks she can carry off the prize for good laying hens, and the quantity of eggs for one season.

SONOMA.

GRAIN AND WOOL.—Healdsburg Flag, Oct. 14: Messrs Bloom & Cohn's warehouse contains about 1,500 tons of wheat, G. B. A. warehouse, about 3,000; \$1.20 seems to be the highest price offered, but the market is stiffening. Nearly all the fall wool is in storage, 20 cents being the price offered, though H. M. Keyes did a little better with a city buyer. The yield of A. L. Warner's wheat was he says 60 bushels to the acre, and the sample exhibited to us beat all others for large grains and plump ones. It was the "big white club."

FRUITS.—Healdsburg *Enterprise*, Oct. 14: Dried apples are commanding 6½ to 7 cents, peaches and pears about 8 cents and plums about 15 cents a pound. Last year dried fruit was quoted low, apples being worth only 2½ cents, while the past average price has been only about 4 cents. The consequence of low prices heretofore has been to allow fruit to go to waste mostly. This year, however, all kinds of fruit are being utilized, as it pays well to dry it. John Truitt informs us that quite a number are busy in Frank Cunningham's orchard (by the way one of the best in the country) drying fruit on shares.

TOBACCO GROWING.—Hetzl & Shuler, of Guerneville, raised three acres of Cuba tobacco this season in the river bottom. Mr. John Taggart describing the crop which he frequently saw during its growth, says the plants were large and strong, some of them measuring seven ft. One acre is cut and undergoing a curing process in a dry-house 24x30 ft., and 20 ft. high, with double walls, packed in between with sawdust, and there is bottom heat. The outstanding crop has not so far been injured by any frost. Mr. Taggart thinks the leaves will not be thick like that grown further south; but the leaves are thin and free from gum. These parties are practical men, and they are so pleased with their success that they propose to plant more next year. The rich loam of the soil of Russian river produces corn and melons of immense growth, and why not tobacco?

TULARE. **JUTE.**—J. W. A. W. in *Delta*: We are now growing jute from the fiber of which our millions of wheat and barley sacks, or burlaps, are made. Maj. Strong secured some seed which he gave to L. C. Hawley to try. Mr. Hawley planted them along a ditch, and now has some two dozen vigorous plants from six to eight ft. high, blooming and going to seed. The plant and leaves are similar to small willows, branching rather more from the main trunk. The bloom is a small yellow flower spreading about a quarter of an inch. The seeds are enclosed in a small pear-shaped berry, or capsule, about a quarter of an inch long.

NEVADA.

THE SPAYING OF BEEF COWS.—*Reno Gazette*, Oct. 9: Mr. Crandall came in yesterday from the north with 400 spayed cows, belonging to Derby, and destined for the Virginia market. Mr. Crandall states that spaying is now much practised. About 2,000 cows were thus operated on in Humboldt last year. This year perhaps 1,000 have been castrated in Warner valley, near Fort Bidwell, by Wm. Lee, V. S., of the Dalles, Oregon. Jos. Wheeler, Wilson, Ayres and Poor had cows operated on. Dr. Lee is a pupil of Dr. Miles, or Farmer Miles, of Illinois, whose method is to operate through the side. The operation is attended with a very small percentage of deaths. Of 400 cows spayed for Wheeler this season none was known to have died. The practice is to spay all inferior cows and leave only the best for breeding. Castration causes the heifer to grow up much in the shape of a steer, and also to mature rapidly.

REFRIGERATOR BEEF.—*Gazette*, Sept. 20: The shipping of meat in refrigerator cars to California is to be commenced anew in the course of a week or so. W. S. Bailey, John Boynton and A. J. Bass are in possession of the premises of the old California Fruit and Meat Shipping Co., and are putting everything in thorough order. Nothing has been done in the business for a year past.

WHITE RUSSIAN WHEAT.—*Battle Mountain Messenger*: Judge McBeth, of Galena, sowed on his ranch in Galena two lbs. of White Russian spring wheat, purchased from D. M. Terry & Co., Detroit, Michigan, from which he has just cleaned up 214 pounds. This he intends to sow on his valley ranch the coming season, and he thinks it will be the coming wheat of the country. It is perfectly clean and is said to make the best quality of flour.

TESTIMONY OF THE ROCKS.—From a small erratic block, wholly unlike the rock of Mount Washington, found on the summit of that mountain recently, Prof. C. H. Hitchcock infers that the glacial ice was deeper in that region than has hitherto been supposed. The boulder resembles the rocks of Cherry mountain; and if it was carried to Mount Washington by ice, as Prof. Hitchcock believes, Mount Washington must have been totally submerged by the ice sheet at some time during the glacial epoch.

SUNLIGHT.—Dr. Carpenter says the entire absence of sunlight on the deep-sea bottom seems to have the same effect as the darkness of caves in reducing to a rudimentary condition the eyes of such of their inhabitants, as fish and crustacea, which ordinarily enjoy visual power, and many of these are provided with enormously long and delicate feelers or hairs, with which they feel their way about, just as a blind man does with his stick.

It is said that one of the results of the Earl of Airlie's visit to Oregon will be the speedy arrival of a large colony from Scotland, composed entirely of farmers.

A TERRIFIC SNOW STORM in the province of Buenos Ayres, Sept. 18th, caused the death of 700,000 cattle, 500,000 sheep and 250,000 horses.

THE YOSEMITE HOUSE, Stockton, remains headquarters for business men and others who wish first-class accommodations in the most convenient locations at reasonable rates.

Santa Clara County Fair.

The following premiums, for exhibits in the departments nearest allied to agriculture, were awarded at the Santa Clara County fair, lately held in San Jose:

Horses.

Thoroughbreds—Stallion, 3 yrs, J. and H. C. Judson's Wildfire; spec prem to Wm. Boots' Johnnie A.; stallion; 1 yr, Charles Murphy's Sam Boots; colt, Wm. Boots' sucking colt; mare, 3 yrs, Wm. Boots' Lizzie Marshall; colt, Charles Murphy's Brown Kitty.

Roadsters—Stallion, 4 yrs, H. W. Seale's Elmo; stallion, 3 yrs, Leland Stanford's Cheatham Mohawk; mare, 4 yrs, H. W. Seale's Fannie S.

Graded Horses—Stallion, 3 yrs, W. Buckley's General Grant; stallion, 2 yrs, L. Stanford's Falls; stallion, 1 yr, W. A. Parkhurst's Nutwood Boy; mare, 3 yrs, with colt, Ben E. Harris' Lady Silva and colt; mare, 2 yrs, L. Stanford's Bijou; mare, 1 yr, L. Stanford's Lillie.

California Draft Horses—Stallion, 3 yrs, Henry Miller's Fremont; mare, 1 yr, James McDonald's Julia. Imported draft stallion, 3 yrs, Henry Miller's Record.

Sweepstakes—Stallion of any breed or age, H. W. Seale's Elmo; mare of any breed or age, Ben E. Harris' Lady Silva; stallion with 4 colts, L. Stanford's Mohawk Chief and family; mare with colts, Wm. Boots' Miama and 5 colts.

Carriage Horses—Single buggy horse, E. Topham's Queen.

Cattle.

Devons—All premiums to M. Schallenger.

Durhams—Bull, 4 yrs, C. Younger's Red Thorndale; bull, 3 yrs, J. D. Carr's Eleventh Duke of Gabilan; bull, 2 yrs, Charles Clark's Gwynne Prince; bull, 1 yr, C. Younger's Seventh Red Thorndale; bull calf, J. D. Carr's Twenty-third Duke of Gabilan; cow, 4 yrs, C. Younger's Second Rose of Forest Home; cow, 3 yrs, C. Younger's Red Dolly the Second; cow, 2 yrs, J. D. Carr's Fairy Queen the Fourth; cow, 1 yr, J. D. Carr's Eighteenth Maid of Monterey; heifer calf, J. D. Carr's Maid of Monterey.

Jerseys—Bull, 3 yrs, B. F. Fish's General Grant; bull, 2 yrs, C. B. Polhemus's Roscoe; bull, 1 yr, John Cooney's San Jose Chief; bull calf, C. B. Polhemus' Prince; cow, 3 yrs, C. B. Polhemus' Bessie; cow, 2 yrs, C. B. Polhemus' Blackie; cow, 1 yr, C. B. Polhemus' Fairy the Second; heifer calf, C. B. Polhemus' Second Cherry.

Ayrshires—All premiums to George Bement.

Graded Cattle—Cow, 3 yrs, C. B. Polhemus' Sarah.

Herds—Herd 2 yrs old, C. Younger's Red Thorndale, Dolly Thorndale, Second Rose of Forest Home, Second Red Dolly, First Golden Gate; herd 1 yr old, Jesse D. Carr's Oxford Bess, Fifth Fairy Queen, Second Lady Oxford, Eighteenth Maid of Monterey, First Belle of Gabilan Ranch; herd of any breed and calves, C. Younger's Red Thorndale, Sixth Red Dolly, Seventh Red Dolly, Third Oxford Rose, Seventh Rose of Forest Home; pair cattle, C. Younger's Red Thorndale and Second Rose of Forest Home.

Sweepstakes—Bull of any breed or age, C. Younger's Second Duke of Alameda; cow of any breed or age, J. D. Carr's Third Maid of Monterey; cow with calf, J. D. Carr's Second Maid of Monterey; dairy cow, George Bement's Lady Chapin.

Gold Medal—Exhibit of stock, Leland Stanford's horses.

Goats.

Angoras—All premiums to J. S. Harris.

Sheep.

French Merinos—All premiums to Mrs. Blacow.

Southdowns—All premiums to George Bement.

Cotswolds—Ram, Wm. Quinn's Prince; ewe, Mrs. Frank Lewis' Lady May; 3 ram lambs, C. Younger.

Sweepstakes—Ram, Mrs. Blacow's Leopold; ewe, Mrs. Blacow's Beauty.

Swine.

Boar—C. B. Polhemus' Crandall; pair pigs, C. B. Polhemus.

Poultry.

Pekin Ducks—S. Newhall; White Leghorn chickens, S. Newhall; Brown Leghorn chickens, S. Newhall; Plymouth Rocks, Annie Bradley; Golden Bird of Poland, Wm. Quinn; Japanese Bantams, H. H. Winchell; peacocks, Mrs. Blacow; Buff Cochins, George Bull.

Agricultural Implements and Machines.

George Bull, San Jose, best display; San Jose foundry, sweep horsepower; George Bull, cider mill and press; James Hagan & Co., lawn sprinkler; San Jose foundry, grain sowing machine; Albert Baker, harrow; George Bull, spring tooth harrow; George Bull, fanning mill; T. E. Martin, windmill; George Bull, road scraper; do ditch scraper, bon net; J. J. White, well pumps; do apparatus for raising water for irrigation; E. Tapham, Milpitas, gang plow; George Bull, sulky plow; J. T. Blackman, plow for all purposes; Henry Hellevegen, San Francisco, corn planter.

Field and Garden.

Santa Clara Flouring Mill Co., flour; W. T. Adel, hops; W. B. Rogers, wheat; C. A. Pitkin, squashes; Eddie Beal, pumpkin; B. S. Fox, greenhouse plants; do ornamental evergreen; do cut roses and dahlias; do collection of ferns and leaf plants; L. F. Sanderson, bouquets and cut flowers.

Dairy and Domestic.

Cheese—Santa Clara Cheese Mfg. Co.; butter, Hiram Carey; Mrs. C. D. Horn, Santa Clara, soda biscuit; do brown bread; Mrs. H. C. Pitkin, biscuit; Mrs. G. P. Beal, wheat bread; do corn bread; lard, hams, etc., Andrews & Coykendall.

Fruits.

Dr. Bascom, Santa Clara, apples; I. A. Wilcox, strawberries; Frank A. Wilcox, hawberries; Charles F. Bailey, figs; James A. Clayton, pomegranates; B. S. Fox, pears; Wm. Boots, plums and prunes; G. P. Beal, single variety pears; James H. Ogier, raspberries and blackberries; C. A. Pitkin, San Jose, peaches; W. W. Cozzens, single variety apples, 6 varieties apples, 6 varieties pears; Mrs. E. L. Bradley, quinces; Dr. Bascom, black walnuts; Mrs. C. D. Horn, soft-shell almonds; Charles F. Bailey, English walnuts, hard-shell almonds; Mrs. A. M. Ogier, chestnuts; Mrs. C. D. Horn, Santa Clara, pickles; H. C. Pitkin, domestic canned fruits; W. W. Cozzens, dried plums; Mrs. E. L. Bradley, dried prunes, dried peaches; S. E. Brown, table grapes, wine grapes, bunch of grapes.

Awards at San Joaquin Valley Fair.

Last week we gave a few of the awards for live stock at the Stockton fair. As that list was incomplete we give below the full list of awards in the agricultural departments:

Horses.

Thoroughbreds—Stallion, 3 yrs, Partisan, D. W. Bury; stallion, 2 yrs, Sun Dog, N. W. Randall; stallion, 1 yr, Sam Boring, Charles Murphy; sucking colt, Laura, D. S. Terry; mare, 3 yrs, Mary Watson, Charles Murphy; mare, 2 yrs, Lillie Ashe, D. S. Terry; mare, 1 yr, Samuel Miller; sucking filly, Brown Kitty, Charles Murphy; thoroughbred dam with colts, Minnie Smith and family, Samuel Miller; stallion other than thoroughbred with 10 colts, Chieftain Jr. and family, J. A. McCloud; dam other than thoroughbred, with colts, Fanny Fern and family of 5 colts, Wm. Johnson.

Horses for all purposes—Stallion, 3 yrs, Franklin, C. Halverson; stallion 3 yrs, Rheuben Gieurey, T. B. Graves; stallion, 2 yrs, Geo. S. Evans, Wm. H. Douglas; second prem, to B. E. Harris, Dividend; stallion, 1 yr, Greudier, B. E. Harris; second, Wm. Johnson; sucking colt, B. F. Samuels; second, Geo. Schwartz; mare, 3 yrs, Nellie Endich, N. Harrison; second, B. E. Harris; mare, 2 yrs, Molly Gibson, N. Harrison; mare, 1 yr, Emma Boone, B. E. Harris; second, Jno. Visser; sucking filly, Agnes, B. E. Harris; second, B. F. Samuels.

Roadsters—Stallion, 4 yrs, Nutwood, J. W. Knox; second, W. E. Morris; stallion, 3 yrs, Jackson Temple, Daniel Brown; second, T. Cunningham; stallion, 2 yrs, Hawthorne, L. U. Shippee; mare, 4 yrs, Queen, Alex. Chalmers; mare, 3 yrs, Carrie F. D. McCarty; second, W. Johnson; mare, 2 yrs, Clara D. J. H. Dodge; span, matched, Alex. Chalmers; second best span, Charles Dallas; second prem to Princess McDowell, C. K. Bailey; second premium, Dora, O. B. Harvey; complimentary thanks to Mr. L. U. Shippee, for exhibition of horses not entered for a premium.

Draft Horses—Stallion, 3 yrs, Gen. Grant, Charles McLaughlin; second, Geo. W. Voorhees; stallion, 1 yr, Monarch, Geo. W. Voorhees; sucking colt, Starr King, C. K. Bailey; mare, 3 yrs, Lady Clyde, C. K. Bailey; second prem, O. B. Harvey; mare, 2 yrs, Calote Queen, C. K. Bailey.

Carriage Horses—Span carriage horses, Reuben and Prince, J. K. Meyer; second best, Lucy and Mate, Osmond Johnson; single buggy horse, Alice Garratt, D. McCarty; second prem, H. F. Rosecrans.

Sweepstakes—Best stallion of any breed or age, Nutwood, J. H. Knox; best mare of any breed or age, Mary Watson, Chas. Murphy.

Jacks—Jack, 2 yrs, John Henry, W. A. Munion; jennet, 2 yrs, Lexington, W. F. Foreman.

Cattle.

Durhams—Bull, 3 yrs, Thorndale, C. Younger; bull, 2 yrs, Gwynne Prince, Charles Clark; bull, 1 yr, Second Red Thorndale, C. Younger; calf, Sixteenth Red Thorndale, C. Younger; cow, 3 yrs, Second Rose of Forest Home, C. Younger; cow, 2 yrs, Fairy Queen 2d, Jesse D. Carr; heifer calf, Red Dolly 6th, C. Younger; heifer calf, Nineteenth Maid of Monterey, J. D. Carr (being two awards, last two premiums will be divided).

Jerseys—Bull, 3 yrs, Hugo of Yerba Buena, Henry Pierce; bull, 2 yrs, Toronto, S. B. Kingsley; bull, 1 yr, Oliver, S. B. Kingsley; calf, Hero 2d, S. B. Kingsley; cow, 3 yrs, Pearl 2d of Yerba Buena, Henry Pierce; cow, 2 yrs, Mignonette of Yerba Buena, Henry Pierce; cow, 1 yr, Annie Carey of Yerba Buena, Henry Pierce; heifer calf, Jennie, S. B. Kingsley.

Ayrshire—All awards to Geo. Bement.

Sweepstakes—Bull of any breed or age, Seventh Red Thorndale, C. Younger; cow, Red Dolly 2d, C. Younger.

Herds of Cattle—Herd of cattle, one breed, C. Younger; young herd of cattle, Col. Younger; special prem rec to Guernsey cow Monica of Yerba Buena, Henry Pierce; steer, Dick, K. W. Jones.

Sheep.

Cotswold ewes, C. Younger; ram, Farwest, C. Younger.

Swine.

Berkshire boar, Black Prince of Linden, sow, Hattie of Linden, M. D. Boruck.

Farm Products.

Almonds, J. M. Ladd; corn in ear, A. J. Woods; castor beans, T. J. Murray; variety of vegetables by producer, T. J. Murray; second best, Jos. Hale; largest exhibit of vegetables, fruit, etc., C. V. Thompson.

Wines and Brandies.

All awards to George West & Co., of Stockton.

Fruits.

Pears, Herbert Lyons; collection grapes, D. A. Learned; second best, Geo. West; 5 varieties grapes, Jacob Meyer; second best 5 varieties, Mrs. S. W. Sperry; single variety, Geo. West; 8 bunches raising grapes, D. A. Learned; figs, Robert Reed; second best figs, T. J. Murray; best 6 specimens, Robert Reld.

Oranges, Dr. R. K. Reid.

Dried Fruit—Figs, E. J. Smith; second best figs, Mrs. C. J. Smith; plums, Herbert Lyons; peaches, pears, E. J. Smith; apricots, Lums Lulu Reid; special notice, California fruit drier.

Fruits in Glass—Exhibit preserved in spirits, Mrs. Jos. Hale; second best, Mrs. J. C. Reid. Fruits preserved in sugar—Exhibit, Mrs. Jos. Hale; second best, Mrs. J. C. Reid. Jellies—Exhibit, Mrs. J. C. Reid; second best, Mrs. Jos. Hale. Pickles—Exhibit, Mrs. Jos. Hale; second best, Mrs. J. C. Reid.

Dairy.

Butter, Wm. Christopher; cheese, Samuel Miller.

Mendocino County Fair.

The following are the awards in the distinctively agricultural departments of the Mendocino County fair:

Horses.

Thoroughbred—Mare, 4 yrs, H. Willits; sucking colt, H. Willits; horse colt, H. Standley.

Graded Horses—Mare, 4 yrs, A. O. Carpenter; mare, 1 yr, Geo. B. Nichols; mare, 2 yrs, L. D. Jones; horse colt, 2 yrs, G. W. Heald; horse, 4 yrs (Pilgrim, Jr.), B. Cooper; horse colt, 1 yr, A. O. Carpenter.

Horses of all Work—Horse colt, 1 yr, Geo. McCowan; horse colt, 2 yrs, W. Antrim; mare, 3 yrs, J. G. Busch; stallion, 4 yrs, Martin Corbett.

Draft Horses—Stallion, 4 yrs (Gambetta), J. K. Porter; horse colt, 2 yrs, J. K. Porter; horse colt, 1 yr, J. Eastwood; mare, 4 yrs, Bartlett Bros.; horse colt, 1 yr, Bartlett Bros.; mare colt, 1 yr, R. H. Tindel; family of 6 colts, Gambetta, J. K. Porter.

Roadsters—Mare, 2 yrs, John Felton; horse colt, 2 yrs, J. G. Busch; roadster mare, 4 yrs, A. O. Carpenter; stallion and family, J. G. Busch; match carriage team, Frank Severance; single buggy horse, J. G. Busch.

Cattle.

Alderney bull, heifer calf, Carpenter & Nichols; bull, 1 yr, P. T. Muir; bull, 4 yrs, Carpenter & Nichols; heifer, 1 yr, Carpenter & Nichols; bull, 3 yrs, J. M. Standley; work oxen, J. M. Standley; cow, 4 yrs, W. H. Young.

Swine.

Chester White boar, sow, E. C. Buell; Poland China boar, sow and pigs, W. V. Powell.

Poultry.

Brown Leghorns, white Leghorns, Bronze turkeys, lot of geese, David Tuttle.

Farm Products.

Australian wheat, Club wheat, J. G. Busch; other variety, O. Simonson; barley, oats, J. G. Busch; corn meal, Morgan & Kelly; shelled corn, J. G. Busch; exhibit potatoes, O. Simonson; potatoes not less than 2½ tons to the acre, O. Simonson; squashes, pumpkins, J. Busch; peas, beans, Robt. Caughey; second best beans, J. Busch; mangel wurzels, W. H. Young; corn on stalks, J. G. Busch.

Fruits, Etc.

Collection of fruits raised in one orchard, exhibit apples, single variety apples, 6 varieties apples, D. H. Whitehead; pears, Upp & Whitehorn; single variety pears, O. Simonson; 6 varieties pears, J. G. Busch; collection grapes, Wm. Higgins; exhibit foreign grapes, Wm. Higgins; California grapes, George McCowan; largest bunch grapes, Geo. McCowan; almonds, J. G. Bush.

Preserves, Fruits, Etc. Exhibit dried fruit, Mrs. G. M. Cook; dried apples, Mrs. Jos. Sheppard; dried peaches, dried plums, Mrs. G. M. Cook; jellies, Mrs. J. S. Dobkins; wheat bread, brown bread, Mrs. N. Norton; honey in comb, Mrs. R. E. Madden.

Butter and Cheese.

Fresh butter, packed butter, cheese, Mrs. Ed DeCamp.

State Fair Premiums on Poland-Chinas.

Editors Press:—Please allow me to give the correct list of premiums received by me on Poland-China swine, as follows: Capt. Jinks, best boar over 2 yrs, \$30; California Peerless, best boar under 2 yrs, \$20; Comic, best boar under 10 mos, \$15; Belldora, best breeding sow, \$30; Rosalind Starr, best sow under 10 mos, \$15.—ELIAS GALLUP, Hanford, Tulare county.

News in Brief.

THERE was a heavy frost in Virginia on Monday night.

RUSSIA has ordered a survey of the entire coast of Corea.

THE Turks are concentrating a large number of troops in Smyrna.

TRAINS have been blocked in western New York by ice and snow.

TEN THOUSAND Chinamen are about to leave Cuba for New Orleans.

THERE is a breach between the priesthood and the Irish Land League.

GERMANY is considering the question of reducing the duty on grain.

THE Canadian Pacific railroad is being pushed forward with great energy.

SEVERAL vessels were lost during the recent storm on Lake Michigan.

DON CARDILLO BARERO, President of the Republic of Paraguay, is dead.

A deadly cattle plague has broken out in Eastern Washington Territory.

NOT the slightest sign is yet made at Constantinople of ceding Dulcigno.

THE snowstorm in Iowa, Nebraska and Dakota has caused the loss of much stock.

HARTMANN, the Nihilist, asserts that there are 13,000,000 organized radicals in Russia.

AFFAIRS in Colorado still have an ugly look, and a conflict with the Utes seems imminent.

A REPORT has reached Berlin that the Czar intends to abdicate in favor of the Czarowitz.

THE leaders of the Land League in Ireland are to be prosecuted by the British government.

THE Emperor and Empress of Germany were enthusiastically welcomed at Cologne on Saturday.

POLICEMEN guard the obelisk in New York to prevent relic-hunters from chipping off pieces.

THE work of building a bridge across the Willamette river at Portland, Or., has been commenced.

A ST. PETERSBURG dispatch announces that the Tekki Turcomans have again resumed the offensive.

MISS SYKES, of Sacramento, carried off the first prize in the ladies' equestrian tournament at Salinas.

IN France more magistrates have resigned in consequence of the frequent decrees of religious orders.

THE liabilities of the collapsed Ladies' Deposit Company of Boston are between \$500,000 and \$1,000,000.

THERE is much feeling in Arizona over the occupation of Fort Bowie reservation by Hancock Tevis.

FIVE steamers are to be built on the Clyde for the new French company to trade with the United States.

WHILE traveling in the stage from Bodie to Carson, one of the passengers shot another for crowding him.

BERRY, the Indian Agent, who escaped from the Sheriff, is in the Indian camp and protected by them.

R. R. PARKISON, the well known Nevada newspaper man, was robbed by a footpad Thursday night.

OWING to a belief that the government intends to prosecute the agitators, a lull has occurred in the Irish agitation.

ON the 9th, the Emperor of Russia was married to the Princess Dolgorouski in the chapel of the Imperial Palace.

THE Secretary of the Interior has taken active measures to avert from Colorado the calamities of an Indian war.

THE Bonapartists have united on Prince Victor Napoleon as heir to the throne, to the exclusion of his father.

BYRON BLAKE, a madman, murdered his mother, sister and stepfather and then hanged himself, in Wheelock, Vt.

FIVE million salmon eggs from California have arrived at Chicago, for distribution among the different Fish Commissions.

THE Western Railroads are fighting among themselves, and it is thought the fight will involve all the Eastern branches.

JOHN A. WOODWARD, Cashier in the Treasury Department, has disappeared from Boston with \$82,000 of funds not his own.

TWENTY-NINE missionaries from Salt Lake arrived in New York on their way to Europe, in the interest of the Mormon faith.

THE negotiations between China and Japan in regard to the Loochoo question have now entered a phase promising peaceful solution.

THE Italian laborers on the Cape Cod canal have taken possession of Sandwich, Mass. Police have been sent to the town to restore order.

Various Causes.

Advancing years, care, sickness, disappointment, and hereditary predisposition—all operate to turn the hair gray, and either of them inclines it to shed prematurely. AYER'S HAIR VIGOR will restore faded or gray, light or red hair to a rich brown or deep black, as may be desired. It softens and cleanses the scalp, giving it a healthy action. It removes and cures dandruff and humors. By its use falling hair is checked, and a new growth will be produced in all cases where the follicles are not destroyed or the glands decayed. Its effects are beautifully shown on brashy, weak, or sickly hair, on which a few applications will produce the gloss and freshness of youth. Harmless and sure in its operation, it is incomparable as a dressing, and is especially valued for the soft luster and richness of tone it imparts. It contains neither oil nor dye, and will not soil or color white cambric; yet it lasts long on the hair, and keeps it fresh and vigorous.

FOR SALE BY ALL DEALERS.



The Corn Song.

Heap high the farmers wintry hoard,
Heap high the golden corn!
No richer gift has Autumn poured,
From out her lavish horn!

Let other lands, exulting gleam
The apple from the pine,
The orange from its glossy green
The cluster from the vine.

We better love the hardy gift
Our rugged vales bestow,
To cheer us when the storms shall drift
Our harvest fields with snow.

Through vales of grass and meads of flowers,
Our plows their furrows made,
While on the hills the sun and showers
Of changeful April played.

We dropped the seed o'er hill and plain,
Beneath the suns of May,
And frightened from our sprouting grain
The robber crows away.

All through the long bright days of June,
Its leaves grew green and fair,
And waved in hot midsummer's noon
Its soft and yellow hair.

And now with autumn's moonlight eves,
Its harvest time has come,
We pluck away the frosted leaves,
And hear the treasure home.

There, richer than the faded gift
Apollo showered of old,
Fair hands the broken grain shall sift,
And knead its meal of gold.

Let vapid idlers loiter in silk
Around their costly hoard;
Give us the howl of snuff and milk,
By homespun beauty poured.

Where the wide old kitchen hearth
Sends up its smoky curls,
Who will not thank the kindly earth
And bless our farmer girls!

Then shame on all the proud and vain,
Whose folly laughs to scorn
The blessings of our hardy grain,
Our wealth of golden corn!

Let earth withhold her goodly root,
The mildew blight the rye,
Give to the worm the orchard's fruit,
The wheat field to the fly:

But let the good old crop adorn
The hills our father trod;
Still let us, for his golden corn,
Send up our thanks to God.

—J. G. Whittier.

A Chapter on Tramps.

Written for RURAL PRESS by MRS. RANCUER.]

"I really must start for home to-morrow, girls," said Aunt Keziab Rigby, to her nieces. "So soon?" "That's too bad!" "Why Aunt Kezzy!" came from various parts of the room. "And you look as if the prospect were pleasant, and you were glad to leave us," pouted pretty Belle.

"Not glad to leave my brother and sister and nieces," corrected auntie gently, "but I shall be glad to see husband and home once more. When you are as old as I am, girls, you will find that though you may enjoy a trip from home, may have the kindest of friends, and the most pleasant of visits, still the crowning happiness of all will be, to sit under your own vine and fig tree, and to see the familiar home faces again."

"It may be as you say, Aunt Kezzy," said Hattie, "but if I lived as you do, in the country, away off from every thing, and every body, I think I should be away off too, the most of the time."

"But Hattie," reasoned Aunt Kezzy, "your Uncle Joseph is more to me than every one beside; and my home is my chief delight. Then how can I find it lonely?"

"But don't you think it dangerous to live there, auntie?" persisted Hattie. "Think how much we read now-a-days of the tramps who wander through country places. How they murder lonely women, and rob, and burn houses. I should suppose you would live in constant fear."

"Laws, no child," replied her aunt, "but" she continued as she saw the expression of doubt on the fair faces about her, "we are so cozy here this morning with our sewing, suppose I give you a bit of my experience with tramps."

"Oh, do, if you please," chorused they all.

"First, then," began Aunt Kezzy, "my mind goes back to the mines, and I recall the Indians, as the tramps that were most plentiful then. I remember being passed by a party of these same Diggers one morning as I was on my way to school, who begged, in their usual whining way, for something. There were great stalwart men, followed by squaws, young and healthy, squaws with little papposes strapped to their backs, and last one poor old great grandmother squaw; carrying all the traps for this company of strong brawny muscle. I bad said no to the others; but as she passed me far behind the rest, I gave her my noon-day lunch.

Poor creature! I can see even now how she slipped behind a friendly boulder, lost the others might see, and deprive her of her feast. How she gulped and swallowed that bread-and-butter, as if it had been her first morsel for a week."

"It is true then that they are cruel to their aged people?" queried Clara.

"Yes," replied Aunt Kezzy, "I have given them a loaf as they passed my door on their way to the fishing grounds, and have seen them divide it, a piece to each of the middle-aged and young, but not a crumb to the poor old wretch, who on foot carried their simple belongings. She must pick her living with the dogs, and when too feeble for that must be left to die of starvation. They are the most persistent of beggars, beginning with the least article and going up to the greatest. One girl, I recall, who opened her petitions by asking for a little salt and ended by pointing to the carpet and saying: 'Yon proscenium me that; make poor squaw heap good blanket.' Among whites, I have seen tramps of all kinds and degrees. Some have been rather impudent, but I never knew one to go beyond that. A great, broad-shouldered man stopped over night with us once. In the morning, while breakfast was cooking, I took advantage of a spare moment to run down to the barn to feed a pet lamb. While I was thus engaged he sauntered up and said: 'I was about to start, madam; but if breakfast will be ready soon, I will wait.' His air of condescension as he said this quite took my breath away, and I actually told him I would have it ready very soon. So he waited, and for some time, for he was so dirty, your uncle would not have him at the table with us."

"Some tramps are even of fine education. One stopped one day pretending to look for work. Some one at the house told him that your uncle wanted a sheep herder. 'I do not care for that job, my good sir,' he responded loftily. 'Well, I believe there is a wood pile here to be sawed,' continued the first speaker. 'Perhaps you would like to saw it yourself,' was the reply. Yet this man, when engaged in conversation, was found to be a well-read man."

"Another (though I do wrong to call him a tramp, for he would work) asked at my door to be allowed to saw wood in return for his breakfast. This young man (an Englishman) had traveled over a great part of the world. He was studying music, carrying with him his violin. Really studying, too, not learning a few tunes. He was entertaining, the more so because his good sense deterred him from being obtrusive, and your uncle took quite a liking to him; but he had no ambition to become a good worker—only to work enough to enable him to live, while he studied and traveled. So in a few weeks he shouldered his blankets, his violin and books, and left."

"That was our most engaging tramp; but the drollest was one that a little girl, who was stopping with me, espied sitting out by the well. He seemed tired, resting his shoulders against the tank which was high enough to hide all but his head. At the time, there was no other man on the place but the herder, and he was preparing to take out the sheep. Rosie was watching closely lest Ben should leave before the tramp. Presently I wanted some water, and as Ben was still in the corral, she ventured out. Soon she returned with an empty bucket, but laughing. 'Oh, Aunt Kezzy!' she exclaimed, 'it's only Uncle Joseph's old hat stuck on that post close to the horse tank.'"

"I have a friend whose life is made burdensome whenever she is alone, by the fear of tramps. One morning her husband took his team and started out to work out his road tax where it would benefit himself."

"But after a time his uncle came by, to borrow the team to go to town. Charlie obligingly let him have it, and continued his work till night. The day passed to poor Sadie as many others had, and she was preparing the evening meal, taking an occasional survey in search of tramps, when, lo! she saw a veritable one approaching."

"Hastily she locked the doors, drew down the blinds, and shut herself with her babe in her bedroom. Slowly the minutes dragged along, and unable to bear the suspense she ventured to take one peep through the blind."

"The trampily this time had reached the gate, and was, as you may have surmised, none other than her husband, whom she had not recognized, because of the absence of the team. Quickly she unlocked the doors and raised the curtains. But the story was too good, and she was constrained to tell it to Charlie; who in turn jokes her unmercifully."

"At this the girls laughed."

"I will add but one more story," continued Aunt Keziab. "It was a day in June. The heat was intense. Everything that could find shelter, fled from the scorching sun. On household cares intent, I heard no sound till a man appeared at the open door and asked for a drink of water. I brought it, but he drank so little I looked at him in surprise. Something in his face alarmed me. You are sick! I exclaimed. 'Yes,' he replied; 'for months I have worked underground in a tunnel. This morning I left home, thinking to work in the harvest fields while the season lasted. I have walked over 20 miles. At noon I felt too sick to eat, and have drank a great quantity of water. I'm about gone up. I wanted to ask you to let me lie here in the shed, but was afraid I should frighten you as you are alone.' I made a bed on the cool porch for him, gave him the medicine I thought would be best, and soon he dropped asleep. When your Uncle came home at night, he rushed into the kitchen where I

was preparing supper, 'Are you frightened to death, Keziab?' he exclaimed. Why, no, Joseph, I replied; that man is not drunk; he is sick. He narrowly escaped a sun stroke. In the morning he was better, but I have been told that if I had sent him away he would hardly have reached the next house."

"So you think the danger of tramps is all a bug-bear," said Hattie, as her Aunt concluded.

"No, dear, not altogether," replied her Aunt. "But when I remember that in the last 10 years there has not been in our neighborhood a single case of a woman being molested by a tramp, when I reflect that nearly all the sensational stories concerning these fellows occur in some far away place, I judge the danger to be very slight. I know when I ride there is some danger that the horses may run away, and we be killed or injured. Yet the thought does not disturb my pleasure. I know when I travel that there is a liability to accident at any moment; yet this does not keep me at home. So it seems to me that this tramp trouble, though it has some foundation, is greatly exaggerated; and that the worry women make over it is altogether out of proportion to the danger they so much dread."

Oakdale, Cal.

Mrs. J. W. Stow's Industrial Colonies.

EDITORS PRESS:—Pauperism in this country is steadily on the increase. This is all wrong. Everyone should earn his bread before he eats it. While traveling in Europe, in 1874, I visited many reformatory and industrial schools, together with Godin's Palace of Industry at Gies, in order to study the system of each. I found France had more nearly perfected a system, through individual effort, of making the pauper class earn their own keeping than any other nation, and yet it lacked breadth. Now, what I propose is broader, deeper and more lasting, because it is an irrevocable perpetuity. The plan I shall work out independently, as regards financial complications with social science, although an all-important part of it, it will constitute itself an independent section. I have asked the land-owners of this State to give 70,000 acres of land in a perpetual entail to industry, to be distributed in lots of from 10 to 100 acres, with 1,000 acres or more in each county. The name of the giver as well as the land will descend to posterity as "The Jones Grant," "The Adams Grant," etc. Here will be located co-operative colonies, where everyone who earns money, by the week, month or year, will be paid for the time employed and at the end of the current year the man, woman or child will share in the annual net income of the colony. To amount received in payment for labor the pro rata will be as \$5 or \$500 to the entire net income. This makes of every workman a proprietor of all earnings, makes him careful, conscientious, painstaking. I also ask for money to be sent to the Treasurer of the Pacific Bank, of San Francisco, or to me individually, to be used in improving the lands and establishing the colonies; also, trees, especially the mulberry, plants, lumber, furniture and everything else needed to build up a colony. I have 100 acres of land given me already in San Luis Obispo and 10 in Contra Costa, and as soon as the magnificent scope of the plan is comprehended the whole amount asked for will be forthcoming, for it will build up and populate the State, and make lands adjoining the various "Industrial Colonies" double in value in a short time. The person who gives a plot of land will be a life-trustee of the colony's funds and have a general oversight of its management if the party desires to do so. Here will spring up manufactories and workshops, where every kind of handicraft will be taught and practiced; here ability, genius and aptitude will take precedence of sex distinctions; here will be miniature republics, without caste, position or special creed. From these centers of labor will open an endless chime of praise-anthems, sweeter and more acceptable to the Creator of all than many a one from "fretted vault and long-drawn aisle."

MRS. J. W. STOW.

421 Stockton street, S. F.

DISAGREEABLE WOMEN.—A disagreeable woman is like a vacuum; there is no place for her in nature. She is a parody upon herself. If there is a touch of beauty about her, she gives those she meets the sort of shock one would feel on taking what appears to be wine, and is in reality vinegar. Fortunately she very seldom is beautiful, in the true sense of the word. Nature does not lend itself to shams. It is pitilessly exacting. Sweetness of face must result from sweetness of disposition. The face is not a mask, but a mirror. It reveals everything with terrible ingenuousness. amiability is not to be simulated to the observant eye. You cannot stamp the marks, the lines, the flowing curves of the agreeable on your face, unless you have the quality in your breast. For this reason the disagreeable woman is never really beautiful. Her features, at their best, remind you of etchings; the effects have been "bit in" by acids. The forms of the disagreeable in women are infinite, but the effect of all is the same. In place of attraction there is repulsion; in place of love, pity—if not scorn; in place of happiness, sour discontent. The disagreeable woman is irksome to every created thing, including herself. There is positively only one way to deal with her—turn her into a joke. In that way she may be made tolerable, like the Frenchman's slippers—useless, but just available as the basis of a ragout.—Selected.

Women as Field Workers in England.

The London *Agricultural Gazette* gives some information concerning women as field laborers in England which may interest our "Home Circle" readers: It has been one of the troubles of the farmer of late, that female labor has become so scarce; more especially on farms whose limited extent did not justify a great outlay for agricultural machinery. But it is better for the wives and daughters of the plowmen and cottiers—from whose ranks the women workers were chiefly drawn—that it should be so. Field work, for women, according to modern ideas, is degrading, not to say demoralizing; and in the colonies, which are ahead of us in some things, such a sight as an outdoor woman worker is rarely or never seen. Those whose memories date back to 30 or 40 years ago, can well remember seeing women out in the fields, from morning until night, who should have been home taking care of themselves and their young offspring.

Such a case as the following was not without parallel. A woman was suddenly left a widow with five young children, the youngest at the breast; rather than throw them on the parish she took to field work, and leaving her infant to the care of the other children—mere infants themselves—she hung a panful of potatoes over the fire when she left in the morning and at the dinner interval had just time to run home and suckle her child, tie a few of the potatoes (which were sometimes cooked through and sometimes not) in her apron and rush back to her work, which lay on the opposite side of a considerable stream through which she had to wade in going and coming. Strange to say the child lived and thrived, and the mother did not hurt her constitution, but fell from a rick she was building, at 70 years of age, and broke her neck. One would not like to see a beast, let alone a human being, so badly worked and so badly fed now-a-days, and there is not one in a hundred that would "dree" so hard a "weird" now with parish relief to fly to. Field workers in these days only get from 8d. to 10d. a day, but there was one thing that induced them very much to turn out—they always got an abundant supply of milk and butter from the farmhouse at a moderate rate.

On the ordinary mixed stock and arable farm a kitchen woman, gets £14 to £16 per annum, and a byewoman, whose duties are the feeding of the cattle, calves, and pigs, milking and field work, gets £16 to £18, as the general rule. Eighteen months ago these hired servants, who are all by the half-yearly term, would have been getting at least £2 more. Their hours are not so strictly defined as for the field hands, who work from 7 o'clock to 12, and 2 till 6; but they are supposed to go on till their duties are past, and take their leisure as they can get it.

Though the tendency to progress has touched, but with a light hand, the ranks of the agricultural laborer, there is perhaps less change to be noted among them than any section of the community. It is true that the love of dress and the desire for pleasure has seized them, in common with all classes; but it is painful to observe that little or no refinement of manner, or correctness of conduct, has accompanied the more superficial movement. Of the outdoor workers this is especially the case; but even among the indoor servants, with little exception, there is much unrestrained license of both speech and behavior, and the deplorable immorality that prevails is only the natural sequence and outcome of the low tone and style of their general conduct.

SUCCESS IN PRACTICAL LIFE.—If you speak the right word at the right time; if you are careful to leave people with a good impression; if you do not trespass upon the rights of others; if you always think of others as well as yourself; if you do not put yourself unduly forward; if you do not forget the courtesies which belong to your position, you are quite sure to accomplish much in life which others with equal abilities fail to do. This is where the race is not to the swift nor the battle to the strong. It is where you make people feel that you are unselfish and honorable and truthful and sincere. This is what society is looking for in men; and it is astonishing how much men are able to win for self-respect and success and usefulness who possess these qualities of good breeding. It is almost the turning-point of success in practical life.

MUSIC IN BERLIN.—Perhaps it goes without saying that the Germans are a musical people; and one is, therefore, not surprised at the number of musical entertainments in Berlin. Music fills a large space in all social enjoyments. You will hardly meet a man or woman who is not an instrumentalist, or who cannot sing. Leipzig claims to be the musical center. Its conservatory and its *Gewandhaus* concerts are world-famous. But now both Stuttgart and Berlin are disputing its long-time supremacy, and those competent to judge believe that the ultimate leadership will fall to the metropolis. Certainly the musically inclined can get their fill there. During the winter, there is not an evening when one cannot hear music of the highest order.—*Californian*.

GOOD WISHES.—"Your journal is ever a welcome visitor—its tone, and the careful manner in which the varied interests of this coast are treated, should secure for it a place in every well-regulated household. I wish it an ever-increasing circulation"—S. E. BRONNELL, Cloverdale, Cal.

Chaff.

A LADY does not have to wear a pair of creaking boots to attract attention when she goes into church.

THE latest calculation is that there are 46 societies for reforming the spelling of the English language, and each of the 46 has a plan of reform differing altogether from the other 45.

A HUMORIST leaps gaily upon the step of an omnibus, and cries cheerfully to the conductor, "Is the ark full?" "No, sir," replies the jovial conductor. "We have kept a seat for you."

"What, ho! within there!" "Room for the monkey!"

Now it is a Yankee, Mr. Samuel Bromley, of Mystic river, in the State of Connecticut, who announces his ability to live for 10 hours with his nose and mouth hermetically sealed. Where is the thing to stop?

MILLINERS, not finding words enough in all the languages of the earth to give vent to their feelings, invent proper terms for themselves. Bonnets are now said to be garnished. It is neither French nor English, nor any other known tongue, but they say it means trimmed.

"It isn't polite to eat corn on the cob," says a fashion writer. But, being buttered and salted, isn't it dreadful nice to eat off the cobs. It is not a matter of punishment, but of taste, marm.—*Chicago Journal*.

"THIS is a nice time of night for you to be coming in," said a mother to her daughter, who returned from a walk at 10 o'clock. "When I was like you," continued she, "my mother would not allow me out later than seven o'clock." "Oh, you had a nice sort of mother," murmured the girl. "I had you, young jade," said the mother, "a nicer mother than you ever had."

School Teachers and Children.

We look upon the profession of teaching as one of the grandest pursuits upon which a man or woman can enter. The press is acknowledged as the great moulder of public opinion in the adult portion of the community. But of as vastly great importance is the training of our boys and girls when their natures are impressionable, and the power for good or evil is so easily to be changed. From the portals of our public schools are to pass out the great army which will constitute the future rulers of this great country. If they are trained aright, if the path which they should tread is carefully mapped out for them, they all will have occasion to bless the teacher who guided their youthful footsteps.

The power of the teacher over the child is unquestioned. If there is laxity in home discipline, then upon the teacher's shoulders must the burden fall of training the youthful mind in the way of honor and usefulness. To the conscientious teacher it must ever be a source of gratification to think that some unruly boy who has been neglected at home should, under the wise precepts of his or her training, made become a worthy member of society.

The child holds with wonderful tenacity the early impressions of youthful days. As each succeeding year goes by, the thoughts that have been grafted upon their mind by the wise teacher grow stronger and stronger, and they always look back to the days when the loving teacher guided their footsteps in the straight path of rectitude and honor with emotions of grateful feelings. We can never forget the sweet face of a true and loving teacher who presided over a school we attended in one of the mountain towns of California in early days. We always look back to those days with feelings of pride and satisfaction. When in the exuberance of our boyish spirits something was done which did not meet her approbation, the slightest reproof from her made us vow that we would try to avoid everything which would cause her displeasure. Such was the success with which she managed the affairs of this mountain school, that there was not one scholar who attended for the term, but regretted that it could not be extended indefinitely, so that they would not lose their beloved teacher.

The responsibility of the teacher is great. The future of this glorious nation depends in a great measure upon the manner in which our public schools are conducted. There is no profession under the Government which should be the object of so much solicitude. Given good schools, with teachers who take a pride in their duties, and full understanding of what depends upon them, and we need have no fear that our future men and women will have such a name as never before was attained in the world's history.—*Pacific States Watchman*.

TAKING AN INVENTORY.—Occasional retirement, self-inquiry, meditation and secret communion with God, are absolutely essential to spiritual health. The man who neglects them is in great danger of a fall. To be always preaching, teaching, speaking and working public works, is unquestionably a sign of zeal not according to knowledge. It often leads to untoward consequences. We must take time for sitting down, and calmly looking within and examining how matters stand between our souls and Christ. The omission of this practice is the true account of many a backsliding, which shocks the church and gives occasion to the world to blaspheme. Many could say, in the words of the Canticles, "They made me a keeper of the vineyards, but my own vineyard have I not kept."—*Rev. J. C. Ryle*.

Young Folks' Column.

Artie's A, B, C.

(Written for Young Folks' Column by ANNIE SCHULTE.)

So come to me, my Artie dear,
And let your papa hear
You say your A, B, C.
Sit right here on my knee,
While mamma puts the things away
All snug and neat for another day.

So, now we're ready, say A, B, C,
My darling boy, and one, two, three.
There! that was nicely said,
Here on my shoulder rest your head,
And sing us a song of "The Happy Land,"
Where angels now in glory stand.

Come now, let's play Bo-peep,
Then our darling must go to sleep;
Here mamma comes to put you to bed—
Down, down, drops your silken head;
Your prayers first, and then a kiss.
Pleasant dreams of sweetest bliss.

How sweet it is at setting sun,
When the long day's work is done
To take a share in the children's plays.
Their innocent and happy ways—
Make one forget life's cares;
And the world of ill and snares.

Indoor Games.

As the season for long evenings and indoor amusements is at hand we give two games which are old but yet may be new to some of our young friends. One is called "Guess." It affords a fine chance for the display of "Ventriloquistic" powers, and is quite amusing. The children form a circle, each one joining hands with those on each side. Then some one is detailed to act as "Guesser." This one takes his place in the ring, and has to be blindfolded. He is then given a stick. He then says, "March!" and the circle moves around, until he says "halt." He then reaches out his stick and touches some one in the circle. The person touched takes hold of the stick. The "Guesser" then asks: "Who is it?" And here the fun comes in.

The person who holds the other end of the stick must respond to all questions asked him by the "Guesser," but must try to alter or disguise his voice in such a way as to deceive the other. If the "Guesser" fails to name the right person, after asking five questions, the circle marches again, and another member has to go through with the examination. If, however, the "Guesser" calls the name of the person he is questioning, before the five questions are asked, this person takes his place in the ring and he becomes "Guesser."

Another very popular play, and a very amusing one is called "Stage-Coach."

The children sit around the room, taking care that every seat is occupied so that one boy or girl is left to stand in the center. The person thus left standing proceeds to give each person in the room the name of some part of the stage-coach. For instance, one is given the wheels, another becomes the axle, another the tongue, one the reach, another the tire, and so on. If desired, some one can be called the horse, another the tugs, and the different parts of the harness be divided among the children. It affords much amusement to give some one the name of grandma, another that of grandpa, and another grandma's snuff-box or grandpa's cane.

The person remaining standing then begins in something like this way:

"The driver got up one morning and hitched up his horses. He got out his coach and examined the tire, looked at the wheels, the hubs, and the axles; fixed the reach, cleaned the tongue, and put on the horses. He then drove down to the house and got grandma and grandpa, her snuff-box and his cane, and started off. He went about a mile, and then the stage-coach tipped over!"

Now the fun is like this: If you had the name of driver and I was a hub, and JOHNNY, here, was a tongue, when the person who stands in the center calls our names,—that is, you understand, the names he has given us, we must get up and turn around and then sit down.

Thus, if he says, "The driver got up," you must get up and turn around; and then he goes on—"and looked at the hub of his wagon wheel"—why, there I, being hub, must get up and turn around; and if any one in the room happens to be called a wheel, that person must go through the same performance; and when he tells about the tongue, then JOHNNY must respond in the same way.

If you should not respond when he calls your name you must pay a forfeit. You see, therefore, you must be on the lookout, and not get caught napping. When he says the stage tipped over, then ensues a general scramble, for we must all change seats. Every one must secure a new one. Of course the person who stood in the center will aim to secure a seat, and if he gets one, it is plain to see that some one must be left without, as there were only seats enough for all the children but one at the commencement of the play. The person left standing must take the place of the one who told us about the stage, and see what sort of a story he can get up about the different parts of the coach, the harness, grandma and her snuff-box, and grandpa and his cane.

Be lively and keep on the alert, for ten chances to one he will call your name when least you think of it. This is a very lively play and I know you will like it. Try it.

DOMESTIC ECONOMY.

Ways to Use Up Stale Bread.

Clara Francis gives the *Prairie Farmer* an essay on this subject from which we take the following recipes:

Brewis.—Butter the bottom of your saucepan and put some fresh milk in it. The butter will prevent the milk from sticking. Bring to a boil, and season with salt and a generous piece of butter. Have the bread broken into little bits, and as soon as the butter melts stir them in until all the milk is absorbed. Serve immediately, as longer cooking will make it sticky.

Bread Fritters.—Slice the bread and cut off the crust making the slices of uniform shape. Soak these in a custard made of a cup of milk, one egg, and a little sugar and flavoring. Remove them before they get so soft as to break. Dip each piece in rolled bread crumbs, then in beaten eggs, and then in bread crumbs again. Fry in boiling lard to a golden brown and serve with lemon sauce made thus: Cream together a cup of sugar and half a cup of butter; stir in a well-beaten egg, half the grated peel and the juice of one lemon and a little grated nutmeg. Beat hard, then stir in gently and gradually half a tea cup of water. Do not beat. Set in a bowl on top of the boiling tea-kettle, until it thickens. Stir occasionally and don't let it boil.

Custard Bread Pudding.—Make a custard with a pint of milk, 3 eggs, some sugar and flavoring. Put it into a neat pudding dish, and fit thin slices of buttered bread over the custard. Don't lap the slices over each other. Grate a little nutmeg over the top, and bake in a moderate oven until the custard is done, but not until it turns to whey. Serve warm.

ORANGE MARMALADE.—Choose medium sized juicy oranges. Slice a dozen of them as thinly as possible, and also three small, fair skinned lemons. Don't try to take the slices clear across the fruit; it is better to have them in smaller pieces, and be careful to take out every seed. Put the fruit into an earthen bowl and cover it with cold water. Let stand 12 hours, then boil together until the orange skins are tender, after which add as many pounds of granulated sugar as there were of fruit at first. Boil until the rinds look clear, and the mixture thickens when a little of it is cooled. Put it into small earthen or glass jars; when cool press brandied paper close to the marmalade and paste paper dipped in the white of an egg over the top of the jar.

CANNING TOMATOES.—Many good cooks have given up canning tomatoes because they have been unsuccessful in keeping them after having had all the trouble of putting them up. I have never known of a can being lost where the following directions have been observed: Slice the tomatoes and let them stand 15 minutes; then drain off all the liquor that has collected; boil them an hour and a half. A great deal of scum will rise on them, which must be skimmed off—herein lies the secret of success. Seal in ordinary glass cans and set in a cool, dark room.

BREAD AND FRUIT PUDDING.—Take a deep pudding-dish and butter it; cover the bottom and sides with thin slices of bread, white or brown, then a layer of pared and cut apples or pears, or both, mixed with any other fruit you fancy; then sprinkle some sugar; then a layer of bread in slices or bits; then fruit, and so on until the dish is full. Lay thin slices of bread over; fill up with any fruit juice, or water, lacking this; cover with a plate and bake in a slow oven 4 hours. Hot or cold, it is most delicious. Any sauce would spoil it.

POT-ROASTS.—Meat of any kind, chicken, prairie-fowl or pigeons may be pot-roasted. Slice an onion and a few slices of pork, and put into the bottom of a kettle. Place on top whatever meat is to be cooked; add just water enough to stew it. Be careful not to use too much water; it can be easily added if it cooks away, but it spoils the dish to be obliged to take out any. Keep turning the meat, and let it stew or roast slowly till brown or tender, then take out the meat, strain and thicken the gravy, pour over the meat and serve hot.

CHEAP CARAMELS FOR CHILDREN.—One cupful of water, 1 of sugar, $\frac{1}{2}$ cupful of grated chocolate, and a piece of butter the size of a walnut; boil the water, sugar and butter to a syrup, and add the chocolate when nearly done; stir to prevent lumping; spread on greased paper, and cut into squares. 2. One cupful of milk 2 cupfuls of sugar, 2 cupfuls of New Orleans molasses, 1 cupful of chocolate; boil till it candies, be careful not to burn; pour on greased tins, and mark in squares.

TO FRY SWEET POTATOES.—After they are boiled, cut them into two or four pieces, according to size; peel and slice them or leave them in thick pieces; have some very hot lard or drippings in which to fry them a delicate brown color.

CABBAGE IN ITS OWN JUICES.—Cut fine as much clean nice cabbage as will fill a spider. Place it in this utensil, cover with a plate, and let it cook till done in the steam from its own juices.

GOOD HEALTH.

HOT WEATHER HINTS.—Dress needs reform, for our masculine garments in particular are robes of martyrdom to absurd conventionalism. An Irishman, walking out in summer clad in extreme winter style, replied to remonstrance that he thought what was "good to kape out the cowl was good to kape out the hate," and his philosophy was perfectly sound in the abstract, like all true philosophy, only when he made it concrete on his own body he got it wrong. A thick flannel is the costume when working in a foundry, but not ordinarily; because the foundry's temperature is higher than the body's, while the out-door air of the hottest day is lower. In winter we wear covering in order to keep the body's heat from passing off; in summer, to avoid scorching by the direct rays of the sun, which are much hotter than the air. This is the only natural and physical reason for covering; usage, to which deference must be paid, is the only other. But we do not get far enough away from the rigidity of usage when heat comes. Why should we resign draperies exclusively to the women, who clad in them look cool, but do not help our own misery? Why should "shirt sleeves" be voted utterly to be an outrage on refinement? They need not be taken in puribus; some modification of them, in garments of more open texture and ampler cut, could be devised were somebody to dare. Now, the wide "pantaloony" and alpaca or linen coat, with (in cases of extreme hardihood) the absence of "waistcoat" and low shoes and umbrella take us to the verge of hazard. We must be elegant, in full dress, and at ease, though we melt, as if physical discomfort and refinement could ever go together.

WOMEN'S HEADACHES.—The New York *Herald*, which devotes most of its space to news, has published a brief editorial on women's headaches, which is certainly more suggestive than many of the articles in that paper. One principal reason why women suffer more than men with headache, is the fact that their life is largely indoors, and they are not able to take so much physical exercise. There is very little complaint of headache at summer resorts, where the windows are always open, and games and excursions constantly tempt people into the open air. Girls who ride, row, sail and shoot, seldom have headaches, and the same is true of those who work in the fields, as women in many countries do. Headaches might be almost banished from civilized society by a wise and careful system of physical training, and a rational system of diet. We ought to be ashamed of having a headache as of being unable to read or write, or speak our language correctly.—*Herald of Health*.

TREATMENT OF BURNS.—Various are the modes of treatment proposed for burns. The last, which appears to come from "good authority," we give below. There can be no question about the carbolized water—although salicylate of soda—one to 20 or 30—would undoubtedly be more useful. Dr. Shrady, of New York, recommends that burns be treated by applying a paste composed of three ounces of gum arabic, one ounce of tragacanth, one pint of carbolized water (one part to sixty), and two ounces of molasses. The paste is to be applied with a brush, renewed at intervals, and is stated to be a successful method. Four applications are usually sufficient, the granulating surfaces being treated with simple cerate or the oxide of zinc ointment, as indicated.

WORTH KNOWING, PERHAPS.—Catarrh is called "a fashionable disease," and it really appears as if there was much truth in the saying. It is astonishing how many persons are afflicted with the disease in this city, and how little relief they receive from the generally advertised remedies. Still, it is contended that catarrh can be cured, and many certificates are published to that effect. The latest remedy is given by a Baltimore paper, which says that chewing a twig of a eucalyptus tree, and swallowing the juice, will effect a cure in half an hour. Those afflicted with catarrh might try the prescription, but as faith is necessary to the working of miracles, it is a matter of doubt whether, without faith, a eucalyptus twig will prove a panacea.

MOUTH DISINFECTANT.—A lady asks us to name some harmless mouth disinfectant. It is not a good sign to have a mouth that needs disinfecting. There must be some fault with the stomach, or liver, or bowels. The first remedy should be to regulate the diet and other habits, so that the functions of excretion shall be perfectly established. Then if the mouth needs cleansing with anything more than pure soft water, a harmless lozenge may be made by rubbing 24 grains each of permanganate of potassa and hyperoxide of barium into a mass with sugar and glycerine, and dividing it into 14 parts. A very ill-smelling mouth will be thoroughly disinfected by its occasional use.—*Herald of Health*.

INJURIOUS TO THE EYES.—Medical investigation has shown that some of the occupations for children at kindergarten schools are calculated to injure the eyesight. Among these are the pricking holes over a tracing on paper, braiding bright colored bands of paper, or sewing fine silk upon tracings.



DEWEY & CO., Publishers.

A. T. DEWEY. W. B. EWER.
Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line.....25 .80 \$2.00 \$ 5.00
Half inch (1 square). \$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 30.00

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. O. H. STRONG

SAN FRANCISCO:
Saturday, October 23, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Black Knot on Plum and Cherry Trees; The Signal Service in California, 257. The Week; Land and Land Laws; Peruvian Potatoes; The Lumber Interest; Prices of Champagne Grapes, 264. Against Grain Gambling; Plowshare Fastener; The Sherrill Gang Plow, 265.

ILLUSTRATIONS.—Black Knot (Sphaeria morbosa) on Plum and Cherry Trees, 257. The Sherrill Gang Plow, Seeder and Cultivator; Patry's Plowshare Fastener, 265.

QUERIES AND REPLIES.—The Size of Butter Rolls; Treatment for Bloody Milk, 264.

CORRESPONDENCE.—Agriculture in Tehama County.—No. 2; Wild Silkworms and Forest Trees, 253.

THE FIELD.—Los Angeles County Sugar Interest, 263.

THE DAIRY.—Dairying in Denmark; Cleanliness in Milking; Handle Dairy Stock Kindly, 259.

PATRONS OF HUSBANDRY.—We Have Been to the State Grange; Pescadero Notes; Resolutions of Respect; Stockton Grange, 260.

AGRICULTURAL NOTES from the various counties of California and Nevada, 260-61.

NEWS IN BRIEF, on page 261 and other pages.

HOME CIRCLE.—The Corn Song (poetry); A Chapter on Tramps; Mrs. J. W. Stow's Industrial Colonies; Disagreeable Women; Women as Field Workers in England; Success in Practical Life; Music in Berlin; Good Wishes, 262. Chaff; School Teachers and Children; Taking an Inventory, 263.

YOUNG FOLKS' COLUMN.—Artie's A, B, C (poetry); Indoor Games, 263.

DOMESTIC ECONOMY.—Ways to Use up Stale Bread; Orange Marmalade; Canning Tomatoes; Bread and Fruit Pudding; Pot-Roasts; Cheap Caramels for Children; To Fry Sweet Potatoes; Cabbage in its Own Juices, 263.

GOOD HEALTH.—Hot Weather Hints; Women's Headaches; Treatment of Burns; Wrong Knowing; Perhaps; Mouth Disinfectant; Injurious to the Eyes, 263.

THE VINEYARD.—The Remedy for the Phylloxera.—No. 1, 259. What to do with the Phylloxera, 266.

MISCELLANEOUS.—Santa Clara County Fair; Awards of San Joaquin Valley Fair; Mendocino County Fair; State Fair Premiums on Poland-Chinas, 261. The Lick Observatory on Mt. Hamilton, 266.

Business Announcements.

Champion Drag Saw—Baker & Hamilton, S. F. Cal.
Gang and Sulky Plows—Geo. A. Davis, S. F., Cal.
Seeds—R. J. Trumbull & Co., S. F., Cal.
Cattle For Sale—Roht. Ashburner, Baden Station, Cal.
Small Fruits—E. R. Roe, Cornwall-on-Hudson, N. Y.
Sheep For Sale—Mrs. R. Blacow, Centerville, Cal.
Sheep and Wool—Eugene Ayl, S. F., Cal.
Poultry—M. Eyre, Napa, Cal.
Chromo Cards—Clintou & Co., New Haven, Con.
Druggists—H. H. Moore & Son, Stockton, Cal.
Organs—Mason & Hamlin, Boston, Mass.
Music Books—Oliver Ditson & Co., Boston, Mass.

The Week.

All themes are tame just now save those of political import. Trade topics tumble from the merchant's tongue, being pushed aside by comments on the latest stroke of the party chieftains. The infinite variety of entertainments with which evenings in the city are usually supplied now settle upon the taste, and miles of parade or cubic yards of oratory, engage all city folk when the day are done. Nor is the country otherwise engaged, for our interior exchanges are filled with reports of the thunders of the peripatetic elucidators which each party sends throughout the State. The whole State is awake upon the momentous issue, and it would seem as though the vote must be a large one from the especial interest displayed by all. There are but two weeks more, and then the people will return to their ordinary thoughts and to fuller zeal in their vocations.

This is little either new or strange in public affairs, except the disposition we have noted. The farther delay of the rains will give full opportunity for the completion of autumn work. The gathering and disposition of the grape crop is proceeding with great activity. Large dray loads of the new raisins are now traversing our streets, and large dray loads of bright new casks going to the boat landings for shipment to the country wineries. It is indeed a good year for coopers, however the great flow of wine may be regarded by others.

We notice that the westward bound overland trains are now bringing large loads of passengers—sensible people who drop down on this side of the great Sierra barrier to winter, and will revel in green and sunshine and flower hues during our delightful "winter" weather, while those left behind will shiver and swing their arms wildly to heat the numbness from their frames. No one regrets an experience with a California winter.

Land and Land Laws.

We notice that in some parts of the State there are wild ideas still outcropping concerning sharp and arbitrary laws to reduce the size of landholdings. They seem to take the form of a yearning after some incisive law which shall decree the division of land acquired by individual in the honest way of purchase. It does not appear just in what way such a division is to be brought about, but it seems enough for present purposes to shout it must be done. Such shouts probably serve a purpose, else why should one strain his throat; but we cannot see how any such movement could be carried on without direct conflict with the rights of property and individual freedom which are decreed by our laws and constitutions.

We have often urged the advantage of having our vacant areas peopled with industrious home-makers and producers, and we have cited proof to show that this is now the tendency of affairs in this State. There is a vast area of productive soil which the owners are trying their best to dispose of in small tracts and at most favorable rates to purchasers. The agents of these land owners are now agitating the subject of colonies and individual incomes from the East, and their efforts are succeeding, for there are desirable people continually arriving and the number of homes in this State at the close of the present year will be much greater than at its beginning.

There is every inducement now to dispose of lands which are too large for cultivation by their owners. It has been found that vast land speculations which were in high favor a few years ago were not as a rule profitable. Lands held at extortionate prices because of some imperative demand anticipated, are now purchasable at reasonable prices, because the ideas of their speedy rise in value were found to be illusive. It has been found much the wiser policy to sell off good portions of such land to those who will build up homes and neighborhoods upon it and for the original owner to enjoy the advance on the unsold portions which the development of adjoining areas induces. Thus the land owner becomes a sharer in the general advancement instead of a dull holdfast, refusing others the opportunity to advance and remaining stationary himself.

But there are other tendencies at work reducing our areas of single holdings. Death generally looses estates from a single name and their sale and division ensue. The more just system of assessing idle lands makes such property a burden which few can indulge in and hastens transfers. We believe that this can be carried farther until the idle land is made to bear its full arable value on the assessment roll, and we shall not see enterprise and labor toward improvement increased, because the owners will find them forced to make the land pay for itself. This will relieve the pressure of taxation somewhat from the general productive property of the State and will assure all that a just system of distributing public burdens prevails.

There are many wise principles involved in land holding and in the making of land laws which should be calmly considered and the subject should never be made the material for demagogic cries. Great Britain has long been vexed by the eyeteme of land ownership and land laws which there prevail. We have nothing in this country which can be compared with the laws of primogeniture and entail. Our hardships are much more transient. Judging by the progress for the last 30 years in land division in this State, we may expect that the lifetime of another generation will see us well out of the woods. There are, however, several directions in which legislation may move toward hastening the desirable result. Some of these may be seen in the propositions which the latest English writer on the principles of property in land lays down as matters which laws relating to land should embody, as follows:

"1. Land, as the root of the wealth of the community, should be dealt with so as to evoke its maximum produce.

"2. To this end there should be nothing tending to preserve it in the hands of a hereditary caste, whether of large or small owners, but every facility should be given for its transfer from those who cannot use it properly to those who can.

"3. Any system which tends to make the labor employed on land not fully productive should be discouraged.

"4. The application of capital, which is saved-up labor, should be encouraged.

"5. Large estates, implying great wealth, and consequently less inducement to production, should not be an object of legal favor.

"6. So far as experience may show that there is no moral or economic objection, the law should rather seek to promote the division than that aggregation of landed property."

These points it would do for land doctors to pin in their hats, for they will, it seems to us, be found to cover the courses of right in these matters. They will be found to lie about midway between conservatism and the modern radical ideas which are being promulgated, and in most agitations the truth lies about half way between the new and the old. They all tend toward an equalization of burdens upon owners of lands, and causing all lands to sustain their share of the support of mankind. If these be enforced it naturally follows that the land will eventually come into the hands of those who can use it best, providing this tendency is not checked by arbitrary laws. In this country there is no such check and the right movement in ownership will surely exert itself if conditions favorable to it are assured.

It is safe to predict that all mooted measures to divide lands honestly acquired will fail; in

fact, they will never get beyond the platform of the political orator, or the print of his newspapers and pamphlets. But the truer measures, those which proceed in equity to adjust existing inequalities with due reference to individual rights, will advance and accomplish the desirable results within their power. Let all things be done decently and in order.

Peruvian Potatoes.

In our "Agricultural Notes" last week we gave the experience of Orton Hubbell, of Bodega, with half a ton of potatoes which he imported from Peru, and planted to test their blight-resisting ability. The result was that the Peruvians were bright, green and healthy, while the common potatoes, the Bodega reds, were nearly all destroyed. It is interesting to find this local experience fortified by foreign experience in the use of the Peruvian tubers. Capt. Mayne Reid, of England, the well-known writer of books of adventure and travel, has been for the past three years experimenting with seed potatoes from Mexico, the original habitat of the plant, with the view to escaping the blight which has been so disastrous to the potato crop in England and Ireland. He writes to the London *Live Stock Journal* from his place in Herefordshire, briefly detailing his experience, from which it appears that of eleven different varieties, planted at the same time, in the same soil, and with the same cultivation, the Mexican alone showed not a spot of blight, all the other kinds having been found to be diseased in a greater or less degree. In addition to the immunity from disease, he finds also that while the best of his English seeds yielded a crop of but five tons, or considerably less than 200 bushels to the acre, the Mexican seed produced over ten tons, without special care in cultivation, many single specimens weighing a pound, or even a pound and a-half. After being stored through the winter in ordinary field pits, they come out perfectly sound, and appear to improve in quality as the spring advances. As a table potato, or for feeding to stock, he thinks they have no equal in England, and he proposes that the English government shall take in hand the importation of seed from Mexico or Peru as a preventive of the blight. If we are not mistaken, our Agricultural Commissioner at Washington has already distributed some of these Peruvian potatoes in different parts of this country. Mr. Hubbell's experiment at Bodega, is, however, like Capt. Mayne Reid's, one of private enterprise, but nevertheless may prove of great value to all growers.

THE LUMBER INTEREST.—The fullest activity is reported from the coast timber regions. Lumber production is proceeding at a rate quite in contrast with the dull movements of two years ago. Mills which have been long closed are firing up. The following item from a Sonoma county correspondent indicates the new life among the millmen: "All the saw mills in and around Guerneville are now in operation. Guerne & Murphy's mill, which had not been running for some time, started up on Wednesday last. Murphy's mill is also in operation, but not running full-handed. Korbels mill is in active operation, and cutting as much lumber as possible. French & McFadden's mill, situated on the Torrence tract, is now in full blast, and since the addition of a new boiler—in the place of the one which was blown out recently—is cutting about 13,000 ft. of lumber per day." There is also a large production of tan-bark and fire-wood, ties and posts being produced in the different timbered regions, and as a rule the axe and saw are now well employed. There is a moderate revival in building throughout the State. The demand for warehouses has been large, and just now there is much lumber used for shedding exposed grain and baled hay. In the city there are some fine business structures going up, and the call for residences is also improving. Throughout the country there will be a disposition to repair or to build anew, as this year, with its fair deeds to producers, will enable many to realize improvements in domicile and outbuildings which have long been hoped for. Our mechanics have reason to expect active days until the heavy weather comes, and probably the winter of 1881 will find fewer idle men than for many years.

PRICES OF CHAMPAGNE GRAPES.—Now that our grape growers are obtaining from \$20 to \$25 per ton for their wine grapes, and are prosperous, it is interesting to remember that there are wine grapes which bring their producers much greater returns for their investment and labor. For example, the grapes in the champagne districts, on the mountain declivities of Rheims, and on the slopes overlooking the river Marne. It is announced that there will be an exceedingly small yield, but of a quality of surprising excellence, because of the quality of the grapes in flavor and perfume. It is expected that the raw wine from which the champagne is made will return the vine-growers something like 1,000 francs per piece of 200 liters (44 gallons), and this would be nearly \$5 per gallon for the raw wine. No wonder that an English paper remarks "nearly every kilogramme of grapes has already been purchased at prices hitherto undreamed of, even by the most covetous of vine-growers." It remains to be seen what spot in California shall yet claim the rewards

for producing grapes which shall demand such a market as this. Our enterprising vineyardists have already imported the vines upon which such grapes are produced. Mr. John Benson has some of them growing upon his place in Napa county, and others probably have them too. The question of character of growth under our California conditions of soil and climate are yet to be determined. The future only can tell who will be able to get \$5 per gallon for his raw wine.

QUERIES AND REPLIES.

The Size of Butter Rolls.

EDITORS PRESS:—We are constantly receiving letters from our commission merchants, advising us to cut down our butter molds, so that a case of 50 rolls will only weigh 92 lbs., and telling us that the light-weight cases are preferred by the retail dealers. Now I ask it is right and honest for dairymen to make their butter rolls weigh only 29½ ounces instead of 32, as they should, and thus cheat the customer out of 2½ ounces of butter on every roll he buys, simply to add to the gains of the retailer? The dairymen only gets pay for the exact weight of his case, and sometimes not that, if it is full weight, for the light-weight cases are in so much greater demand, that the honest case of "gilt edge" is often sold at 95 lbs., or left on hand to become stale.—PATRON, Crescent City, Del Norte Co., Cal.

If it were indeed true in practice that the consumer was obliged to pay the value of two pounds of butter and obtain only 29½ ozs., it would of course be a swindle and all parties to it would be culpable. The fact is, however, that the butter is sold as a roll and not as two pounds, because the competition among retailers is so sharp that they cut prices down to the lowest notch, and the consumer, does not, as a rule, pay more than the value of the weight he receives. Because of this sharp competition and the cutting down of prices, the retailer is forced to get rolls which do not weigh more value than the money he can get for them. As there are many of these short rolls arriving, competing retailers have to be sure they get them, else one man will be furnishing more butter for the same money that his rival asks for a roll.

The dairymen has to furnish his product in the style demanded by the retailers, else it will not sell readily. He cannot afford to put up his butter in any style which interferes with his getting the full weight of the box. He does not certify that the roll weighs two pounds or any other certain weight, and so long as he makes an honest butter we cannot see that he assumes any responsibility whether the market calls for small rolls or large ones. We think it is unfortunate that there has been any departure from the old common consent roll of two pounds weight, but we cannot see how an individual producer can afford to stand for a full weight roll if his sale of butter is interfered with thereby.

The only way by which any certain weight in a roll of butter can be fixed is by a law etating a standard weight and enforcing a penalty for selling lighter rolls. This would protect a man who does not desire to outrage his idea of a true roll, and we do not see how the matter can be regulated otherwise. If any of our readers can point out a way to retain the weight without endangering a due return of value to producer we should like to know it.

Treatment for Bloody Milk.

EDITORS PRESS:—How shall I treat a cow that has just commenced to discharge clots of dark blood from one fore teat when being milked. She is at present time being fed on new oat hay and six quarts of bran per diem. Her calf is weaned, and is five months old, and she has not yet taken service.—SONOMA, Calistoga.

EDITORS PRESS:—Let "Sonoma" give one lb. of sulphate of magnesia and two drams of ginger in a quart of warm beer. After the physic has ceased to act, give one dram of iodide potassium and two ounces of tincture of iron in a quart of water once a day for a week. These cases are often very obstinate, and sometimes incurable.—JOHN CASEWELL, Petaluma, Cal.

Formula for Concrete Wanted.

EDITORS PRESS:—The foundations of my barn are in wet and soft ground. I intend to dig a trench around the walls and fill in with concrete. Can any of your many readers tell me how to make a cheap concrete that will keep out rats and water?—A FARMER, Sonoma.

THE IDES OF MARCH.—The *Patron* calls timely attention to the fact, that under existing laws, loans made on wheat in warehouses will be assessable against the persons holding the lien. Loans on wheat are made subject to call, and it is therefore to be expected, that such loans will be called in before the first Monday in March, the date upon which assessments are made. It therefore behooves those having such obligations outstanding, to make arrangements to meet the call, lest, coming unawares, it might lead to the forced sale of the security, owing to their unreadiness. The *Patron* says: "The only apparent remedies against this threatened embarrassment, are two; the one sure, the other possible. That sure is for every farmer who will be affected to come to some understanding with the party from whom he has secured his loan relative to the matter, before the first of March next. The possible way of avoiding the danger is to have the present law so amended by the Legislature, which will convene on the 3rd of January next, as to exempt this class of securities from being taxed in the hands of both debtor and creditor." The subject is one which should be looked into by all who have wheat subject to liens of this nature.

Against Grain Gambling.

There is now in progress among the millers of the Eastern States a vigorous movement to break up the modern style of grain gambling which has reached such immense proportions during the last few years. It is a fortunate thing for this State that, though various efforts have been made to introduce grain gambling here, they have failed thus far. By grain gambling, we do not mean buying for speculative purposes or with the hope of making a corner or other endeavors which are based upon the actual purchase of amounts of grain. Some operations of this kind do, it is true, partake of the nature of gambling, but it is a mild type of gaming compared with that which is practised at Eastern grain centers, and which indulges in transactions amounting to millions of money without a single kernel of grain being actually transferred. So long as a man or a set of men purchase grain for speculative purposes and pay what the market calls for, their operations must be considered legitimate when compared with the works of the grain gamblers who unsettle values and bring the whole trade upon an artificial basis through their systems of mock sales and sham deliveries.

During the last few years this grain gambling has reached alarming proportions and has had serious effects upon the legitimate trade and industry of the country. It is this fact which has excited the millers. The millers must be legitimate dealers, they cannot make flour out of paper said to represent wheat; they must have the wheat itself. Consequently they do not look kindly upon the operations of men who remove the value of wheat wholly from the basis of legitimate supply and demand and measure it by their paper supplies and paper requirements, and thus cause the current quotations to represent not wheat but gamblers' certificates. The account which we have received from the East of the millers' movement against grain gambling shows that about 4,000 millers have already signed a petition to Congress asking that some proper law be passed to check an evil which works such evil upon producers and consumers of grain. This petition, of which we have a copy, certainly presents the subject in a very forcible light, but it does not give any idea of what manner of legislation can be framed to reach the evil. There is, however, another document accompanying the petition which takes this position, which it seems to us is a strong one: "We are in favor of enacting laws by Congress, and in all the States making it a penal offence, punishable by fine and imprisonment, for any person to sell that which they do not possess, or to purchase merchandise which they do not expect to receive and pay for. All contracts which are to be settled by the one paying and the other receiving the difference between the contract price and the value of the article at some future day, and all species of luck or chance trade dealing or gambling, of whatever description should be declared illegitimate, and punishable under the law."

The showing of the millers casts a clear light upon the true character of grain gambling, and the influence it exerts upon the legitimate trade and production of the country. The great combination engineered last year by Mr. Keane, and in the elaboration of which he had many associates among eastern millionaires and monopolists, proceeded upon the computation that there would be a great foreign demand for grain, because of the failure of crops in Europe. Their plan was to purchase immense quantities of grain and hold it above the market value until foreign requirements called for it at their prices. The immediate result of their large purchases was the elevation of grain prices in this country, and doubtless many wheat growers obtained more money for the crop of 1879 than they otherwise would. Thus far it seemed as though the operation of Keane and his associates were of advantage to the growers, and doubtless they were of temporary benefit. It is natural that the millers would object to any movement which made them pay more for wheat, and for this reason the schemes of Keane vexed them sooner than the wheat producers who received the greater money through Keane's movement. But it is shown that their calculation of bringing the purchasing countries to their own prices was proved to be defective, because while the combination was holding up the price of American wheat, the other supply countries, Russia, Hungary, Australia, India, etc., were freely selling their crops to England and the continent of Europe, and the American grain was held away from the demand which would have taken it and put it out of the way of this year's crop. Thus it was found that while the wheat from our rival producing countries was being disposed of, our own was hoarded.

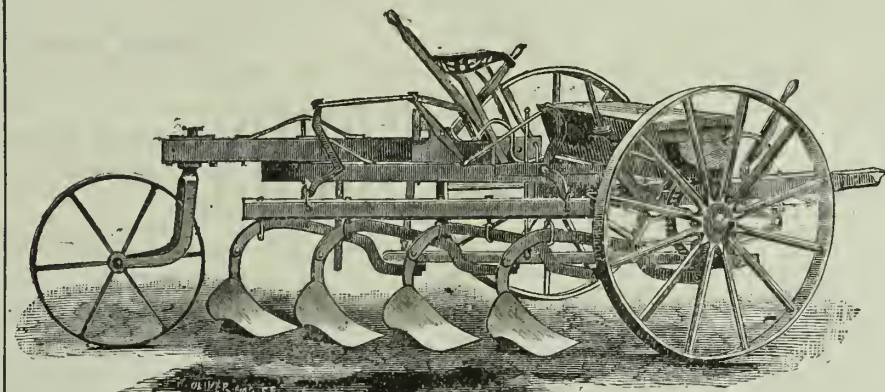
When it became apparent that the demand would not reach the point fixed by the combination they foresook their original idea of holding for actual sales, and began gambling in wheat, making mock sales and sham contracts for future delivery at advanced rates; thus endeavoring to artificially raise the price of grain they held so that they might rid themselves of it to purchasers who were allured by their gambling transactions. Thus the whole wheat trade of the country was thrown off from a legitimate basis and market prices were a sham and a delusion. The leading effects of the whole opera-

tion may be summarized in this way: There was an unhealthy and feverish state brought upon the produce market, the locking up of the grain sent ships away from our Atlantic ports without cargoes, and thus interfered with regular carriage of produce which must in the end be disastrous to the producing interest; it also interfered with fair competitive efforts among inland transportation companies, clogged their storage facilities and thus laid obstructions in way of the mass of the grain, which was still in the farmers' hands; it forced the great milling interest to suspend operations and thus interfered with the exports of flour, and finally the "break" came so late that the commodity, which was refused at fair rates to other markets, became a glut in our own, "to the detriment of the producing districts over which the backsetting wave spreads and stagnates."

The millers aim to do away with all such evils to producing and manufacturing interests by a law against gambling in grain and will urge the attention of the next Congress to the subject. In their contest against the gamblers, the millers will doubtless have the sympathy and the assistance of the grain growers, for though large purchases for speculation may temporarily raise the price of grain, it is rather upon the regular and lasting demands of legitimate trade that the producer must rely for his reward.

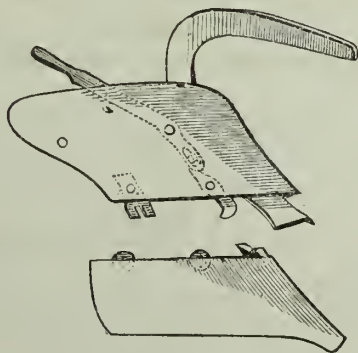
Plow Share Fastener.

Speaking of plows, for the plowing season is at hand, we introduce a small engraving of a new device for attaching the share. It was invented by Jacob P. Patrey, Dunnigan, Yolo county, Cal., and patented through the MINING AND SCIENTIFIC PRESS Patent Agency. It has



THE SHERRILL GANG PLOW, SEEDER AND CULTIVATOR.

been tested by a number of Yolo county farmers, and their testimony has been given in our advertising columns. To attach the share to the plow, all that is necessary to do is to catch the hook (which is seen at the lower edge of the mold-board in the engraving) to the stud or projection on the share near it. This hook is



Patrey's Plowshare Fastener.

attached to a compound lever shown by the dotted line in the engraving, and when the lever is thrown over, the hook draws the share up lightly and snugly into its proper position. The lugs on the upper edge of the share fit into the slots on the lower edge of the mold-board and prevent its moving from place.

When it becomes necessary to remove the share, by throwing the lever back, it is released readily and quickly, and can be taken away and sharpened, or another share substituted. The lever and studs are on the rear part of the plow, and, therefore, form no obstruction to its passage through the soil. This fastener can be attached to any ordinary plow that has a mold-board and share.

NORMAN HORSES COMING.—The Norman horses are certainly winning a wide fame in this State and the importations continue. A dispatch from New York says: 17 Normandy stallions were shipped from this city to Wilmington, Illinois, yesterday, where, after recovering from the effects of their ocean passage from France, they will be sold. It is expected that most of the stallions will go to California. They are valued at from \$1,600 to \$2,000 each, as the 17 large stallions were led through the streets in single file to the freight depot of the New York Central and Hudson River Railroad, they attracted considerable attention.

The Sherrill Gang Plow.

We illustrate on this page the Sherrill gang plow, a recently invented implement, which possesses many advantages, combining as it does several independent features in the one machine.

The plow has been specially constructed so as to ensure light draft. The line of draft strikes a little above the plow points, the draft bars being beneath the frame and axle, and directly attached to the diagonal cross bar to which the plow beams are connected. The independent motion of the plows, as hereinafter described, also tends to lighten the draft.

Each plow has an independent vertical movement, and naturally conforms to all inequalities of the ground, whether rolling or hillside, plowing all to uniform depth. On all planes its operation is the same, and performed automatically without adjustments or delays.

Below and in the rear of the axle is hung a diagonal cross-bar, to which the forward extremities of the plow beams are hinged, and which is adapted to move the plows collectively to or from the land by means of levers and connecting mechanism adapted to vary and maintain the cross-bar in any desired vertical adjustment. By moving the lever, therefore, and swinging the cross-bar, the whole gang of plows are moved to or from the land side more or less, as desired, and this without stopping the team or altering any of the parts. In order to allow of this motion, a second diagonal cross-bar, above and to the rear of the other, is employed, and to this the rear-arched portions of the plow beams are loosely connected by links,

as shown in the engraving. This admits of the plows having a free vibratory movement in a lateral direction.

A lever is connected with this rear cross bar, and another with the front cross bar, the two being united to a third lever, as shown, thus admitting of simultaneous adjustment of the plows to or from the ground without altering the draft or interfering with the independent motion of the plows. The depth of cut is thus regulated, and the whole mechanism of the plows raised or lowered with respect to the frame, which itself always remains the same.

The plow beams, made of iron, are bifurcated at their rear ends; that is, they are split so that the wrought-iron standard of the plow comes between them. Each plow standard is pivoted by a bolt to its respective beam, coming between the two parts of said beam. The extended end of each standard is held by a clamp, so the standard is adjusted with relation to the beam. By the plow standard being thus clamped, the points of the plows can all be regulated to the same height, so any one plow can be prevented from "scraping" or dragging, a frequent fault in gangs. The plows are thus adjusted so they are perfectly natural and level on the bottom of the furrow.

The driver has no occasion, when plowing, to leave his seat to handle any lever. They are so easily handled that any boy can use them. The lever shown in the engraving in front of the seed box is not now placed there, the latest plows having this lever put nearer the driver's seat.

This plow is so constructed as to form three implements in one. Each gang has two sets of plows, one of five 8-inch plows, and another of four 10-inch plows, set to cut 40 inches wide. One of these sets is for deep plowing and the other for crossing summer fallow or plowing in seed. There is also a seeder, as shown in the engraving. Thus the implement is a seeder, cultivator and plow. In the seeder are peculiar agitators, which rotate and keep the holes clear so they cannot become clogged with straw. The size of the holes is regulated so any sized grain will go through. A peculiar wheel is used on this implement, all made of wrought iron—the rims, tires and spokes.

The plows can be raised or lowered by a simple and easy movement, while the plow is in motion and without checking the speed of the horses. The machine really forms a combined plow, cultivator and seeder. Its construction admits of its working on sidehill or level, and plowing to a uniform depth in rolling or uneven ground. This is due to the independent action of the plows. Each plow works exactly the same as a single plow, and is independent of the motion of the others.

Dynamometer tests prove the lightness of the draft of the plow. It is so arranged that it is perfectly under the control of the plowman, and can be changed from deep to shallow plowing, or the plow thrown out of the ground, while the team is in motion, with the greatest ease. Each plow in the gang being independent and running on its own draft, allows it to readily conform to all inequalities of the ground, plowing uneven land to the same depth. The plows being hung below and independent of the frame, takes all strains from it and the wheels, and allows the wheels to impart to each plow a vibratory motion, enabling it to work through the ground with the least expense of the power, and do superior work. This plow is so arranged that the farmer can use four 10-inch plows for first plowing, and can readily change to five 8-inch plows crossing summer-fallow or plowing in grain.

We saw at the factory, Perry street, between Fourth and Fifth, in this city, the other day, a large machine carrying 12 8-inch plows, and arranged to cut eight ft. wide, with eight horses.

EXPERIMENTS WITH EASTERN GRAPES.—We note in the Santa Rosa Republican that J. B. Armstrong invites persons curious in horticultural matters to call at that office to examine the grapes grown in his garden from cuttings procured three years ago in the Atlantic States. First—The Clinton, a small and compact bunch of native grapes; growth of wood extremely rapid, and a very heavy bearer; flavor not as good as Isabella or Delaware; but the roots are largely used in France, being deemed phylloxera proof. Second—Delaware; wood slower growth; a fair bearer; bunches slightly shouldered; color red; flavor first-rate; highly esteemed for wine making, and deemed the best native American grape. Third—The Walter, a large red grape; bunches loose; flavor spicy; looks and tastes somewhat like the wild Fox grape of the Western States. Fourth—Catawba, the celebrated wine grape of Longworth's Cincinnati sparkling champagne. It grows better here than in the Ohio hills, and is equally as valuable for wine making. Fifth—Salem, a dark berry and loose bunch, but a shy grower. Sixth—Isabella; quality as good as anywhere; a heavy bearer. All these grapes are hardy and have matured on the trellis without being affected with any disease, while in most places in the rich low lands European varieties of grapes suffer with blight, or bear unsatisfactorily. For planting to grow new vineyards these grapes, when grafted with other varieties, it is said, insure immunity from phylloxera.

INSTRUCTIVE LECTURES.—The citizens of San Francisco and Oakland are just now enjoying a rich literary treat, in listening to a course of lectures now in process of delivery by the eminent historian and lecturer, Dr. John Lord. The subjects chosen are "The Great Characters of History." These lectures are of the very highest order of merit, and are listened to and appreciated by large and intellectual audiences. The Doctor is no orator and makes no pretensions to elocutionary grace; but in regard to the subject matter of his discourses, and the manner in which they are prepared nothing but terms of high praise can be employed, and no thoughtful person can possibly fail to be greatly interested and instructed by listening to them.

FENCE WIRE FACTORY.—We recently visited the H. B. Scutt & Co.'s fence wire factory in Stockton. A. J. Robinson, the manager, showed us some interesting features in this home manufacturing enterprise that increases our faith in the value of its product. The wires are twisted together by a very simple process in a manner which uniformly causes an equal tension on the wires when the cable is strained. Quantities of this fence wire are supplied to Australia besides being sold in large quantities on this coast. Ten tons of wire are consumed in a day by a single factory in the State of New York working under this patent. Four tons of the wire used is made daily by the factory itself.

NEW DISCOVERIES ON THE NEW ENGLAND COAST.—The United States Fish Commission's steamer *Fish Hawk* has made two dredging trips the past summer along the New England coast. The dredging was done chiefly between 150 fathoms and 325 fathoms, and the yield was immense. More additions were made to the marine fauna of New England than in the previous six years. The discoveries during the two trips were 30 crustaceans and 70 mollusks, more than half of them entirely new; also 33 species of fish, of which 12 are entirely new to science, representing four or more new genera; and 27 were strangers to the fauna of New England.

LARGE PEACH.—R. J. Trumbull shows a specimen of Oldmixon cling from the orchard of Miss M. F. Austin, near Fresno, which weighs 12 ounces, and measures 11 inches in circumference. It is a massive peach. Mr. Trumbull remarks that the Oldmixon has generally been regarded as a mountain variety, and if it produces much of such fine fruit in the valley, it should be generally known. Reports from valley growers of Oldmixon are in order.

There is already quite a settlement in the new town of Hawthorne, at the junction of the Bodie wagon road and the Carson & Colorado railroad at the terminus of Walker lake.

The Remedy for the Phylloxera—No. 1.

(CONTINUED FROM PAGE 259.)

the climate of California being very much similar to that of France, we may suppose that the changes which the insect undergoes are the same in California, and that the best times for the application would be similar—this is not definite, however, and until ascertained, we may have to rely principally upon the winter time, during which we are certain of catching all of the phylloxera within the area treated.

After the introduction by Mr. Marion, comes the "first part," in which are detailed experiments and the results obtained. These experiments I will, in the next issue, give more or less in detail. I will also sum up all the directions relative to the proper handling of the bisulphide of carbon, the instrument by which it may be injected into the ground, the dangers arising from its use (it being explosive and poisonous if breathed in overdoses and continuously) and all that may apply particularly to California respecting the expense of using it, our plan for its immediate manufacture on this coast, and all else which may appear necessary on the subject of the remedy.

JOHN H. WHEELER.
San Francisco, Cal.

What to do with the Phylloxera.

Prof. E. W. Hilgard, of the State University, has addressed the following letter to Charles Krug, Commissioner for the Napa district:

Having understood, on the occasion of my late visit to your valley, that your people are ready to proceed to active measures against the phylloxera so soon as they are satisfied what course to pursue, I have since my return examined all the latest reports from France on the subject, as given by the Phylloxera Committee of the French Academy. These reach to the month of September. This examination has not served to confirm and strengthen my previous conviction, that the only really effectual and reliable agent to be employed is the bisulphide of carbon; used either directly or in combination with potash, according to circumstances.

I find, furthermore, that its use by the vine growers of France has increased to such an extent that its production has, during the past season, been unable to keep pace with the demand; and it follows that it would be unwise to expect from that country a supply of the insecticide, even if the expense of transportation would permit it. If then it is to be made in this country, with the present equalization of the prices of labor, added to an abundant supply of sulphur on this coast, there can be no reason why it should not be manufactured here.

The results obtained in France by means of its proper use may be stated as follows:

1. Vines older than 20 years, when once seriously attacked, are not thought worth while treating, as they are slow to recuperate, and rarely repay the outlay. It pays better to replace them by resistant vines.

2. Younger vines, but just attacked, can by means of a biennial treatment with bisulphide of carbon be kept in good bearing condition. Young vines badly attacked can be readily saved by the treatment, but will lose a year's crop, or in bad cases more.

3. There is no difficulty in extirpating the insect by proper treatment, when the life of the vine is sacrificed, or neglected; as might well be done in the case of a spot appearing in a sound vineyard for the first time.

4. The statistical fact that the consumption of the insecticide is increasing in France in an enormous ratio, answers the question as to whether it "pays" to undertake the treatment with the bisulphide of carbon in France. The labor costs more here, but we may reasonably hope to perfect the appliances by the aid of a little Yankee ingenuity. But suppose that only the last point mentioned—complete extirpation of the insect when just invading new territory—were to be considered, it would still be eminently worth the while of even the Napa valley alone to erect a manufactory of the bisulphide.

I feel quite sure, however, that when once that valuable antidote to animal pests of all kinds can be cheaply had, it will come into use against many other invaders. First among them the ground squirrel. It should be at hand in every farm house, to be used instantly wherever an objectionable animal is to be killed in its hole, or other closed space. Witness the relief it has brought Australia against the rabbit plague.

I have italicized the words "proper use" in what I have said above, because it is perfectly easy to spend twice the amount needed of the antidote and do no good at all. The precautions to be observed are simple enough, and very definitely ascertained and laid down in the French reports. These should be translated and published by the board of viticulture for the general benefit.

A simple perusal of these shows how easily the omission of one or two of the rules given would result in total disappointment. If then the result of some trials made with the bisulphide in the Sonoma valley have been unsatisfactory, it must be shrewdly suspected that the conditions now known to be essential were not observed. For what has proved to be feasible in the dry region of France, must be feasible in the comparatively favored valleys north of the bay.

I have already stated to you my estimate of the first cost of erecting a manufactory of the bisulphide. Some person thoroughly familiar with the practical working should be secured for the purpose; and the establishment should be located where the high temperature of summer will not interfere with the process.

This, then, I consider the first thing needful. The second is, not only to inform the vine growers thoroughly and intelligently how to use the insecticide, but also to give them a succinct account of the hundreds and thousands of things that have been tried and found wanting; so as to save the doing over again what has already been done elsewhere, and put an end to the numberless propositions of impracticable or inefficient remedies based upon ignorance of the conditions of the problem to be solved, and giving rise to an utterly useless expenditure of money and energy.

The Lick Observatory on Mount Hamilton.

At a late meeting of the California Academy of Sciences the report of Prof. S. W. Burnham, of Chicago, to the Lick Trustees, was received. The report is on the observations made at Mount Hamilton with reference to the erection of the Lick observatory. The trustees state that the preliminary work on Mount Hamilton has already been commenced, and will be prosecuted as rapidly as possible under the circumstances. The smaller equatorial telescope, of twelve inches aperture, has been ordered from Alvan Clark & Sons, of Cambridge, Mass., and will be placed in position early in 1881, and the great equatorial telescope, meridian circle, and other instruments, will be contracted for at an early day. It is not expected there will be any further delay in putting the Lick observatory in complete working order, other than that incident to the importance and magnitude of the undertaking.

Prof. S. W. Burnham, who has made observations from Mount Hamilton, speaks of its remarkable fitness for the site of an observatory. There is a wonderful freedom from clouds and fog. The elevation is 4,250 ft. above the sea, and the north peak is 140 ft. higher. The view from these peaks is unobstructed in every direction, there being no higher ground within a radius of 100 miles. The scope of the horizon from Mount Hamilton takes in more ground, according to Prof. Whitney's judgment, than almost any similar peak in the United States, there being no obstructions to the view from any quarter. The Pacific ocean can be seen on the west, Lassen butte on the north, and the Sierra on the east. Prof. Burnham's preliminary observations at Mount Hamilton were taken by a six-inch refractor, and a temporary dome was erected 12 ft. in diameter, and made to move on 12 iron balls. Out of 60 nights, 42 were simply perfect, first-class nights, and 7 were good, while 11 only were cloudy. Most of the nights were perfectly calm and still. One of the most important conditions is the remarkable dryness of the atmosphere, which is particularly favorable to telescopic observation.

Prof. Burnham reaches the conclusion, from his observations made upon Mount Hamilton, that the site chosen for the Lick observatory offers advantages superior to those found at any point where a permanent observatory has yet been established upon earth. The remarkable steadiness of the air, and the continued succession of nights of almost perfect definition, are conditions not met with elsewhere. The low altitude at which observation can be made is a matter of marked importance, particularly in connection with the southern sky, not ordinarily accessible to observations in the northern hemisphere. The ease with which difficult objects can be seen, almost down to the horizon, is very important. He observed close pairs of double stars down to forty-three degrees, or more, of south declination. The permanent steadiness of the air during the whole night will greatly increase the amount of telescopic work over what could ordinarily be done on good nights in most places.

INFLUENCE OF LIGHT, COPESE AND MOLD ON FOREST GROWTH.—M. Gurnaud has conducted a series of observations, during the past 19 years, upon the solid contents of annual growth in a forest among the Jura mountains. He finds that: 1. Light, when it strikes the ground without having been sifted by foliage, stimulates the production of carbonic acid in the decompositions which are engendered by the humus, together with a decomposition of the same gas by the chlorophyll. 2. The growth of wood diminishes when the underbrush intercepts, to any great extent, and the access of light to the soil and diminishes its reflex action on the branches of the trees. 3. This interruption of reflex action is due mainly to the spread of the underbrush, for when it is kept trimmed the vertical shoots which are retained interpose no obstacle. 4. The mold, under too great a thickness, loses a part of its virtue, and, like barnyard manure which is too deeply buried, remains inert for many years. —Comptes Rendus.

TRANSPARENT GOLD.—If a solution of gold in aqua regia is centralized by carbonate of soda, and a solution of oxalic acid is added, the gold is precipitated in a brilliant yellow powder. On examining this precipitate by the microscope the flakes are found to have a triangular or hexagonal form and to be translucent, the color of the transmitted light depending on the thickness of the crystals. —Les Mondes.

CEC. F. SILVESTER,
IMPORTER, WHOLESALE AND RETAIL DEALER IN
SEEDS,
Fruit and Evergreen Trees, Plants, Etc.
ALFALFA, GRASS AND CLOVER SEEDS
In Large Quantities and Offered in Lots to Suit Purchasers.
GREAT REDUCTION IN PRICES.
Seed Warehouse, 317 Washington St., San Francisco.

C. D. Ladd,
821 Kearny Street, San Francisco Cal.,
C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.
Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.
SEND FOR 1880 PRICE LIST.

SEEDS.
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.
POP CORN.
115, 117 and 119 Kinzie Street. CHICAGO, ILLINOIS.

1,000,000
Strawberry, Raspberry and Cranberry
PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$0.50	\$1.50	\$5.00
N. J. Scarlet, Sterling, Great American.....	0.50	1.75	5.00
Pres. Lincoln, Triomphe de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.50	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cuthbert Early.....	1.60	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Herstine, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Mammoth Cluster, Vina Seedling.....	1.00	3.00	20.00
Kittatinny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Blk Hamburg, Blk Prince.....	2.00	8.00	50.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address,
H. NYLAND, Bouldin Island, San Joaquin Co.

CLARK'S
Grain Grader and Seed Cleaner.
It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair, with Nash & Cutts' No. 3 Grain Cleaner. Its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address
LEWIS CLARK, Sacramento, Cal.

LASH'S
ADJUSTABLE FRUIT GATHERER.
Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. Also, sole agent for Pacific Coast of HECOR FORCE PUMP, with patent stone cylinders, making them acid proof. The best pump yet invented.
T. M. LASH, 601 N St., Sacramento, Cal.

AUTOMATIC
STOCK FEEDER!
FOR HORSES AND CATTLE.
A simple contrivance for saving time and labor, and feeding regular. The Clock and Trap complete, ready set in barn for use, \$15. Each extra Stall, \$5.
J. B. TUPPER, Agent.
Petaluma, Sonoma County, Cal.

JOSEPH F. HILL,
MANUFACTURER OF FIRST-CLASS
Buggies, Farm & Freight Wagons.
OF ALL DESCRIPTIONS
Cor. Thirteenth and J Sts., Sacramento, Cal.
Repairing promptly attended to.

REMOVAL.
H. N. COOK,
Manufacturer of LEATHER BELTING & HOSE.
Has removed from 415 Market Street, to 405 Market Street, corner of Front.

SADDLES, HARNESS, WHIPS, LEATHER.
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer in All Goods in this line.
Send for Catalogue

Engraving
Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates

126 PERCHERONS
IMPORTED
WITHIN TWELVE MONTHS!

78 HEAD ARRIVED AUGUST 15th,
FOR THE FARM OF THE
Great Percheron Horse Breeder,
M. W. DUNHAM,
Wayne, DuPage County, - - - Illinois.
(35 Miles West of Chicago, on the Galena Division Chicago & Northwestern Railroad.)

The 78 HEAD which arrived from France, August 15th, is BY FAR the largest number ever imported at one time, and added to the number already on hand, they make the greatest and finest collection of

DRAFT HORSES
Ever owned by one man. Nothing like it in Magnitude and Completeness can be found elsewhere in the world.
Over 300 of the Choicest Specimens of the Percheron Race, and among the number nearly all the Prize Winners of the Great shows of France during that time, have been added to the

OAKLAWN STUD
By Importations direct from France since 1872.
Stock of all Ages for Sale.
Come and see for yourselves. 100 Page Catalogue with 41 Illustrations of Stallions and Mares, sent free on application.
N. B.—All Imported and Pure Native Bred animals recorded in Percheron-Norman Stud Book.

RUSBY & MERY'S
IMPROVED FEED MILL,
Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain heating. It is used by the leading grain raisers in preference to feed ground with burrs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Trembly Knitting Machine Co., 409 Washington St., Boston, Mass.

S. F. MARKET REPORT.

NOTE.—Our trade review and quotations are prepared on Wednesday of each week (our publication day), and are not intended to represent the state of the market on Saturday, the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Oct. 20, 1880.
There has been quite an active trade in Wheat to fill the ships now chartered. Just now there seems, however, a little slackening of the demand, and to-day's sales were not so heavy as for a few days preceding. There has been a good list of ships cleared this month, 22 vessels having departed with Wheat since Oct. 1st, and nearly as many more are expected to clear before Nov. 1st.

Liverpool quotations are a shade lower to-day, the range being 9s 10d to 10s 2d for good to choice California.

Freights and Charters.

The Wheat freight market is rather quiet this week. There have been large arrivals of vessels under charter and many of these have been rechartered at advanced rates. This gives the shippers considerable tonnage to fill with Wheat, and until that is done there will not be much demand for more ships. The nominal rate for wooden ships to Cork and U. K. is 72s 6d, equivalent to 75s for iron ships. The following engagements are reported: The ship *Continental*, 1,712 tons, is chartered for Wheat to Liverpool at £3 6s 8d, prior to arrival; ship *Snow & Burges*, Liverpool direct, £3 10s; Cork or Havre, £3 13s 6d; Continent, except Havre, £3 17s 6d.

The Foreign Review.

LONDON, Oct. 18.—The *Mark Lane Express*, reviewing the British Grain trade for the past week says: The weather is very favorable for wheat-sowing, and, as farmers will be fully occupied therewith, the Spring will be restricted during the present month in English wheat. The proportion of first-class samples in good condition has been in exceedingly small demand, but for good qualities has been active, and at the more important points of the provincial markets they advanced from a shilling to two shillings per quarter. In London, notwithstanding the reaction in the beginning of the week, good marketable English wheat sold readily, and closed at Monday's extreme rates. There was a fair consumptive demand for flour. Barley was in moderate supply, and prices were firmly sustained in many of the provincial markets. Maltster sort is a shilling dearer. In foreign markets, Wheat has been subject to a reaction and uncertainty during the week, but at the close it was firm and the decline was fully recovered. To-day, American reds were again slightly easier. Flour was steady with a consumptive demand. Barley is in small supply, and, in some cases, the best quality advanced six-pence per quarter. Oats is in liberal supply and rather easier. Maize has improved from 6d to 9d, and the demand is good. The Wheat cargo trade, at the close of last Monday's market, was much quieter. On Wednesday it was very dull, and a reduction of a shilling per quarter was necessary to effect sales. The arrivals were moderate. There was a large trade in Oats. Sales of English Wheat during the week were 56,471 quarters, at 41s 5d per quarter, against 48,271 quarters, at 46s 9d per quarter, during the corresponding week last year. Imports into the United Kingdom, during the week ending October 9th, were 855,868 hundred weight of Wheat, and 217,823 hundred weight of Flour.

Eastern Grain and Provision Markets.

NEW YORK, Oct. 18.—Political movements begin to have an effect on the balance of trade, and the markets are rather quiet. Wheat, after an active export demand yesterday, is again dull and easier. Barley is more active and steady. Pork is in better demand and steadier. Lard is quiet, 15c lower. Fifty bags California Yellow Mustard Seed sold at 43c.

CHICAGO, Oct. 18.—The Wheat market the past week has been active, excited and higher by turns, but fluctuating so rapidly that there has been no very significant advance. The Corn market has also been strong, but no decided advance has been made. Oats were cornered at the close of the week. Cash and October commanded prices about 3c above the options. Provisions have weakened somewhat under continued heavy receipts of Hogs. Sales of the November option were: Wheat, 95½¢ @ \$1.02½; Corn, 40½¢ @ 41½¢; Oats, 29½¢ @ 30¢; Pork, \$12.40 @ 12.82½; Lard, \$8.07½ @ 8.32½. The closing cash prices were: Wheat, 95½¢ @ 1.00½; Corn, 39½¢ @ 40½¢; Oats, 32½¢ @ 33½¢; Rye, 81¢; Barley, 78¢; Pork, \$18; Lard, \$8.30. The closing November prices were: Wheat, \$11.02½; Corn, 40½¢; Oats, 30½¢ bid; Pork, \$12.47½ @ 12.50; Lard, \$8.55. Receipts of Wheat are much smaller, scarcely half those of last year, while those of Corn are larger, more than double those of last year. The shipments do not keep pace with the receipts, and the accumulation of Grain is getting to be quite formidable for this time of year. Bulk Meats are unchanged.

BAGS—Bags are quiet and unchanged.

BARLEY—The demand is slack and prices are about the same, except that Coast Cavalier has sold a little better. Sales include 4,500 sks Coast Feed, 75c; 200 do do 75c; 2,000 do poor Bay Feed, 72½c; 600 do good do, 75c; 1,000 do choice do, 80c; 300 do do, 80c; 150 sks Bay Brewing sold at 90c ½ ctl.

BEANS—Beans are still quiet, although some quote a little better range of values.

BUCKWHEAT—A sale of new Buckwheat, to arrive, 500 sks, at \$2 ½ ctl.

CORN—There are small offerings and but little life in the trade. Yellow Corn is just now leading White in price.

DAIRY PRODUCE—A few fancy dairies still reach 42½¢ ½ lb, but the bulk of the choice goes at 40c to 37½c. There is abundance on hand of the lower grades.

EGGS—Eggs have advanced again, a fancy lot of fresh California bringing 37½c. Inferior Eggs are also plenty.

FEED—There is no change of note.

FRESH MEAT—The market is quiet, and rates about the same as last week.

FRUIT—Supplies are moderate, except of Grapes, which are abundant, and rates a little easier than before this season.

HOPS—The local market is reported weaker, and sales at lower prices, ordinary lots going at 14c to 17½c, but the choice are held higher without bids.

OATS—Oats are a shade lower, and there are abundant supplies. The demand is light.

ONIONS—Onions are higher and in demand. Choice Silverskins are selling as high as \$1.40 per ctl.

POTATOES—Potatoes also are elated this week, and choice lots bring better prices. The improvement on Solanums being about 5c better, while Sweet's advance 25c per ctl.

POULTRY AND GAME—Fowls and Ducks are about

50c better per dozen. Turkeys, alive, new range from 15 to 19c per lb. Game Ducks are lower and Snipe are depressed.

VEGETABLES—Cauliflower is lower. Summer Squash and Eggplant have advanced. Supplies of vegetables are moderate.

WHEAT—To-day's sales are at a little lower range of values. We note sales: 2,000 ctls No. 1 Shipping, deliverable at Port Costa, \$1.47½; 500 do good Shipping, \$1.45; 600 do good Coast do, \$1.40; 1,000 do off grade, \$1.31½ ½ ctl.

WOOL—There have been freer sales, and a better class of Wool arriving raises the quotations somewhat. The market, on the whole, may be described as moderately active.

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.

CASH ADVANCES Made on CONSIGNMENTS

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, FELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

505 & 507 Sansome St. (Niantic Building), S. F.
Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.
Branch House in Honolulu, H. I.

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

SHOOBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

EUCENE AVY,

SHEEP and WOOL

Commission Merchant.

320 Sansome Street, San Francisco

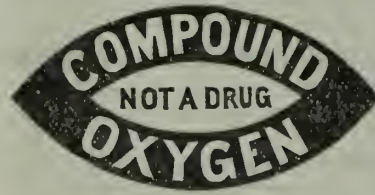
Advances made on Consignments.



Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

DAVIS & SUTTON,
No. 75 Warren Street, New York.
Commission Merchants in Cal. Produce

REFERENCE.—Traders' National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

AND

EARPHONES

For Deaf People. Trial before purchase if desired. Ask terms.

FOURTH ANNUAL SALE

—OF—

Short-Horn and Graded Cattle,

WILL BE HELD AT

BADEN FARM, SAN MATEO CO. ON

WEDNESDAY, NOVEMBER 10, 1880,

AT 12 O'CLOCK M.

20 Head Thoroughbred Cows,
Heifers and Bulls.

30 HEAD COWS AND HEIFERS.

Catalogues can be had of Easton & Eldridge, Auctioneers, 22 Montgomery street, S. F., or of

ROBERT ASHBURNER.

Baden Station, San Mateo Co., Cal.

SWEEPSTAKE SHEEP.



FOR SALE.

The entire flock of Thoroughbred French Merino Sheep, known as The Blackock Flock, consisting of 100 head of Yearling Rams, 190 head of Ewe Lambs and Yearling Ewes, 260 head of Breeding Ewes. Are all in good thriving order. Have been carefully bred, are much improved in form, constitution and quality of fleece. For further particulars apply to MRS. R. BLACOCK, or Shepherd, Centerville, Alameda Co., Cal., near Niles Station.

PATENT

CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental.

To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

FOR SALE!!

SIX HUNDRED GRADED ANGORA EWE GOATS, Cheap for Cash; or will let them out to responsible party on the shares. Apply to

H. W. CHAPPELL,

Bell's Bridge, San a County, Cal.

SMALL FRUITS!!

Plants for the million, at prices to suit the million. Fall is the best time to plant all the Small Fruits and Grape Vines. Very liberal offers made.

Catalogue free.
Cornwall-on-Hudson, N. Y.

H. H. H. Horse Medicine.

Stockton, February 4, 1880, H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief in certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

R. J. TRUMBULL & CO.,

Growers, Importers, Wholesale and

Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND ORNAMENTAL TREES, ETC. FANCY WIRE DESIGNS, GARDEN TRELLISES, SYRINGES, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—OUR DESCRIPTIVE ILLUSTRATED CATALOGUE OF SEEDS, TREES, PLANTS, ETC.

R. J. TRUMBULL & CO.,

419 and 421 Sansome Street, S. F.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.
BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00.
Pamphlet on Cure of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents.
Please send stamp for Price List to

M. EYRE, Napa Cal.

Wiltz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The smallest twig up to branches two inches in diameter cut with ease. State, County or Individual rights for sale. Agents wanted. Address

JOSEPH WILTZ,
Santa Cruz County, Cal.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.

50 Landscape, Chromo Cards, etc., name on, 10c. 20 Gilt Edged Cards, 10c. Clinton & Co., North Haven, Ct.

Champion Drag Saw.



CHAMPION DRAG SAW AND POWER.—This Cut is Simply to Exhibit the Manner of Setting up the Machine.

The Champion Drag Saw will saw a tree on either side from the same end. The Champion is lighter, (in total weight, stronger made, saws faster, is easier on mules or horses, does away with the rocking of saw-jack and former lost motion of saw while in operation. Is very easy labor for one man to handle; the saw jack being on Small Broad Wheels. The Pitman has a well fitted brass box at end on wrist, susceptible of having the wear taken up, by aid of a set screw and keeper, or pinch nut to hold it. Every improvement has been applied that three years experience in manufacturing and selling Culver's Iron Drag Saw could give us, and we say to the public, try it; it will do what we claim for it and more. We guarantee them.

Our old horse-power (shown in the above cut with horse attached) has been superseded by a new and improved one, made from entirely new patterns, and with particular reference to STRENGTH, SPEED and DURABILITY. (See cut.) One horse or mule is hitched to each sweep, NEVER TWO TO ONE SWEEP. The excessive friction attending the running of old power, and the strain and labor imposed upon the horses, together with an occasional breakage, through carelessness, is entirely overcome. The shafting makes 80 revolutions a minute; saw 160 strokes a minute, thereby enabling the horses without being whipped to make the speed formerly gained by working them to a fast walk. It runs 25 per cent. easier than any power of the kind ever made, and cannot break or get out of order.

The horsepower is peculiarly adapted for running any kind of farm machinery; such as grist mills, cutting boxes, circular and wood saws.

It works on either side of log. Will saw a tree just where it falls, on even or uneven ground, without the tree or horse-power being moved.

It is the strongest, cheapest and best Iron Drag Saw in use. Requires only one man to run it, and does the work of 12 men.

There is no lost motion of the saw or rocking of the iron jack, as its patented cam and eccentric rod causes it to run steadily and 20 per cent. easier than the Culver or any Drag Saw invented. These three facts alone are enough to prove its superiority.

It saws more rapidly and better, will last longer and can be moved along the side of the log or tree, and through the woods with less labor than any Drag Saw sold.

Prices—Champion Drag Saw Complete, with Power and Jack, \$225.00. Power Alone, \$100.00. Power and Jack, \$110.00. Extra Shaft, \$25.00.

Giant Riding Saw.



GIANT RIDING SAW.

A Great Labor Saving Invention that has no Equal! It is Operated Easily and rapidly by one person, and does the work of at least 2 men.

The Giant Riding Saws really quadruple the capacity of a man in cross-cut sawing, and render easy and pleasant labor that was before tiresome and injurious. One boy with one of these machines, can accomplish as much, or more, in a day than two men with a cross-cut saw, and do it with ease and satisfaction.

The Saw is driven by motions of the body so easy and natural that they are not felt. It is no more than riding a horse. In addition to this the entire weight of the operator is brought to bear to aid the saw, thus giving it a double power. The principles of leverage employed in its operation afford the most perfect application of power that can be devised. The force is applied just "where it will do the most good." Every "foot-pound" of power produces a "foot-pound" of good honest work. Notwithstanding all this, the machine is so simple, any person of ordinary intelligence can understand and operate it. It speaks for itself—the engravings show what it is—and any one can see just how it is operated.

Price of No. 1 Giant.....\$35.00.

Price of No. 2 Giant.....\$30.00.

BAKER & HAMILTON, San Francisco, Cal.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular.

ISAAC B. MILLINGTON & CO., Chester, Pa.

PRESSES HAY & WOOL

EAGLE HAY PRESS, Old Style, - \$200.

EAGLE HAY PRESS, Improved, - \$250.

PRICES' PETALUMA HAY PRESS, \$450

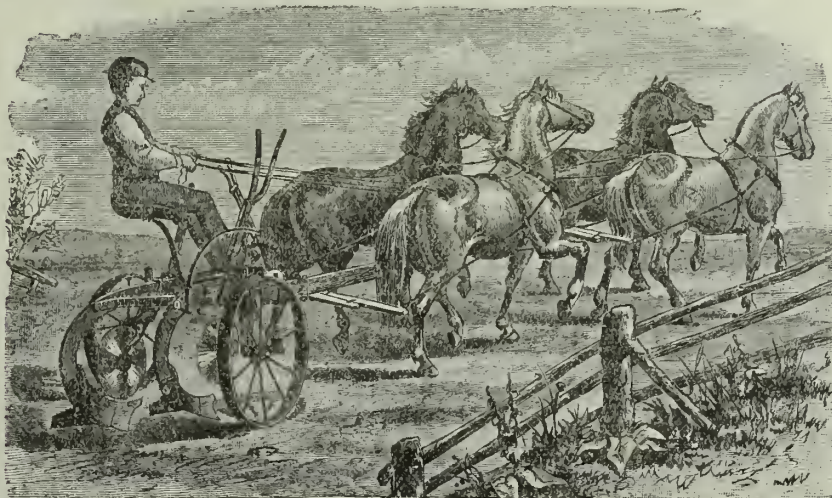
All kinds of PRESSES MADE TO ORDER, to put TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES. SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT, No 327 Market Street, - - San Francisco.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruits, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls, Merced County, Cal

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

A few dozen plants set now will yield enough for a family's use next Spring. Largo Stocky, Healthy Mountain Grown Plants.

"SHARPLESS," THE LARGEST OF ALL.

"Capt. Jack," "Cumberland Triumph," "Seth Boyden," "Miner's Prolific," Etc., Etc.

SELECTED PLANTS, 50 Cts. Per Dozen.

POSTAGE PAID.

Many other varieties, new and old. Give us a trial Address

C. M. SILVA & SON, Newcastle, Placer County, Cal.

A. J. PLATE & CO.,

Guns, Pistols, Sporting Goods

MILITARY GOODS AND REGALIA,

HAVE REMOVED

From No. 510 Sacramento and No. 325 Montgomery Street, to

Nos. 418 and 420 Market Street.

The Best Music Books!

3 **WELCOME CHORUS.**—(\$1.00). By W. S. TILDEN, for High Schools. Just out, **SONG BELLS** (50 cts). By L. O. EMERSON. Just out; for Common Schools. **WHITE ROBES**, (30 cts), for Sunday Schools.

PARLOR ORGAN INSTRUCTION BOOK. (\$1.50). By A. N. JOHNSON, is out of sight ahead of any others in teaching beginners on Reed Organ, both secular and sacred music, Sunday School, Temperance, Gospel and Hymn music. All teachers take to it at once.

3 **CHOIRS AND SINGING CLASSES** WILL not forget our three superior books: **Voice of Worship** (\$1.00), by L. O. EMERSON; **Temple**, (1.00), by W. O. PERKINS, and **Method for Singing Classes**, (60 cts), by A. N. JOHNSON.

3 **CHOIRS** will find no better Anthem Books than our new—**AMERICAN ANTHEM BOOK**, (\$1.25), by Johnson, Tenney and Abbey, or **EMERSON'S ANTHEM BOOK**, (\$1.25), by L. O. Emerson, or **ANTHEM HARP**, (\$1.25), by W. O. Perkins.

3 **TEMPERANCE PEOPLE** will be sure to use **TEMPERANCE JEWELS**, (35 cts), by Tenney & Hoffman; or **TEMPERANCE LIGHT**, (12 cts.), by Hugg & Serrano; or **HULL'S TEMPERANCE GLEE BOOK**, (40 cts).

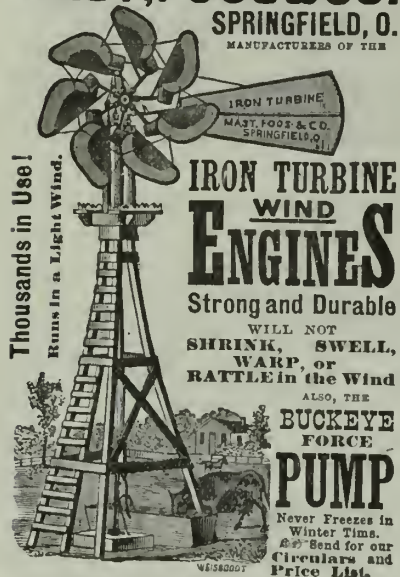
Specimen copies of any book mailed for above prices.

OLIVER DITSON & CO., BOSTON.

O. H. Ditson & Co., 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.
MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES
Strong and Durable

WILL NOT SHRINK, SWELL, WARP, or RATTLE in the Wind

ALSO, THE **BUCKEYE FORCE PUMP**

Never Freezes in Winter Time. Send for our Circulars and Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

ADJUSTABLE

SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERRICKSON,

Clayton, Contra Costa County, Cal.

SEED GRAIN.

AUSTRALIAN WHEAT.

500 Bags Australian Seed Wheat. "Purple Straw and White Jammas."

NEW ZEALAND OATS.

580 Bags New Zealand Oats. White Tartarian and Canadian.

The above Grain has been selected with great care from the best Varieties and all re-cleaned previous to shipment; is just landed ex-Steamer City of Sydney, and will be sold in lots to suit purchaser. Apply to WATERMAN & CO., 113 Clay Street, or S. L. JONES & CO., 207 and 209 California Street, San Francisco, Cal.

TRADE



MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO. Sole Agents, 430 California Street, S. F.

To Fish Raisers.

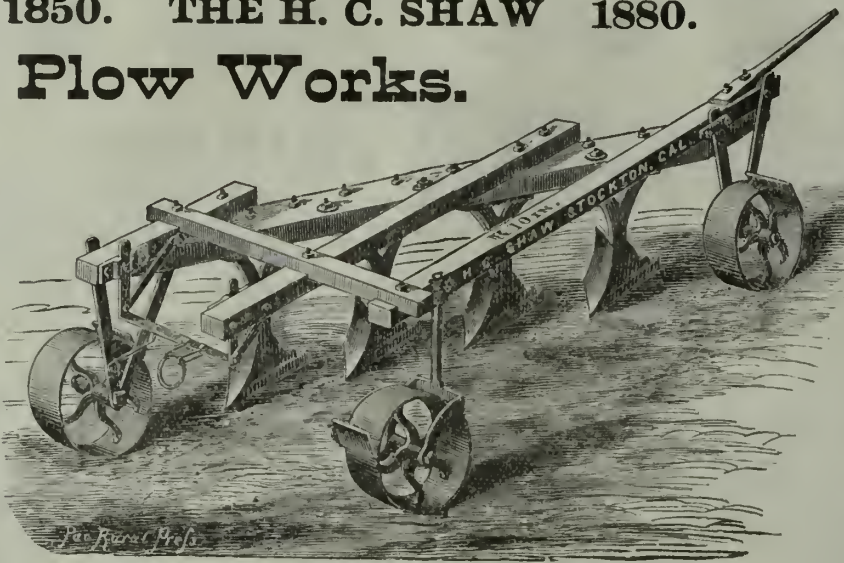
I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Gen Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

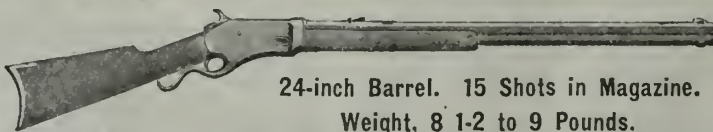
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUNNIES**, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

418 Market St., San Francisco.

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apian, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT

FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street, Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of acrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '53 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

RUHL'S PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half-Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principal houses in San Francisco.

JOS. HANSEL, Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for sale at the Lowest Rates, and guaranteed to give satisfaction. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on hand of my own make the Latest Improved Harrows and my Patent Buck Board and Breaking Carts. Carriage Painting and Trimming Neatly Done. HUNTER STREET, STOCKTON, Cal. Adjoining the Baptist Church.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

Adams' Patent Pillow Sham Holder

Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent just paid by mail. Send for Illustrated Circular. W. WAGGONER, 408 Tenth St., Oakland, Cal., General Agent for Pacific Coast.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbit boxes. Positively self regulating with no coiled springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

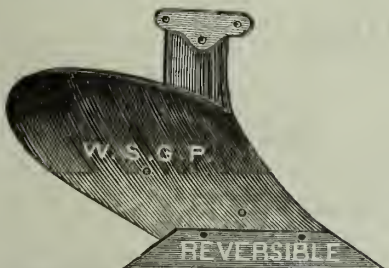
HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale,
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by
THOS. POWELL, Stockton, Cal.

TO POULTRY MEN.

—THE— IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.
Sole Manufacturer and Proprietor of
Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST.
For two months, August and September, will sell eggs at \$2.50, for setting.
C. E. NAYLOR,
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

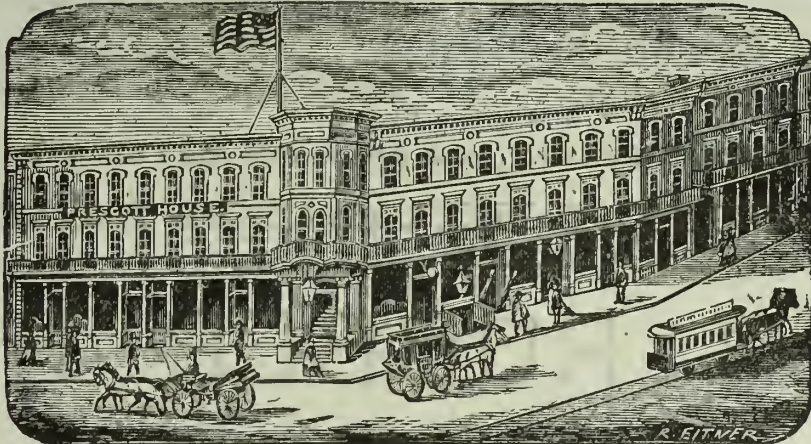
ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

THE NEW MODEL

PARKER SHOT GUN.



Shooting Qualities

UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Grosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price cannot be excelled, if equalled, on the Pacific Coast. Also, importers of Gun material, Breech-loading Implements, Ammunition, Fencing Fells, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks. Card's Rotating Glass Ball Traps and Glass Balls.

IMPORTANT TO FARMERS! White Russian Seed Wheat.

This new variety of wheat commends itself to the California farmers, for its strong and healthy growth; its great productiveness, and above all, its **NON RUSTING** qualities. It has been successfully grown in Ventura Co., on the sea coast, where until the introduction of this variety and the "Odessa," all other kinds have invariably failed in consequence of Rust. It is a bald, white chaff wheat, stands well after ripening, and not liable to lodge when green. It has proven itself to be a healthy and sure crop wheat, yielding this year an average of 50 bushels to the acre. The White Russian Wheat was first grown in Wisconsin, where it proved itself to be the best Spring Wheat ever raised in that State. It astonished all who tried it for its great productiveness, and no Wheat ever grown in this country received such unanimous commendation. It was increased from a small quantity received from Russia, and has been known as the White Russian, though it is not exactly white, but much lighter than most varieties of Spring Wheat.

A limited quantity of this Seed Wheat, and of the Celebrated **Odessa Non-Rusting** Wheat grown from seed imported from Russia last year for sale by

A. GERBERDING, 214 California St., S. F.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,

No. 6 Eddy Street, rooms 99 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. **WINDMILLS** for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address
BYRON JACKSON, Prop'r.



DO

NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Containing descriptions of everything required for personal or family use, with over 1,800 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address,
MONTGOMERY WARD & CO.,
227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAYEN.

GRAY & HAYEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wickets. Apply to
A. SCHULLER,
209 Sansome St., S. F.

The Excelsior Animal Trap

Is Guaranteed to be the Best
GOPHER TRAP

Ever invented. The Gopher raises the light trigger with his head or dirt without the least alarm. Ask your dealer for it. Agents wanted. Sent by mail for \$1. By express, C. O. D., for \$3 per doz. Address, G. W. JOLLY, Paradise Springs, Cal. Pat. apld for



A. AITKEN.

F. N. FISH.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., bet. Sixth & Seventh, - SACRAMENTO, CAL.

PIONEER WHITE LEAD.

Home Manufacture!

Superior in COLOR, BODY, FINENESS and DURABILITY to any Imported Brands.

FRESH AND EASILY WORKED—NO SKINS OR OLD DRIED LEAD.

PURITY GUARANTEED.

Patronize Home Industry, Secure the Best Quality at the Lowest Price.



WORKS—239 & 231 FREMONT STREET, and 228 to 238 BEALE STREET, San Francisco.

WHITTIER, FULLER & CO., Manufacturers.

PACIFIC RUBBER PAINT.

Applicable to all Kinds of Work.

Prepared in any Shade or Color.

Best Mixed Paint in the World.

WE EXCEPT NONE.

READY FOR USE—JUST THE THING FOR FARMERS.

BEWARE OF COUNTERFEITS.

See that Our Trade Mark is on Each Package. Take no Other.

Send for Sample Card and Circulars.

Works—228 & 230 Beale st. Office S. W. cor. Pine & Front Sts.

WHITTIER, FULLER & CO., Manufacturers.

COAL OILS. COAL OILS. COAL OILS.

“Star,” 150 Degrees Fire Test.

THE HIGHEST GRADE OF COAL OIL IN THE MARKET. PERFECTLY SAFE AND MANUFACTURED EXPRESSLY FOR FAMILY USE.

“I X L” 150 Degrees Fire Test.—THE NEXT BEST BRAND.

ASK YOUR STORE KEEPER FOR THEM,

And Secure the Best and Safest Light.

WHITTIER, FULLER & CO., - - - - - SOLE IMPORTERS

SAN FRANCISCO, SACRAMENTO and OAKLAND.



PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, OCTOBER 30, 1880.

Number 18

Home-Grown Tea.

Now that tea growing is being advocated as a home industry, and the wise in such matters urge the housewives in States where the tea plant thrives, to grow tea in their gardens as they do the fragrant herbs for kitchen use, it is of interest to note the part which the ladies of Japan play in tea production. Our engraving is taken from the Report of the Department of Agriculture, and was made from a painting by a Japanese artist, which was procured by our Government. The scene is in a foothill district, and shows several incidents of the Japanese method of culture. The employment of the ladies as pickers is, however, the chief point we would note. We do not know how these Asiatic ladies deport themselves while engaged at this task, but we submit that if the American housewife should marshal her home forces and go out into the garden for an hour's tea picking, there would be a merry time of it, and much enjoyable talking would be done while the leaves were gathered. Neighbors, too, could join forces and have fully as good a time chatting over tea drinking at other seasons. There could be just as much solid information of neighborhood affairs exchanged across a tea bush as across a tea table. Perhaps if home tea growing be urged upon the ground of its social features, there will be unusual interest excited.

The ladies shown in the engraving very properly have a male assistant to do the heavy work for them. They pick in small receptacles and empty them, when filled, into the large hamper which is seen upon the left of the hush. The melancholy individual who is running along the path on the lower ground with his baskets, is on his way to carry home the tea which the ladies have ready for him. The method of plucking the tea leaves is of interest, and may be of value to those who are now testing tea making with the plants now growing in this State. The smaller engraving shows that only parts of the main leaves are plucked for fear of injuring the new buds if the leaves should be pulled off at their union with the twig. Thus a woman plucks off the terminal leaves *a*, *b* and *c*, at the line marked 1, using the thumb and forefinger of the right hand. In Japan, the picking stops at this point, but in India, *d*, *e* and *f* are torn off part way down at the lines marked 2, 3 and 4. Thus the Japanese pluck three leaves and the East Indians six leaves. The operation of picking is one of great nicety and importance.

WHERE THE HONEY GOES.—During the second week in October, California honey was shipped from this port to the Eastern States, England, Australia and Sandwich Islands. But the amounts were small—hardly a fraction of what should be going abroad.

A GERMAN authority holds that the present production of grain in the United States is due to the excessive drain upon the virgin soil, which must be followed by exhaustion.

LATE PEACHES.—W. J. Wilson, a subscriber to the Press in Newcastle, Placer county, sends us specimens of an excellent late peach, which he calls "Bellows late October." The peach is a freestone of fine flesh, good size; color light green with a slight red flush. The specimens are yet too green to show the flavor fully, but the foundation of a good flavor is discernible in them. The largest sample sent by Mr. Wilson measured 10½ inches in circumference, and weighed 8½ ounces. He ships these peaches over the mountains with good results.

THE OPENING OF THE FIRST CALIFORNIA SILO. It will be interesting to those who are interested in tests of ensilage, the new method of preserving green fodder, to know that the silo laid down upon Springbrook farm near Hollister, San Benito county, will be open for public inspection at 2 P. M. on Saturday, Nov. 13th. The Hollister Enterprise states that the event will be celebrated by a grand barbecue, and doubtless the occasion will be one of mixed agricultural and social interest. We suppose this will be the first demonstration of the ensilage system in this State, but we may be mistaken. If any one can claim priority let us hear from them.

The Supply of Wheat Abroad.

Two things are beginning to be appreciated: one is that the aggregate amount of wheat of the crop of 1880 available for shipment from the U. S. is less than the early estimate declared; the other is that the supplies of foreign grown grain are also less than was anticipated. The first fact, that the U. S. crop was overestimated is now believed abroad, for we read in a letter from Marseilles, one of the French ports to which American wheat is shipped from our Atlantic coast, that "attention of buyers has been directed to American produce which has been the object of several important transactions for future delivery. There is the more interest because it is believed that early reports of the American crops were exaggerated."

There has been a general advance of values in most of the continental markets because of moderate supplies in sight and reports of lessened amounts available for export from several supply countries. For example, the Mediterranean ports are elevating their views because of the small prospects for Russian wheat. It has been a most unfortunate year in some of the wheat growing districts of Russia and an importation of American wheat has already been made in that country.

The latest information of the character of the British wheat crop is derived from a letter written October 2nd to the London Times by H. Kains Jackson, the well-known expert. Mr. Jackson says he thought in August that the English crop of wheat would be a full average, but since then he has visited other large grain-growing counties and the result in them was so unsatisfactory that the general crop cannot fail to be below the average—he thinks 15% less. The crop will be of course much better than that of 1879 (for that was the worst of the whole century), but there will still be a deficiency. The wheat in the eastern and northeastern counties is very poor and shows the effect of a bad season. Mr. Jackson's examinations indicate that even though there were an average crop in parts of England and in Ireland and Scotland, the deficiency of five of the eastern and northeastern counties would bring the whole below the average.

These points which we have merely hinted at will have an influence in sustaining prices and call attention to the fact that short crops abroad will open the way for large quantities of American wheat.

FINE MUSCATS.—We lately received from Chas. E. Shillaber, of Cordelia, Solano Co., a box of Muscat grapes from his vineyard. They are of excellent quality; as good as we ever saw of the variety, and Mr. Shillaber has our thanks for his remembrance of us.

A NEW poem by Tennyson will appear in the November Harper's. It is written in memory of a beloved brother of the poet (Charles Tennyson Turner), who died in April of last year.



JAPANESE LADIES PICKING TEA ON A MOUNTAIN PLANTATION.

The specimens sent us arrived in perfect order, and were well packed. Mr. Wilson gives special attention to packing fruit for long transit, and his system is evidently a good one.

A TILT WITH A WHIRLWIND.—We read in a

tem in this State, but we may be mistaken. If any one can claim priority let us hear from them.

COMING TO CALIFORNIA.—The Galesburg (Ill.) Republican of October 18th, says: "The following party anticipate starting from this city to-



METHOD OF PLUCKING TEA LEAVES IN JAPAN AND INDIA.

Napa paper that "a terrific whirlwind, sweeping down the canyon, unhorsed Abram Gridley, a man weighing about 190 lbs., and carried him 20 or 30 ft. upon the large rocks and boulders." Upon a previous occasion, the wind blew a train from a railroad track in Marin county, and this is not much of a State for wind, either.

A HERD of Short Horns was sold in Chicago, Oct. 26th, 40 head bringing \$6,500, an average of \$162 a head.

morrow evening for Riverside, Cal.: Mr. O. T. Johnson and family; Mr. A. P. Johnson and family, Altona; Mrs. Craven, the mother-in-law of the former; Mrs. Cairns, mother-in-law of the latter; Miss Mary Smith and Miss Alpha Noteware. This makes a party of 14. We wish them a safe journey and pleasant homes in that sunset land."

THE situation of affairs in Ireland causes much apprehension in London. The Land-Leagueers threaten reprisal in case of prosecution.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Tehama County—No. 3.

EDITORS PRESS:—Sierra township is the largest of the seven, and occupies the east and north portion of the county. It has in it some farming land which in the future will be brought under cultivation. It is a mountainous and wooded district. Portions of it are covered with fine forests of sugar pines and other valuable timbers, millions of ft. of which have been marketed by the Sierra Flums and Lumber Company when they were in full working order. The Champion, Last Chance and Yellow Jacket mills are located in the heart of a splendid timber country. Many of our sheep owners have fine mountain ranges in this township. H. C. Wilson, H. A. Rawson, J. C. Tyler and Tyler & Kimball have their summer pasture in this high and cool place. The well known Dser Crsek Meadows (upper and lower) are in Sierra township. Morgan Springs, a summer resort for citizens from the hot valley, is in this section of the country. The township embraces many dairy ranches, orchards, fruit gardens and pretty spots for summer resorts. Game is plentiful the year round, and in its timber and pasture lies its means of support.

There are many clearings in Sierra township which in the future will be settled up. Belle Milla did have several inhabitants, but is now almost a deserted place. Plum valley is a small fertile valley where potatoes and vegetables are raised, bay and grain sufficient for feed. On Payne's creek we find some very pretty farms where hay and grain can be raised in abundance.

Lassen township is the smallest of the seven, and is south of Tehama township. It is nearly all under cultivation, and has some magnificent farming land in it. J. S. Copeland, Thomas Washington, Press Moore and H. Gerke have fine farms. The Bosquejo ranch is in itself a marvel of fertility. H. Gerke, the owner, has rented it out to several tenants. The fine vineyard where the Gerke wine is manufactured is on the Bosquejo ranch, and pays its owner better than the raising of wheat. There are some waste portions of hilly land in this township, but they are not of a great extent.

Paskenta township is next in extent to Sierra, but it has far more farming land within its boundaries than Sierra. Paskenta of late years has rapidly come to the front as an agricultural township. Large bodies of excellent grain-bearing land, in and around the old Nomelacke reservation, have been broken up and heavy crops of fine grain have been raised, where a few short years ago it was thought impossible to raise grain. In the foothill portions of this township are found pretty little farm houses nestling in the little valleys, which have a rich fertile soil. Nevada Bottoms and other fertile spots are second to no farming land in the county. There are acres upon acres of land in Paskenta township that agreeably surprised the pioneer settlers of the township in raising 25 and 30 bushels of grain to the acre. S. Jennison, a pioneer settler of this section, owns a splendid ranch on the banks of Thomas creek which has proved to be fine grain-bearing land. P. Cleghorn, S. A. Cyle, James M. Howell, N. Howell and John Gleason all have fine farms in this section, and bordering on the fine water course that traverses the breadth of the township—Thomas creek. It rises in the Coast range and flows through the very heart of the farming land of the county. It seldom, if ever, goes dry, and is a blessing to many of our sturdy farmers, though it is unruly at times and causes sad havoc when it overflows its banks.

In Paskenta township vast tracts of sterile, barren-looking land is now being plowed up, showing the appearance of the soil when unbroken cannot be taken as a proof of its sterility. The plow turns up a mellow loam which is easily worked, and bears a fair crop of grain when properly farmed. A great portion of the land in this section, except the heavy bottom land on the bank of Thomas creek, must be summer-fallowed to produce paying crops.

Of late years a perfect revolution has been going on in the industry of Tehama county. Sheep some seven years ago were the main stay of the county. Our large sheep owners have of late driven their flocks to Montana, Colorado and Texas, and the vast sheep pastures of this county are now being broken up and turned into mammoth wheat fields. From north to south and from east to west the plow has taken possession of the broad acres of our progressive county, and agriculture reigns supreme ruler, where wool and beef each in their turn reigned. This county has never had a total failure of crops during its history. Its climate is healthy and even. Cottonwood, Red Bluff, Tehama and Lassen townships have the California and Oregon branch of the Pacific railroad running almost through them, besides the natural highway—the Sacramento river—giving easy transportation to the producers.

There are several well-improved farms in this county which can be purchased by those who

wish to make a permanent home in a prolific go-a-head farming county. H. Kraft, a heavy capitalist, has several fine farms for sale, on all of which there has been splendid crops raised in the past. There are also sections of railroad lands not yet occupied, as well as here and there pieces of government land well worth entering.

I would say in conclusion that a grand future is in store for Tehama county. When her large tracts of land shall have been cut up into moderate sized farms, she will then be the hanner agricultural county in the State. FELIX.

Red Bluff.

[We are under obligation to our correspondent for his interesting sketch of his county. We hope readers in others of the newer counties will follow the example set by Felix.—Eds. PRESS.]

The Los Angeles Fair.

EDITORS PRESS:—This year's exhibition is universally pronounced the finest which has ever occurred in this section of the State. The expectation of the Presidential visit, the increasing development of the agricultural and horticultural interest, now that a market has opened which promises to take all our surplus at remunerative prices, have made every one anxious to do his level best. And now that the hour of opening has arrived, the final unveiling of the hitherto concealed treasures gives the hall a truly enchanting perspective. The decorations are ample and tasteful, and the managers receive much praise for the judicious distribution of the rival collective exhibits, which while satisfactory to the contributors is yet made to enhance the general effect.

Those who remember the Los Angeles of the past are not prepared for the surprise which awaits them in the Court of Ceres, occupying the entire end of this building, wherein the grasses and grains have been artistically arranged, somewhat in the style of the Kansas centennial exhibit. From a fine allegorical picture of the goddess, radiate the plaited stems of the various cereals; as tasteful and original in grouping as was the famous Kansas Bell. Maize, millet, sorghum, broom corn are wrought into columns, oats and barley and many varieties of wheat are so displayed that they may easily be studied and compared.

Mr. S. L. King, of Garden Grove, shows fine Odessa wheat sown Nov. 16th, 25 lbs. to the acre, reaped June 16th, yielding 25 cents to the acre. B. F. Scott, of Anaheim, A. McFadden, of Los Angeles, and others exhibit Sonora wheat. R. Sepulveda, New San Pedro rancho, near Wilmington, sends very fine Propo, Australian and Chile wheat. Mrs. Lucas, of Santa Monica, S. A. Ward, of Centennial, also show "Proper" wheat—so we may see that the wheat-growing regions are not, as has been said, limited in area, for San Fernando valley has proved a very wheat bonanza—while Mr. L. J. Rose, who raises Australian at Sunny Slope, as also Wm. Smith, of San Antonio, Mr. A. M. Southworth, who raises N. Y. defiance, make displays of splendid grain in the shuck and otherwise. There are many exhibits of Egyptian wheat also, principally from the Monte, by Mr. Ellis and others.

I see very fine Spanish barley, from Mr. Jaskin, of the Cienega, many lots of flax, and Mr. B. F. Ball, of Pasadena, displays "volunteer oats," which exceed any we ever saw anywhere. As I have watched that crop from seeding to harvest time, I know those tall stems and heavy heads are not picked specimens, but average samples of an extraordinary crop. Mr. Ball's corn, grown without irrigation, is quite as good.

But talking of corn, one should visit some of the corn orchards of Orange and Gospel Swamp to get fairly acquainted with the Iowa dent. Mr. Anderson, of Orange, brought in a few stalks with not quite ripened ears, and just because I could not believe my eyes, I weighed and counted the kernels. Five ears weighed 10 lbs.; the largest ear weighed 3½ lbs., and I counted upon it 1,380 kernels. But these 23-rowed monsters did not please me so much as a basket of long eight-rowed, old-fashioned yellow ears, and the pretty Virginia flint which furnished the hominy of our early days; exhibited by Mr. Lewis, of Tustin City. Mr. I. T. Ishell shows 90-day corn, second crop, from seed found in the Aztec ruins of Arizona.

From Judson, of Tustin, and Parton, of Santa Ana, come huge potatoes, matching the sugar beets from Gennert's French seed, which are tiresome to look at from their hugeness. One planted in May weighed 30 lbs.

Among the substantial are, also, "some pumpkins" of absurd proportions. One sent by Mr. Townsland, of Pasadena, weighs 124 lbs.; another 150 lbs. Mr. Durell sends one weighing 182 lbs.; Mr. Cook, of Florence, two, weighing respectively 172 and 165 lbs. Of the Westminster (Presbyterian) squashes, the leader weighs 201 lbs. Remembering how fond horses are of these, it occurred to me that a few years more of natural selection and culture would give us a fruit which would serve both as a staple and refectory.

Lima beans, okra, egg-plants, every culinary vegetable, gourds of the most fanciful shapes, rattlesnake melons, tomatoes of many kinds, I could not see what had been left out of this wonderful show of vegetable wealth.

The florists are making a very fine display, reminding me pleasantly of Woodward's Gardens and the Golden Gate park, by well-grown strelitzias, jacarandas and other still rare tropical plants.

But the great feature is the collective exhibits from towns competing for the prizes for the best display of fruits. San Diego is out with a representation of her own recent fair. Orange, Los Angeles city and smaller places like Tustin are showing nobly. At this moment Pasadena appears to lead, but there are boxes and boxes not yet opened. I will reserve the cream of the display for another letter, since the President delays his coming.

JEANNE C. CARR.

Los Angeles, Oct. 18, 1880.

THE DAIRY.

The Dairy Resources of Los Angeles Co.

EDITORS PRESS:—In your article on "Autumn Dairying," in this PRESS of Oct. 9th, you give the dairymen of the northern part of the State some excellent advice. When you advise them to raise roots and other feed, so that they can feed their cows, and by keeping up the flow of milk, produce butter in the fall and early winter, when it always commands a paying rate, instead of depending on the natural grasses, and assisting to glut the market during the spring and summer when the price is sure to fall below the cost of production.

But my experience with the farming community of this State is that they are apt to get in a groove, and it is next to impossible to get them out of it and move in a fresh direction. For many years in this county the staple crops were corn and barley. Until four years ago these crops paid a living, reasonable profit; since then, barley has always failed to pay. After deducting the cost of plowing, seed, harvesting, threshing, sacking, freight and commission, the farmer invariably came out in debt. Corn, instead of paying a profit of from \$30 to \$50 per acre, as it formerly did, now barely pays wages to the man who raises it. The crops are just as good as ever, but the prices are too low to pay. Although these crops do not pay, and are not likely to pay in the future, the majority still continue to raise them, apparently from sheer inability to get out of the groove in which they had always run. But then there was another reason. The seasons for putting in these crops and gathering them did not cover more than four to six months of the year. So that there was an interval of idleness of (say) three months between seed time and harvest, and again between harvest and seed time, during which they could loaf and do nothing to their hearts' content. This kind of life suited them better than any kind of farming with steadier or more continuous work, and rather than attempt dairying or any other business that required constant daily work, although the work was not hard, was hooted at. As the majority of the men in Los Angeles county, who call themselves farmers, belong to this class, it can be readily understood why it is that this county, which contains 200,000 acres of the very best dairy lands, is not a dairy county; but although the natural advantages are great, they were wasted on an unwilling people.

There will be a difficulty in the way of most of the dairymen in the northern part of the State adopting your advice. Most of them are on lands incapable of irrigation, and upon which without irrigation it would be impossible to provide anything but dry feed for the fall and winter. Now here is where the special advantages of Los Angeles county come in. With our natural perennial green grasses, with alfalfa and burr clover, which are annuals, dairies can be run every month of the year without any cultivation or winter feeding. There is nothing in the way of cattle feed upon which cows do better than on the natural green grass of the wet or swamp land, accompanied by the dried clover and alfalfa on the drier land adjoining. They do better on the mixture of dry and green than they will on either. Some of these tracts will carry a cow to the acre the year through, but as the crop of clover and alfalfa would depend upon the quantity of rain, it would be safer to estimate two acres to each cow on natural feed. If the winter is dry, the swamp grass continues good, but if the season is wet, the burr clover and alfalfa start up immediately, and cows will eat nothing else so long as they remain green.

I do not think that these lands are as good for dairying as other lands that I will describe, but they would be preferred by a certain class of dairymen who are averse to doing any other than the regular work of the dairy and do not want to farm and raise crops. Where they are now located it requires the grass on 10 acres of good average land to keep a cow, and she is on dry feed half of the year at that. Here two acres of land will keep the same cow on green feed all the year. In the dry season, when the cows are permitted to feed at will, they will change from dry to green and from green to dry feed several times a day, and as I have already remarked, they will do better than on either alone. If a man objects to cultivation, he can find nothing better than this.

But we have a class of lands which have natural moisture, but which cannot be classed either as wet or dry lands, in this flowing well belt, which Gen. Shields styles correctly the "Squash belt," on account of the enormous growth of pumpkin pie material which they produce. These are the alfalfa lands. The water level is near enough and not too near for the growth and prosperity of this famous clover. Forty acres of this land sown to alfalfa principally and the remainder in sorghum, broadcast, beets and squashes, with water for irrigation, will easily carry 100 cows, if you adopt the soiling plan and provide as great a variety of food as is possible, and encourage the cows to eat all that they can digest and utilize, in a corral of sufficient size to enable them to move about and get the little exercise they need, and provided with good and abundant water at all times, and sufficient shade. Such returns will be made in milk, butter and cheese as will astonish and delight their owner. Provides a cow with plenty of green and other nourishing food, and she will rarely dry up, but go on producing continuously. It is safe to calculate that cows kept in this way will do 100% better than on the ordinary system of the northern part of the State.

When pastured on alfalfa this three-field system should be adopted and each field pastured one week at a time, and then allowed two weeks to grow. The sorghum, which is also perennial, should be fed in the same way. The land will easily sustain one cow per acre, and at the same time produce such a superabundance of alfalfa, that a large supply of alfalfa hay can be stacked for the winter, which with beets and squash will supplement the lesser growth of the alfalfa and sorghum, during the winter—a period of three or four months. As a rule alfalfa grows one inch per day for eight months of the year, and one-half an inch per day during the other four months. If it could grow continually, and it was not necessary to cut it, the hulk produced on one acre of land in 12 months would be 25 ft. high of solid grass, and this is nothing more than the average growth on warm sandy-loam land that is irrigated when it requires it.

This irrigation varies according to the subsoil; on leachy-lands perhaps eight times a year, on retentive subsoils from two to four times, and on some soils never. These last make good growth during the summer, but the land being wet and cold, little growth is made in the winter. The best lands for alfalfa are those that require irrigation from two to four times a year, as the soil being warm it makes a good growth all the year.

I will anticipate a question: The natural pastures lands first spoken of, will cost, say, about \$30 per acre, for an average at two acres for a cow. It will be, say, \$60 for land for one cow. The alfalfa land will cost originally about the same price, but add the cost of well plowing and seeding and call it \$50 per acre, or \$50 for land for a cow. If the soiling plan is pursued, no fencing is required except for the corral; but if this pasturing plan is followed, all of the land would have to be fenced. Besides under the soiling plan with five cows to two acres, land for one cow would only cost \$20. This soiling plan is undoubtedly by far the cheapest and best, besides there is no danger from hooves or blots. The grass should be cut at its best stage, when it just comes into the bloom, and permitted to wilt one day and then fed the next. No extra labor is required, as the milkers can cut, haul and feed it between the morning and evening milkings. When alfalfa is pastured during its earlier stages of growth it is very succulent, but is less nutritious than when it is permitted to bloom, but as it is then from two and a half to three ft. high, it is too large to pasture, as four-fifths of it would be tramped down and wasted. We have, I believe, four cheese factories in the county, but there is such a demand for the cheese produced here at home and in Arizona, that none of it goes to San Francisco. As our merchants are all supplied with it, we can always depend on getting a good article when we buy cheese; before, when they bought in San Francisco, they generally shipped them such vile stuff that it was eaten by few. The butter also is now no longer a drug, even in summer, the hungry miners in Arizona consuming all our surplus. They are comparatively few in numbers now, but in a year or two they will be a multitude, and we have to supply them their dairy produce, fruits and vegetables, of which we will have a practical monopoly.

If a dairyman who has his cows, but not money enough to purchase land, or would like to rent a year before buying, he can get a suitable tract of wet and dry land for from \$2 to \$3 per acre by the year, if he purchases one-fourth cash, balance in three equal annual payments with 10% interest. There are many owners of land in this valley, but these rates will be about the average for the whole.

Our markets are first the home market, and the next is Arizona, which is now taking and will continue to take all of our surplus. Peddlers travel from one farm to another paying San Francisco prices for butter and eggs to supply the wants of the miner. Los Angeles county used to supply quantities of eggs to San Francisco; now nearly all go to Arizona. In writing this article describing our advantages as a dairy country, I have endeavored to be as modest as possible. I have told the truth, but not by any means the whole truth. I used the same caution that the Irish immigrant did when he got his employer to write a letter to his friends in the "ould countree." After telling how comfortable he was and how much wages he got, he said, "I get mate three times a week." His

boss was provoked at this and said, "Why, you rascal, you get meat three times a day." "Yes," said Pat, "that is true; but if I say three times a week they won't believe, and if I said three times a day they would be sure I was lying."

Likewise I have confined myself to telling part of the truth, and I invite the doubting Thomases to come down here and see for themselves. This is the very worst time of the year and, consequently, the best time for the buyer to see it, and it is also the time of the year when dairymen are making their arrangements for the coming year. If they come they must bring their cows from the north. They cannot depend on getting them from the stock here, as there is but little good dairy stock here that can be bought. Most of the cows are nothing but heifer stock. A two-year-old dairy heifer from Marin county with her first calf is as good as half the old cows here.

WM. R. OLDEN.

Aracahim, Cal.

[Irrigation is not essential to the growth of squashes, beets, fodder, corn, Amher cane in most of the dairy districts of the northern and central counties of the State. There are of course exceptionally dry lands in spots, but as a rule the winter rainfall is enough to mature a late crop of these growths if the soil be well worked so as to prevent evaporation. There are many fields in this part of the State now dotted with squashes; mangold heets are plenty with a weight from 20 lbs. to 30 lbs. each and they will be ready to last until spring; and sweet corn and Amher cane are now fresh and green for feeding. The central part of the State need not be confined to dry feed at this time of the year if the dairymen choose to have it otherwise.—EDITORS PRESS.]

Calf Distemper.

EDITORS PRESS:—Every summer we lose more or less calves with a kind of distemper. The hair turns the wrong way, the ears droop, the eyes become sunken, the breathing becomes difficult. Swelling often commences under the throat about the roots of the tongue. After the first 12 hours a kind of frothy mucus runs from the mouth and nostrils, and often in 24 hours the calf is dead; but sometimes the patient holds out four or five days, and perhaps 1 out of 10 recovers. Can you, or any of the readers of the PRESS, tell us what the disease is, and if there is any remedy for it?

PATRON.

Crescent City, Del Norte Co., Cal.

[An able veterinarian, to whom we submitted the above, says he cannot recognize the complaint from the description. If any of our readers have experience with such a trouble, and can shed light upon the question of treatment, we should like to hear from them.—EDS. PRESS.]

HORTICULTURE.

Best Fruit to Grow.—No. 4.

EDITORS PRESS:—As the season is approaching for the planting of fruit trees, may be I had better try to answer a question which has often been asked me lately, "What are the best fruits to grow for market?" This is a question that is rather difficult to answer satisfactorily, but I will give the result of my investigations on the subject, as well as some experience in growing fruit.

I learned first that there are certain kinds and varieties of fruits that sell readily and at paying prices in San Francisco and other large towns, at the canning factories, and to parties engaged in shipping overland. From several interviews with the managers of canning factories, I learned that they were ready to take all the good apricots that California can produce, at from three to five cents per lb.; and all the good canning peaches, Bartlett pears and Yellow Egg plums from two and one-half to three and one-half cents per lb.; dried prunes, 12 to 14 cents; good, light-colored cherries, four to six cents; and the Porter Bros., fruit dealers from Chicago, who are shipping largely overland, say they want largely of Bartlett, Winter Nelis and Easter Buerre pears, at two and one-half to three and one-half cents; and Egg plums in unlimited quantities, at the same price.

We have a steady market in San Francisco for the pears, prunes and Egg plums at about the same prices, and the Winter Nelis pear at a much higher price.

There are several varieties of apples that find a ready sale in San Francisco at good prices, such as Newtown Pippin, Yellow Bellflower and Esopus Spitzenberg and several other varieties of red apples that are handsome and good flavored.

We have local markets in many places that demand certain kinds of fruit at good prices. There is the grape, too, that must not be left out of the list of fruits which command good

prices and ready sale—that is, from \$20 to \$60 per ton, according to quality.

It is very evident that if we have a situation suitable to growing any one or more of the above kinds of fruits to a good degree of perfection, that we may make fruit growing profitable wherever we can get to market without too much expense and delay. It is a settled fact that the greater portion of all the coast counties, and much of the interior, will produce all of the fruits named without failure from year to year—that is, there are some varieties of all these kinds that never fail. So now select your kinds and varieties according to your soil, climate, and the time you wish to spend in cultivating and marketing.

Suppose you want to grow some kind of fruit that you can cultivate with ordinary implements, and sell in the orchard to dealers, or ship it yourself at leisure. You had better grow winter apples or pears; and for apples there is nothing ahead of the Newtown Pippin, and for pears the Winter Nelis and Easter Buerre are the leading ones, and especially the Winter Nelis. But if you want to spend a good deal of your time in the orchard, for the sake of employment, you had better grow some earlier fruits, such as apricots, peaches, plums, cherries and some good, early apples and pears. In selecting these, be sure and get such as the market demands; and here again comes the question, "What are the best fruits to grow for market?"

There is no fruit grower or dealer that is sufficiently posted in this matter to give entire satisfaction to the public in answering this question; but it is safe to say that you had better grow such fruits as are popular in the market—that are in demand, and that are not likely to be "overdone." We are then confronted with the question, what kinds of fruit will continue to be in demand? From the best sources of information that I have had access to, such as canning and drying factories, and fruit dealers who are supplying markets abroad, it is safe to say that apricots, canning peaches, grapes, Bartlett and Winter Nelis pears, Petite d'Agnes prunes and Newtown Pippin apples of good quality will continue to be in demand. If your location is suitable for growing apricots, you can't select any more profitable fruit—that is of orchard fruit, for it is in demand all over the world, and the market cannot be overstocked.

There seems to be an increasing demand for grapes, both wine and table grapes, and the market is not likely to be "overdone," but there is some risk in grapes in some of the coast counties on account of rains in the ripening seasons. But with careful and intelligent cultivation, gathering and marketing, there is not much risk in any of the fruits mentioned; and when we consider the many different kinds of fruit that can be grown in California to great perfection, and especially in Santa Cruz and Santa Clara counties, it is a wonder to me that there are not more engaged in it than there are; because it is a surer crop than grain, and pays from 3 to 10 times better, according to time and capital.

In proof of this, let me cite a case or two: A neighbor of mine sold last year from an orchard of 100 trees of the most common apples, devoid of the best market varieties, \$480 worth, besides a good many not salable that were used at home and fed to hogs. The trees are about 20 years old, and have been very poorly cared for from the time of planting. A fruit grower at San Jose told me that his cherries averaged 250 lbs. to the tree at 12 years old, and sold for 10 cents per lb. in San Francisco, and netted him 7 cents clear of expense in gathering and marketing. With 140 trees to the acre, and 250 lbs. to the tree, at 7 cents per lb., we have \$15.50 to the acre, and the snug little sum of \$1,170 to the acre in fruit. This is not an occasional freak, but a regular thing; for our fruit crop is regular and never a total failure here, and with such prospects in fruit growing, why run such risks in growing grain? M. P. OWEN.

Soquel, Cal.

Pruning.

EDITORS PRESS:—Pruning is an operation of vast importance in the management of trees, and the principles on which it is founded must be clearly understood before complete success in fruit culture can be attained. Trees left to nature maintain a well balanced reciprocal action between the branches and roots; and every branch, bud or leaf that is removed, must exercise an influence either injurious or beneficial, and no one should attempt to remove branches unless they foresee the effects and influence of such removals. The time of pruning, whether during summer or during winter, will depend upon the object to be attained. A brief consideration of tree growth will assist in determining the question.

When a seed is deposited in a suitable germinating medium, its first effort is to send a root downwards in the earth, and then push a shoot upwards in the air. The seed contains within itself all the nutriment necessary for this process, but as soon as the young tree is so far formed, its mode of existence is changed, and it becomes dependent upon the soil and atmosphere for future support. The substances absorbed by the roots undergo decomposition through the influence of the leaves, and the material is thus prepared for further root-growth and extension. The roots have no inherent power of extension, but are dependent

upon the health and action of the foliage; and although in germination the roots are first formed, their growth is due to the action of the foliage of the tree that produced the seed from which they were sent forth. It is therefore apparent that the increase in size of the tree, the quality and quantity of its secretions, and the extension of its roots, are all dependent upon the healthy action of leaves. When it is considered how essential the foliage is to the healthy development of the tree, we may well pause before infringing upon the reciprocal action nature has established between the roots and branches, for it is evident that every branch or leaf removed has an effect either for good or for evil upon the tree. The correlative action between leaves and roots being so intimately connected, it follows that any diminution of leaf-growth during the period of active vegetation, must retard root development. Hence it is an axiom now becoming recognized, that summer pruning weakens growth, while winter pruning produces a contrary effect. Summer pruning can be useful where wood growth is to be checked, and it will be repressed in proportion to the severity of the removal of foliage.

Fruit trees, when planted in a generous soil frequently attain a luxuriance incompatible with a fruitful habit, and their flowering may be somewhat hastened by judicious summer pruning or pinching, so as to retard wood-growth; but care must be exercised, and much observation and experience are requisite before the object can be safely attained.

Winter pruning invigorates wood-growth. When a portion of the branches of a tree is removed after the fall of the leaves, the balance of growth is destroyed, and the roots have the preponderance. The remaining buds will now shoot forth with increased vigor, an important consideration with trees or vines that have become weakened from overbearing, or any other cause, imparting new vigor to weak and sickly trees.

The time for winter pruning may also be regulated by the condition of the trees; if pruned immediately after the leaves fall, the shoots will be stronger the succeeding season than they would be if the operation had been delayed until spring. This arises from the fact, that during winter the tree still continues to absorb food by its roots, which is distributed over the branches; and, as the principal flow of sap is always directed to the extreme points of the shoots, the highest buds are most fully developed. If, therefore, pruning is delayed till spring, this accumulation is cut, and thrown away, and to that extent the tree is weakened.

There is a tendency in many varieties of trees to form strong central growths at the expense of the side branches, more especially when the trees are young. Pruning these strong shoots in winter only increases the evil, unless summer pruning is attended to by pinching out every shoot before it gains sufficient headway to injure the growth of the lower branches.

Strong growths should be pruned in summer, and weak ones in winter. But it may be said that pruning of any kind is a negative operation, and probably it is within the limits of possibility that trees may be trained to any form, and maintained in a fruitful condition without any tool pruning whatever, unless to remedy disease and casualties. It is much easier, for instance, to rub off a bud in May than it is to cut out a branch in December, and if a judicious system of disbudding and pinching was strictly followed, there would be no occasion for winter pruning, or, were it possible to put a tree in such a soil, and under such conditions that it would only make a moderate growth of well matured wood, little if any pruning would be required. But as all these conditions are difficult to realize in happy combination, we have to resort to pruning, and a knowledge of the principles involved will materially assist the operator. J. W. BARTON.

Santa Rosa, Sonoma Co.

THE FIELD.

Experience with Odessa Wheat.

EDITORS PRESS:—As accounts are appearing in your columns of experience with rust-proof wheat, I send the results of a sowing of the imported Odessa obtained from A. Gerberding, who imported the seed as noticed in the PRESS at the time. The wheat was sown March 14th, just before those heavy late rains which did so much damage in this part of the country. The soil was sediment tulle which had been in cultivation three years only, and had grown beans and potatoes in that time. The ground had a thorough preparation, and about 75 lbs. per acre of wheat was sown. On account of the season and the great quantity of rain that fell we were fearful that it would be a failure. I lost three acres by seepage and the remaining 10 acres grew and flourished like nothing I have ever seen in the wheat line. The only trouble we had was we sowed more than double the quantity of seed needed to the acre, and it grew so rank and so much of it. It stools and branches out more than any other wheat, and needs less seed per acre.

A wheat grower from the Montezuma hills came here about two months ago, saw it and bought it as it stood; he to harvest it and bear all the expense and take all the risks on it from

that time, and paid me \$550 for the 10 acres. He was so much pleased with it that he has rented some 300 acres of my land on which to sow this wheat, although owning and farming a large tract near Rio Vista. It seems he had bought a ton of the same wheat from the same lot as mine and had sown it on the tule near Rio Vista, but the late floods broke the levees and he lost his crop there. Having a small quantity of seed left he came here and rented 10 acres (having seen mine growing), and on the 8th of July sowed 30 lbs. to the acre just to experiment. He has a fine crop, although some portion is weedy. Two weeks ago he thought he would cut it for hay, but he is here now and says if the rains hold off, in two weeks it will be ready to harvest for seed. If so, it will be something a little out of the way for wheat sown July 8th. He has raised wheat 18 years, and says if this wheat had not been absolutely rust proof it would have rotted on the ground, as it was so thick and matted, and such quantities of it lay on the ground. He is very enthusiastic about it, and says he will put the 10 acres raised by me against any other 10 acres in the State. When the grain is threshed I'll send you the amount raised.

MRS. LIZZIE MILLER.

Walnut Grove, Sacramento Co., Cal.

THE STABLE.

A Good Horse.

"I can't explain what a real good horse is," said one of the best natured dealers in the street. They are as different as men; in buying a horse, you must look first to his head and eyes for signs of intelligence, temper, courage and honesty. Unless a horse has brains you can't teach him anything any more than you can teach a half witted child. See that tall bay there, a fine-looking animal about 15 hands high. You can't teach that horse anything. Why? Well I'll show you a difference in heads; but have a care of his heels. Look at the head's head—that rounding nose, that tapering forehead, that broad full place below the eyes. You can't trust him. Kick? Well I guess so! Put him in a 10-acre lot, where he has plenty of wing, and he'll kick the horn off the moon.

The world's treatment of man and beast has the tendency to enlarge and intensify bad qualities, if they predominate. This good-natured phenologist could not refrain from slapping in the face the horse whose character had been so cruelly delineated, while he had but the gentlest treatment for a slick-limbed sorrel that pricked her ears forward and looked intelligent enough to understand all that was being said.

"That's an awful good mare," he added. "She's as true as the sun." You can see breadth and fullness between the ears and eyes. You can't hire that mare to act mean or hurt anybody. The eye should be full, and hazel is a good color. I like a small, thin ear, and want a horse to throw his ears well forward. Look out for the brute that wants to listen to all the conversation going on behind him. The horse that turns back his ears till they almost meet at the points, take my word for it, is sure to do something wrong. See that straight elegant face. A horse with a dishing face is cowardly, and a cowardly brute is always vicious. Then I like a square muzzle with large nostrils, to let plenty of air to the lungs. For the underside of a head a good horse should be well cut under the jaw, with jaw-bones broad and wide apart under the throatle.

"So much for the head," he continued. "The next thing to consider is the build of the animal. Never buy a long-legged stilty horse. Let him have a short, straight back and a rump, and you've got a gentleman's horse. The withers should be high, and the shoulders well set back and broad, but don't get them too deep in the chest. The fore-legs should be short. Give me a pretty, straight, hind-leg with the hock low down, short, pastern joints and a round mulish foot. There are all kinds of horses, but the animal that has these points is almost sure to be slightly graceful, good-natured and serviceable. As to color, tastes differ. Bays, browns and chestnuts are the best. Roans are very fashionable at present. A great many grays and sorrels are bought here for shipment to Mexico and Cuba. They do well in a hot climate under a tropical sun, for the same reason that you find light-colored clothing most serviceable in summer. That circus horse behind you is what many people call a calico horse; now, I call him a genuine piebald. It's a freak of nature and may happen anywhere."—Scribner's Monthly.

TO MAKE BELTS RUN ON THE CENTER OF PULLEYS.—It is a common occurrence for belts to run on one side of the pulley. This arises from one of two causes. First, one or both of the pulleys may be conical, and of course the belt will run on the higher side. Second, the shafts may not be parallel, or exactly in line. In this case the belt would incline off to the side where the ends of the shafts come the nearest together. The remedy in this case would be to slacken up on the hanger bolts, and drive the hangers out or in as the case may be, until the shafts become parallel. This can be determined by getting the centers of the shafts at both ends by means of a long lath, or a light strip of board.

PATRONS OF HUSBANDRY.

Recollections of the State Grange Meeting.

EDITORS PRESS:—Feeling the restfulness of being alone and the dignity of being from Stockton, which receives its 250,000 tons of wheat, storing over 100,000 tons, and is the center of the lumber trade of the great San Joaquin valley; also that I was natively fitted out with ribbons and laces to brighten up my one dress, and that my bonnet could not be knocked off and clapped on again and worn bent like "Betsey Trotwood's", I began to enjoy the whirl past the wheat regions where, in places, the fall plowing already sown was waiting the rain; past old Diablo with its coal mines, the fine view of Benicia and around Suisun and San Pablo bays, down to the Point, where the wide stretch of San Francisco bay made me wish to steam on past Goat island and Alcatraz and through the Golden Gate into the "wide, wide sea;" but remembering the kindly greetings Grangers were sure to give each one arriving, I turned to the most central place for the session—the healthy, friendly city of Oakland.

I was too late for the Berkeley excursion, but the memory of the Contra Costa hills, San Quentin, Golden Gate and other views lingers from last year. Prof. Hilgard's showings and explanations amply paid for the trip. One hundred and fifty distinct kinds of grain were raised on the experimental grounds this year, as shown by the specimen heads and threshed grain shown at some of the leading fairs this fall.

Beautiful Oakland with its bights was overshadowed with thin clouds which, Thursday night, poured down quite a shower, the morning sun grandly rose making the day warm as Stockton. Owing to the lateness of the harvest some Granges sent letters instead of representatives, but the attendance was good.

The grievous increase of railroad freights more than doubling the cost of transportation, taking off all the farmer's profits, excited great interest. All seemed agreed that the railroads must be held in check by an interoceanic canal, either De Lessep's route or the Nicaragua route through the enterprise of Admiral Ammens and Captain Eads, and that Congress and the State Legislature should stop such extortion; also the late decision of the Supreme Court on the powers of the State Board of Equalization and the last decision about county officers caused lively discussion pervaded by good will spiced with decision.

Thursday the ball was filled with members and visitors to listen to the beloved P. M., I. C. Steele, whose reaching voice set forth the importance of Congress more fully upholding agriculture; the committee should be a live, earnest one; the Commissioner should have a seat and a salary as the eighth Cabinet officer.

Prof. Hilgard's intense face and forcible voice next greeted us. He concurred that an act or appropriation of Congress should place an efficient branch of the Department of Agriculture on this Western slope. He spoke of the necessity of local experiments and observations, and explained the difficulty of adapting the lessons and experiments of the students at Berkeley to other soils and climatic differences. I thought of the discouragements he had passed through and rejoiced that he is appreciated as the able, tireless leader of progressive science and agriculture on this coast.

Horace Davis evidently respected the efforts of the Patrons to better the condition of farmers. He had got a bill for \$5,000 for a branch of the bureau through Congress. A bill for twice that amount would have been tabled. Thought a bill under the head of Improvement of Rivers and Harbors might be passed in the 47th Congress, relieving the State somewhat of the burdensome tax for mining debris. If Patrons worked unitedly they might get all they asked and raise agriculture to its rightful position.

Dr. McLean, of Oakland, read an ably prepared paper on "Education," (If I understand it aright) setting forth the growing demand that the people shall be taxed only to support the common branches of education, and that only in a limited sense, cutting off our excellent high schools and the goal to which they run, the State University; giving in part to certain religious sects—the means to set up sectarian schools. It is enough that our teachers have to hear with our too-often disobedient, idling and irreverent children, without being held responsible for the vitiated public taste that demands high wages for light, clean work, and because parents do not teach their children that "humility is before honor," making them love work by kindly working with them, and that the coarsest work necessary to the comfort of loved ones or to win honest bread is just as respectable as the highest labor of brain or hand, without taking this long stride backwards. Let plethoric companies, banks and millionaires be made to pay their share of taxes; let appropriations for horse-racing fairs, with their gambling games fostering a taste for living by sharpness instead of by slow but sure labor, be cut off; let couples entering matrimony be made to give bonds to support and educate their offspring and have them taught some trade whereby they can earn a living; arrest and punish

parents instead of vagrant children; re-trench everywhere, but do not cut off higher education because parents and guardians have such an utter inappreciation of their duty and responsibility.

Allow me to tell those who think they can't afford to go to the State Grange, what it cost me. Round trip ticket from Stockton, 90 miles, \$5; hack hire, 50 cents; board three days, \$3.75; total, \$9.25. A plain dress of serviceable goods, cut in late style, with fresh collars, cuffs and ruffles is all that is needed (unless one wishes an evening dress for the Pomona feast).

The feast drew together the 41 passed through her mystic rites and a host of patrons and invited guests, who first admired, then partook of her fruits, nuts and purple clusters of the vine, spicy Muscats, bright Tokays and little Sultanas nestling amid the wealth of bloom; but all eyes were drawn to the floral offerings, fresh and sweet as when spring awoke the flowers, artistically wrought by Bro. and Sister Deming of Vallejo. Two lovely standard baskets and a great beautiful cornucopia spilling from its mossy mouth, fruits, grains, nuts and berries. The three pieces were photographed. Did Sister Deming think, as she placed the words "Hope and Persevere," with laurestine blossoms under the crown of smilax among the mosses within its rim, that we would take those words with us through the dull winter's work as a talisman to cheer?

Filled with hope for our Order, strengthened by the sea breeze, I went my way home Saturday, returning by the wilds of Livermore pass. Under the leadership of our straightforward, unselfish Master, Col. Spilman, let us assemble in still greater numbers next year, and persevere for the common good, respecting each other's beliefs and opinions, so long as there are errors to be corrected and principles to be evolved.

MRS. W. D. ASHLEY.

Stockton, Cal.

The Press and the Grange.

The Grange has not much to thank city newspapers for generally. If the organization is not ignored it is apt to be misunderstood and abused; or knowingly abused through the incitement of those whose private interests are pinched when the general good is pushed forward. It is pleasant to the members of the Order to see a departure from this rule of the city press and to read a good humored and kindly notice of their effort of self-help among agriculturists, which is styled the Grange work. We find in the columns of the Oakland Tribune, a journal which gave much space to the reports of the late State Grange meeting, the following well-meant tribute to the Order and its aims and accomplishments:

The farmers are right in demanding a Cabinet officer. All other interests are dependent upon the work of the tiller of the soil. While we must all eat to live, we have a vital interest in the farmer. We should honor his work, and work to make it honorable. One of the great objects of the Grange is to see that the producer gets the full value of his product. By combination and co-operation to enable the farmer himself to sell to the consumer. To bring producer and consumer as near together as possible. So far in the history of the world, the middleman has had the advantage of both producer and consumer. Trade and commerce have been the money-making pursuits. True, about 99 in 100 merchants break, but they handle the money nevertheless, build fine houses and live in ease and luxury, far beyond the reach of the ordinary farmer. The men who have made \$50,000,000 in a life-time, have been carriers or goods-sellers. Vanderbilt was a common carrier, Stewart a merchant. No tiller of the soil has amassed such a fortune. The odds are too great against him. His first contest is with nature and the elements. Water may drown him out or wash him away, or spoil his crops. Fire may lick him up. Drouth may dry him up. If nature smiles and he gets a good crop, the market may be glutted and down goes the price below transit rates and production, sometimes below either. The carrier has the first pull at him, then follows the middleman, and between both, slim is the profit and the purse of the farmer. They are right in making common cause. Meeting for mutual help and improvement, better fitting themselves to conquer nature, and defend each other against their common foe. The Grange has already done much for the farmer. It has given many a good suggestion about methods of culture, not alone of the soil, but of his social life. Many a poor woman has had a beam of sunshine let into her darkened life. Many a gown and bonnet have been purchased and enjoyed by the poor isolated, hard-worked wife, that she might not be unrepresentable at the Grange. Many a farmer has had new ideas and ambitions planted in the barren soil of his lonely life by the Grange. The commingling of men and women is a grand idea. No more can a woman work her life out by a daily and yearly toil far beyond her strength. The day of the slaughter of farmers' wives is over. The eyes of men and women both are opened to the atrocity of one man working to death three, four or five wives. If the farmer has all the modern labor-saving machines for out-door work, the wife has them for hers. They are helping each other to the idea that life is worth enjoying as we go along. That if we ever have a heaven to enjoy we must

begin it here. That the household is the one heaven on earth, and that every member of it has a duty that can be made a joy, when all work together in peace, harmony and love. God bless the Grange and all the Grangers, say we. "For they are jolly good fellows which nobody can deny."

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

RUNAWAY GRAIN WAGONS.—Washington Corners Reporter: A somewhat curious accident occurred on the Levy ranch, seven miles north of Livermore, last Sunday morning. The ranch was farmed this year by Timothy Hayes, who is now hauling the crop to town. Two wagons, attached, had been loaded with wheat the night before on a hillside, and early in the morning were started by the wind. They ran down the steep hillside, with constantly increasing speed, and finally shot into a gulch, upsetting and smashing the wagons, ripping the sacks, spilling the wheat and making a wreck generally of the whole outfit. Hereafter wheat wagons in that vicinity will be fastened with anchors and handcuffed with cables whenever an Altamont zephyr is expected.

THRESHERS.—The threshers are nearly all laid up after their season's work. They have had from 10 to 15 days longer run this year than they had last. G. A. Babb came in last week Friday evening after 82 days running time; Alson Clark last Wednesday, 83 days; and N. L. Babb Thursday, 82 days. Clark reports the number of bushels of grain threshed during the season 83,000. The largest single lot, 13,800 bushels; the best yield of wheat per acre, 58 bushels; the best yield of chevalier barley per acre, 62 bushels. The Nash & Cutts grain cleaner, used by Clark, Healey, Vandervoort and others, in connection with their threshers, gave entire satisfaction, and it is considered the greatest improvement that has been added to harvesting machinery for several years.

AMADOR.

ITALIAN CHESTNUT ORCHARD.—Jackson Ledger, Oct. 23: Some four years ago C. Botto brought out from Italy a number of trees and slips of the Italian chestnut. He planted them in his orchard on the hill overlooking Sutter Creek. With the help of a little irrigation during the summer months the trees have thrived wonderfully, and produced full-sized fruit for the first time this season. The fruit looks healthy, is large and of excellent flavor. Mr. Botto has quite a patch of land planted with these trees, most of them not yet of bearing age. The size and quality of the fruit plucked this season encourages the belief that the foothill climate is just suited to the Italian chestnut, and his success will, no doubt, stimulate others to plant these trees. Chestnuts are valuable as an article of food. They form one of the principal items of food for a large percentage of the population of Italy and France.

MERCED.

EDITORS PRESS:—The two warehousemen have made large additions to their buildings, and both are full of grain. The weather seems threatening rain nights and mornings; noons pleasant and summerlike. Farmers are busy hauling straw, and preparing to sow again for the coming year. Rye is selling at a higher price than wheat at Cressey, being worth \$1.40 per cwt. Rye is a good crop to get for early cutting for stock.—M. J. O'B., Merced, Cal.

CONTRA COSTA.

THE WEST SIDE ROAD.—Antioch Ledger: W. H. Worswick, of Grangeville, came to Antioch from San Francisco, Wednesday, for the purpose of examining the engine built on the James' plan for a one-track railway. The company have determined to reconstruct the engine which was very imperfectly built and make another trial. The Mussel Slough farmers are still enthusiastic and determined to have a railroad down the west side to deep water. They have raised sufficient funds to make a beginning, and a committee of gentlemen from Mussel Slough will shortly visit Antioch to consult regarding the terminus, which will either be here or in the vicinity of Mohr's Landing. They propose, says Mr. Worswick, to lay the first mile or two with ties of sufficient length to convert it into a narrow gauge road if, after a thorough practical working test, it shall be found impracticable to operate the one-rail principle. The farmers believe they can furnish means for building the road and purchasing rolling stock without the assistance of outside capital. They desire to own and operate the road, cheaper transportation being the sole object aimed at.

FRESNO.

SUGAR.—Expositor, Oct. 21: We were shown last Sunday evening by Mr. Steck samples of the sugar cane grown on the Eggers farm. So far as we are able to judge from the specimens shown, sugar cane can be grown profitably here. All the varieties seem to have done well, but the Honduras cane seems to have thrived the best.

MARIN.

THE NOVATO RANCH.—Journal: The celebrated Novato ranch is midway between Petaluma and San Rafael; 23 years ago this property was purchased by Messrs. Sweetzer and DeLong. It embraces about 13,500 acres, and the price paid for it was \$34,000, or a little

more than two dollars an acre. The ranch is now one of the best improved and most productive properties in the State. Eight dairies are leased on the ranch, milking an aggregate of 1,045 cows. The tenants are: Mr. Guibiny, 80 cows; A. & D. L. Hayden, 250 cows; Lonis Devoto, 130 cows; D. McDonald, 100; George S. Haven, 100; John Sedgwick, 125; Johnson & Hayden, 150 cows, and Manuel Gomez, 150 cows. A change of tenants is a very rare thing, and nearly all are old residents on the ranch. A more contented and prosperous class of people it would be hard to find. The dairies are all rented on shares, the product being equally divided between owner and tenant. The cows return to each from \$22.50 to \$28 per annum. Mr. DeLong manufactures on the place all the vehicles used in his work, from the finest buggy to the largest harvest wagon. The sum paid annually in wages and board of help is \$16,000. The farm product is something respectable. This year he has cut 1,500 tons of hay, raised 5,500 sacks of wheat, and thrashed for the valley over 11,000 sacks; raised 600 sacks of chevalier, and 1,400 sacks of brewery barley. Over 1,000 cords of wood have been cut this year, merely taking old trees, and trees removed as in the way. To these sources of revenue are the countless trifles incident to such a place, such as beef, hogs, sheep, fowls, eggs, horses, bides, etc. The principal industry of the Novato ranch is the fine orchard, which embraces something over 225 acres, and has more apple trees than any other in the State. A new section of the orchard embraces 3,000 apricot and 2,500 Bartlett pear trees. An order was filled last week for 280 boxes of apples at \$1.75 per box. The orchard product last year was about \$12,000 for apples, \$12,000 for vinegar, \$6,000 for cider, and small fruits, \$2,500.

MENDOCINO.

HOPS.—Ukiah Press, Oct. 23: Conversation with various hop growers, develops the fact that all our yards produced a remarkable heavy yield this year. English and White each cured 9,000 pounds from four acres of old and one acre of new. Bartlett's cured 19 tons from 22½ acres; Cunningham had six tons from eight acres, and the average is nearly 1,500 pounds per acre. W. D. Rowleson sends us from Glohe City, some Arizona wild hops, and promises to send some of the roots next spring.

SANTA BARBARA.

LOADING GRAIN DOWN A CHUTE.—Lompoc Record: A new chute landing has lately been put into operation two miles south of Pt. Sal. The frame-work is entirely on solid rock; hence no danger of being carried away by rough sea, or eaten up by the teredo. The floor is 80 ft. above the water, is 260 ft. long and projects out over the water 40 ft. On this projection is a galleys frame 24 ft. high. A steel wire cable, ½ of an inch in diameter, passes through pulleys in this frame, and having one end firmly fastened to the solid ledge at the rear, the other end is taken in a hoist to the vessel to be loaded, passed over a saddle in the rigging and then taken beyond and fastened to a buoy which is attached to an anchor weighing 2,500 lbs. Three other anchors and buoys are laid, to which the vessel is fastened so as to keep it in position while loading. Where the vessel lays while loading is 18 ft. of water at low tide, and the company claim that there is such a strong undertow that no vessel could come ashore with sails down, if all the lines should break at once. Half a ton of grain is placed upon a light frame, and attached to a traveler suspended under the wire cable, and away it goes down to the vessel 300 ft. away, where it is dumped upon the deck or into the hold by an upsetting hook, and the traveler is then drawn back by a horse hitched to a rope which passes around a double drum to which is attached a powerful brake to hold the load and regulate the speed when it is going down. One hundred tons of grain can be loaded in 10 hours by this arrangement, and double the amount if a dummy engine is used to pull back the traveler. This will be added another year. The company could hardly stand the expense this year. They have already accomplished much, when we consider that nearly all the stockholders are farmers and this mode of shipping grain is new to all of them.

SAN DIEGO.

WHEAT.—Union: The stream of grain from the wheat fields around San Diego continues to pour in, with no apparent abatement. Just before noon yesterday we noticed seven long teams at the foot of Fifth street, waiting to discharge their cargoes of wheat at W. W. Stewart & Co's warehouse. If ships bringing railroad iron arrive here as early as February, and we can have knowledge of the fact, we could give them return cargoes of wheat. It is now going forward by steamer, but there is an immense quantity yet to go forward.

SONOMA.

THE POTATO DISEASE.—Petaluma Courier: The potato blight has been more destructive along the coast this season than ever, many fields having been entirely ruined. One man, who two weeks ago had a most promising field of 50 acres, informs me that it is entirely destroyed, the tubers not having obtained a size to be of any value, while some fields planted earlier may pay for digging, or yield a partial crop. There are many theories concerning the cause, some attributing it to diseased seed, or seed which has been grown and used in the same locality or soil for a number of years in succession, while others attribute it to a mysterious something in the atmosphere. We find, in the first place, that the section of country

affected is a strip or belt of land lying along the coast, and extending a few miles inland. Second, the blight always occurs during foggy weather, or immediately after a succession of foggy days; that it comes on suddenly, and whole fields are destroyed in a single day. To my mind the cause and effect is obvious. The plant having been enveloped in heavy, drenching fogs, perhaps for days and even weeks (as often happens), the plant becomes tender and sensitive. Suppose a breeze should suddenly spring up and drive the fog away, as sometimes happens, leaving the full rays of the sun to strike the plant. Under these circumstances the effect would be the same. Further inland, although the fog may be sometimes as dense, it rises or "lifts," thus giving protection to the plant from the rays of the sun until the dew or moisture has had time to dry off. That this is the only true cause I am perfectly satisfied and find abundant proof. When visiting a friend who lives on the coast, I went out to examine his potato field which he represented as most promising. I found, to his surprise, that the blight had taken them. The leaves had wilted and turned black through the whole field, except a spot alongside a fence, which had shaded them from the rays of the sun at a critical time.

SONOMA.

MOUNTAIN LANDS.—Santa Rosa Republican, Oct. 23: William N. Badger's quarter section of land, homesteaded of the U. S., and proved up Monday at San Francisco, overlooks this valley, and contains 60 acres of good plow land on top of the mountain. On an air line it is distant 6 or 7 miles. S. S. Weeks also homesteaded another quarter the same day. These lands are valuable and productive, and there are more like them further off, in the hills. Our issue for this week's weekly Republican shows that other intelligent farmers appreciate their value and have taken the necessary steps to get title of the Government by homestead or pre-emption. To wit: Wm. J. Arnold, Sam'l L. Butler, Henry F. Hudson, Charles Sharp, and Nathan Sharp. These lands lie on the range where the Mark West and other small tributaries of Russian river head. They are above the fog line and belt of severe frost, being well adapted for grain and fruit growing. It is the judgment of Mr. De Turk that his best grapes for the winery come from the hills, and it is the universal opinion that grapes grown there are larger and freer from mildew. The new impulse given to vine growing by our wise tariff that protects the industry will make a thousand homes where a few years ago there were waste domains of sheep pastures.

TULARE.

ARTIFICIAL STONE NOT CEMENT.—EDITORS PRESS: In your issue of Oct. 16th is an extract from the Visalia Delta about the construction of headgates, in which the writer states that I control the right to the Portland cement in California. This is incorrect. I presume he refers, however, to the apatite process for the manufacture of stone, the sole right to which I hold for this State. Please make the correction.—ERNEST L. RANSOME, San Francisco, Oct. 16, 1880.

NEVADA.

HORSE DISEASE.—Reno Journal: The epizootic has made its appearance among the horses of Virginia City. Quite a number of animals are already laid up with the disease. We may expect it to afflict Reno horses soon. When it spread across the continent some years ago nothing was found that could check its progress. Clean stables and good wholesome food were found to be as good as anything to help the horses through the disease.

Premiums at Chico Fair.

The following are the awards for farm stock and products at the fair of the Third District Association, lately held at Chico:

Horses.

Thoroughbred—J. T. McIntosh, best 3-yr-old mare; also 2d best.
Graded Stallions—J. J. Reavis, 3 yrs, John Fay; 2d, J. J. Reavis; stallion and family, James Prout; mare, 4 yrs, J. L. Keesicker.

Horses of all Work—H. Mooney, stallion, 3 yrs; M. Wick, mare, 3 yrs.

Draft Horses—Stallions, J. J. Reavis, 3 yrs; A. B. Collins, 2d; M. Wick, mare, 3 yrs.

Roadsters—Stallions, J. T. McIntosh, 3 yrs; E. C. Nichols, 2d; J. T. McIntosh, 2 yrs; J. J. Reavis, 2d; J. T. McIntosh, mare, 3 yrs; J. J. Reavis, mare, 2 yrs.

Carriage Horses—T. H. Barnard, double team; B. F. Allen, 2d; L. H. McIntosh, single horse; J. J. Waste, 2d.

Roadster Teams—C. C. Mason, best; L. H. McIntosh, 2d.

Saddle Horses—Lou McIntosh, best; J. T. McIntosh, 2d best.

Colts—J. T. McIntosh, best yearling; J. J. Reavis, best sucking colt; L. H. McIntosh, 2d best sucking colt; J. T. McIntosh, best mare colt; J. J. Reavis, 2d best mare colt.

Sweepstakes—J. J. Reavis, best stallion; J. T. McIntosh, 2d; J. T. McIntosh, best mare; J. J. Reavis, 2d.

Jacks.

Jacks—J. J. Reavis, best jack; A. B. Collins, 2d best jack.

Cattle.

Durbams—M. Wick took 12d prize, and J. J. Reavis 2. Jerseys—A. B. Collins, bull calf.

Graded Cattle—A. B. Collins, best bull; also best cow; T. H. Barnard, 2d best cow.

Sheep.

J. H. Strobbridge, 2d best ram; L. H. McIntosh, best ram, Spanish; J. H. Strobbridge, pen of 6 ewes; L. H. McIntosh, 3 Spanish ewes; J. H. Strobbridge, 6 Spanish lambs.

Goats.

M. Wick took all prizes for Angora goats.

Swine.

M. Wick, Berkshire boar; A. B. Collins, sow; John

Guill, 2d best sow; J. D. Keesmoer, best Poland-China boar; J. D. Keesmoer, best China sow.

Poultry.

A. B. Collins, Black Cochins, Silver Polish, Golden Polish, best 5 varieties, 120 Games, Pekin ducks; J. H. Guill, White Leghorns, Brown Leghorns, 2d trio Games; J. F. Holland, Plymouth Rocks, E. B. Games, Irish Games, D. W. Games, Game cock; C. C. Goree, Dominiques; D. M. Hooper, 2d Dominiques; J. F. Holland, Bronzes, turkeys, Bronze gobler, Houdans; B. F. Allen, Langshans; Charles Henry, geese.

Field and Garden.

John Bidwell, all awards for flour, meal and grain; also all awards for vegetables, except one to J. O. Moore for Blood beets; one to L. H. McIntosh for Bascom's "Favorite" tomatoes.

Dairy and Domestic.

Prem for butter to J. H. Guill; bread prems to Mrs. S. F. Walker and Miss Annie Barham.

Green Fruits.

J. C. Moore, 2d best apples; Wm. Bonness, best apples; John Bidwell, best pears; Wm. Bonness, best 3 varieties of pears; John Bidwell, best peaches; Wm. Bonness, 2d; J. H. Guill, prunes; John Bidwell, plums, pomegranates; W. V. Groves, quinces; Mrs. Allen Henry, grapes.

Monterey County Fair.

The following are the leading awards for agricultural entries:

Horses.

Roadsters—Jos. Delaney, Vermont; mare, 4 yrs, P. Kilburn, Birdie.

Horses for all Purposes—Stallion, 3 yrs, Jas. Delaney, Mambrino; stallion, 2 yrs, Jas. Delaney, George Washington; stallion, 1 yr, J. R. Hebron, George C. Perkins; sucking colt, Wm. Robson, Fulton; mare, 3 yrs, with colt, J. C. Drew, Fannie and colt; mare, 2 yrs, Wm. Vanderhurst, Mamie; mare, 1 yr, J. B. Iverson, Lizzie; gelding, 3 yrs, Wm. Brunwell, Giraffe; gelding, 2 yrs, Jas. Delaney, R. E. Lee; mare, 4 yrs, with colt, James Lynn, Fannie; mare, 3 yrs, James Delaney, Lady Elmo.

Draft Horses—Stallion, 3 yrs, W. B. Ford, Fulton; stallion, 2 yrs, Peter Kelly, Major; mare, 3 yrs, M. Lynn, Polly; Wm. Robson, Mary; M. Lynn, May; mare, 2 yrs, J. B. Smith, Lucy.

Carriage Horses—James Lynn, George and Prince; best span carriage horses, Jas. Delaney, John and George.

Sweepstakes—W. B. Ford, Fulton; best stallion, James Delaney, Vermont, Jr.; best mare, Wm. Vanderhurst, Mamie; best gelding, Wm. Vanderhurst, Charley; best colt, Wm. Robson, Dick.

Cattle.

Durbams—All awards to J. D. Carr.

Devon Calf—G. Graves, Salinas Belle.

Graded Cattle—Bull, George Graves, Sallie Belle; cow, 1 yr, Jos. Thompson, Lady May; bull calf, George Graves, Captain Jinks.

Best herd of cattle, J. D. Carr.

Sheep, Swine and Poultry.

Sheep—Best ram, J. R. Hebron, Alameda; best ewe, W. B. Ford's Snowflake.

Swine—N. W. Spaulding, all prizes for best boar, best sow and best pigs 4 mos old.

Poultry—Ducks, B. De Hart; White Leghorn chickens, B. De Hart; Brown Leghorns, W. O. Hatch; Sumatra Game, T. G. Harris; Plymouth Rocks, B. De Hart.

Contra Costa County Fair.

The following are the awards for agricultural exhibits at the Contra Costa County fair of 1880:

Horses.

Thoroughbreds—W. A. J. Gift, mare, Kate Gift, 13 yrs; Twilight, 4 yrs; sucking colt, Miss Gift, Wm. Lynch, stallion, 2 yrs, Zeta Palf; mare, 3 yrs, Linda, E. Pacheco, colt, 2 yrs, Dick's Ruby, J. E. Durham, mare, 3 yrs, Lena Rivers, Ned Murray, stallion, Overland, 12 yrs.

Roadsters—W. T. Boone, mare, 7 yrs, Belle Boone; colt, 1 yr, Bonnie; filly, 1 yr, Emma Boone, W. M. Gorham, colt, 1 yr, Gay Davis, Alex. Carpenter, stallion, 1 yr, John, S. Soto, single buggy horse, 17 yrs, Bill, R. O. Baldwin, span of mares for carriage, 3 yrs, Kit and Mollie; single buggy horse, 3 yrs, Mistake, W. A. J. Gift, mare, 1 yr, Idler, A. A. Miller, stallion, 23 yrs, Pat McGee; single buggy mare, 3 yrs, Kate, James Hardy, carriage team, 7 yrs, Charley and Kitty; brood mare, 10 yrs, Dolly; do colt, 1 yr, Nelly Bly, Henry Polley, mare, 3 yrs, Rosy, J. O. Boone, mare colt, 1 yr, Grace, Wm. Lynch, stallion, 9 yrs, Kansas Central, A. B. Moore, horse, 5 yrs, Presto, W. L. McDonald, stallion, 2 yrs, Adventure, J. Tennent, filly, 1 yr, Rose Tennent, H. R. Avery, carriage team, 3 yrs, Lucy Lightfoot and Dolly Gorham, Howard Wells, mare, 3 yrs, Josephine; single carriage horse, Cloud; colt, 1 yr, Star, Wm. Wells, carriage horse, 3 yrs, Billy, P. Sibirian, stallion, 4 yrs, Norbuck, John Rodgers, span, 4 and 9 yrs, Nell and Kate; mare, 10 yrs, Jane, A. Boss, span, 5 and 10 yrs, Doc and Pat, Ben E. Harris, 2 yrs, Dividing; 1 yr, Grenadier; sucking colt, Crony, J. E. Durham, horse, 7 yrs, Barry Baldwin, S. J. Bennett, horse, Arkansas Jim, N. Garber, mare, 6 yrs, Gypsy, Henry Polley, stallion, Conductor, 9 yrs, Ned Murray, mare, 3 yrs, Nelly; do 5 yrs, Flora, John Galindo, carriage horse, 4 yrs, Lady Glady; colt, 1 yr, Romeo, Capt. Flynn, stallion, 5 yrs, Frank Dauterick.

Draft Horses—W. T. Boone, mare, 2 yrs, Ida Colton, F. S. Swart, stallion, 2 yrs, Boney, S. Soto, 2 yrs, Milpitas, H. S. Raven, stallion, 8 yrs, Cardinal; colt, 1 yr, Doc, A. Boss, 6 mos colts, Mike, Emma, Mollie and Maggie, H. W. Sloan, stallion, 13 yrs, Young Rawley; mare, 3 yrs, Belle, A. B. Moore, mare, 4 yrs, Dolly; colt, 2 yrs, Orion, sucking colt, Vesta.

Sweepstakes—Sam. Hodges, yearling, Silvertail, Alex. Carpenter, brood mare, Kate, R. O. Baldwin, brood mare, Queen; stallion, 6 yrs, Gold Hill, H. S. Raven, family of Cardin colts, W. A. J. Gift, mare, Kate Gift, and family of colts, Wm. Meese, 6 yr mare, Nellie Patchen; 1 yr, Nancy, H. W. Sloan, 2 yr stallion, Young Ruby, Jr.; 1 yr stallion, Rob Roy, M. W. Hall, mare, 6 yrs, Dolly Varden; brood mare, 12 yrs, Flora, R. O. Baldwin, horse colt, 3 mos, Tippecanoe, J. Tennent, colt, 2 yrs, Royal Patchen, E. Pacheco, 9 yr mare, Moreno, Howard Wells, stallion, Cloud, and family of 5 colts, S. Soto, pair work horses, N. Graber, sucking colt, Sunday, Jr. Antonio Albro, 2 yr colt, Prince, Ben. Harris, stallion, 5 yrs, Grant, Jr. H. Polley, stallion, Conductor, and family, Ned Murray, mare, 8 yrs, Pet; sucking colt, 4 months, Blank; colt, 1 yr, Johnnie, Capt. Flynn, stallion, 5 yrs, Judge Weller.

Mules, Jacks, etc.—Barney Webb, span of mules, Lucy and Darkey.

Cattle.

Durbams—R. O. Baldwin, cow, 6 yrs, Myrtle; heifer calf, 4 mos, Lillie; bull, 8 mos, Duke; cow, 3 yrs, Rose; bull calf, 1 yr, Mountain Boy, Wm. Prince, cow and calf (cow 2 yrs and calf 8 mos), Ruby 2d and Johnny; heifer and calf, Ruby 3d and Nimboak, Wm. Meese, cow and calf, Ruby and Pink; heifer, 1 yr, Nellie; calf, 3 mos, Lucy; bull calf, under 1 yr, San Ramon Duke.

Graded Cattle—S. Soto, bull, 2 yrs, San Pablo; heifer, 1 yr, Rose, Wm. Prince, cow, 3 yrs, Star; do, 2 yrs, Daisy; heifer, 1 yr, Bessie, Theodore Downing, heifer, 1 yr, A. Shirran, cow, 4 yrs, Rose.

Sheep.

S. Soto, Cotswold ewes and buck, Charles Wood Southdown buck and ewe.

Swine.

W. T. Boone, boar, 2 yrs, Sam; sow, 3 yrs, Mollie; boar, 4 mos, Jack.

Fish.

Charles Dickenson, tank of carp.

Farms, Orchards, Vineyards.

John Gambs, best vineyard.

Grain, Flour, Vegetables, etc.

R. O. Baldwin, sample cleaned wheat; do squashes; do corn; do Wilcox corn; do beets, Smith Ashley, mangel wurzel, D. Bollman, lentils, M. W. Hall, small white corn (60 bushels, ears, to acre); do 2 acres Egyptian corn; do 6 acres Spanish peas, Joseph Williams, squashes, T. M. Sturges, white Australian wheat of 140 acres, machine cleaned, Robert Hall, best lentil seed.

Fruit, Grapes, Nuts, etc.

W. Renwick, best exhibit apples; collection seedling peaches, Miss McHarry, single variety peaches, T. Downing, collection Bartlett pears; do apples, Robert Hastie, grapes; do, I. J. Smith, collection of fruit, Mrs. J. O. Boone, collection of apples; do single variety; do 6 varieties, Joseph Williams, bunch black grapes, M. W. Hall, single variety of apples, M. Gregory, quinces, pears, pomegranates, A. W. Stone, best sample peaches; do 6 varieties of apples; almonds, Lee Durham, best 6 varieties of apples; do single variety, John Gambs, collection of grapes, L. I. & C. Fish, collection of grapes; do almonds; peaches, John Gambs, nuts; white wine, L. I. & C. Fish, native wine, 8 yrs.

Dairy.

Miss McHarry, fresh butter, P. Nelson, cheese, — Harrison, cheese, I. J. Smith, packed butter; roll butter.

Poultry.

Walter Renwick, best coop of chickens, Mrs. J. O. Boone best exhibit; do pair of fowls; do ducks; do turkeys; do geese, Mrs. Johnson Young, turkeys, Fred Thurber, white Leghorn fowls, Charles Wood, dark Brahmas, 7 pairs, 6 mos; do white Leghorns, 1 pair, 6 mos; do brown Leghorns, 6 mos; do Plymouth Rocks, 6 mos; do Bantams, 2 yrs.

Notes at the San Jose Fair.

Our business representative at the San Jose fair returns notes of exhibits of especial interest as follows:

Boyce and Topham Gang Plows.

Boyce & Topham, Milpitas, Cal., exhibited the two and three gang plow "Chief." The mechanism is such that the driver, from his seat, can regulate the plow for deep or shallow plowing, and can adjust the plow to the slant of the hillside or turn it in or out to the land.

Pruning Shears.

Much interest was manifested in the Wilz patent improved pruning shears. The operation of this instrument was very satisfactory, the shears being shown to be adapted for cutting from a twig up to a branch an inch thick. The shears are made in a workmanlike manner.

Windmill.

The Centennial windmill was shown by T. E. Martin, of San Jose. This mill has been fully tried and evidence is shown of the satisfaction of those who have used it.

Horse Power.

A. McKenzie, of San Jose, exhibited the San Jose horse power, sizes ranging from 4 to 15 horses. It is very simple in construction and durable. Being mounted on wheels it is easily moved. It is one of the best powers we have ever seen. Many are being made and sent out, and the demand is testimony of the value of the power.

Hollow Tooth Harrow.

Al. Baker, proprietor of the Mansion house, San Jose, exhibited the hollow tooth harrow, and the implement attracted much attention. It is made with sliding hinges and it is held that with 4 horses 60 acres can be well harrowed in one day.

Pianos.

T. M. Antisell & Co., of S. F., have made this year's fair full of music. Their instruments were shown at the San Jose fair, and were the finest on exhibition. The firm has this year captured two premiums at Marysville, one at Sacramento State fair, one at Stockton fair and one at San Jose fair. This is a good record.

Spring Tooth Harrow.

Mr. Van Gelder, of Batchelor, Van Gelder & Co., the well-known spring tooth harrow men of Sacramento, was at San Jose fair and gave full demonstration of the pulverizing quality of the implement. This harrow is now known in all parts of this coast and has been shipped abroad from this port.

Fine Horses.

Mrs. E. D. Knot, of San Mateo, exhibited a Whipple Hambletonian mare and two colts—all splendid animals.

The Fireman's Fund Insurance Company.

This sterling insurance association has an attractive card in our advertising columns, and doubtless many of our readers who have not had dealings with the company, are asking what manner of institution it is. To such we can only say, that our faith in the company is shown by the fact that our little property is insured in the Fireman's Fund, and we feel safe to have it so. Aside from this personal assurance of our own, we may say that the history of the company is excellent. It has been in existence 17 years, and during that time has paid \$4,100,048.64 to those who have been visited by fire. During its life it has outlived such perils as the Chicago fire, the Boston fire, the Virginia City fires, and has paid its losses where other companies have been swept away. More than this, the Fireman's Fund is a California institution, and the men who manage it are among our most reputable citizens—men whom we know and respect. Its fame, however, is not confined to this coast, but it is one of the best companies in the whole country. Doing a large business, and doing it economically, it is fitted to give the benefits of insurance at a reasonable rate, and at the same time give full surety that it will recompense speedily the losses which its patrons incur.

INFLUENCE OF ELECTRICITY ON VEGETATION.—In bamboos the flow of sap takes place at the beginning of the rainy season, but vigorous shoots rarely grow before the thunder storms, which generally precede the harvest. The rapidity of their growth increases with the violence of the storm, amounting sometimes to as much as 70 ft. in 30 days, the vegetation being most active during the night. Capt. Sleeman suggests that the cause of this sudden growth may be the increase in the quantity of nitrogenous compounds, which are greedily absorbed by the humus that surrounds the roots of the bamboos. The facts offer a curious confirmation of the experiments of Dr. Siemens upon the influence of electricity on vegetation.—*Des Mondes.*

News in Brief.

THE Methodists have two orphan asylums in New Mexico.

LOUISIANA planters are contracting for Chinese coolies.

THE Manchester fire destroyed all the telegraph wires.

THE Pope, on Sunday, reaffirmed his right to the temporal power.

PERU and Chile have accepted the mediation of the United States.

SEVERAL squatters have been arrested in the Indian Territory.

GARIBALDI has declined Tennyson's invitation to visit him in England.

A COLORED man in Tennessee has given \$11,000 to build a church.

A LARGE cave has been found in the Blue Belle mine near Ward, Nev.

OVER 3,000 Chinese are employed near Lake Tahoe cutting wood and timber.

THE Ute Indians are running off horses, and a war is considered inevitable.

A GERMAN editor has received a severe sentence for libeling Bismarck.

THE Pope's new journal, the *Aurora*, 10 months old, has a circulation of 5,000.

THE Appletons will publish the memoirs of Jefferson Davis early in November.

ALL the coal oil in Quebec has been seized because it is under the government test.

THE Basutos have cut the land line of telegraph between Durban and Cape Colony.

TWO road agents were killed by Mexicans, northeast of Santa Fe a few days since.

THE authorities at Havana object to Chinese laborers leaving the island for Louisiana.

MR. DARWIN's works are to be issued in Russian by special arrangement with the author.

THE French Cabinet Council has decided to continue the enforcement of religious decrees.

At the Siletz Indian Agency, Oregon, there are over 150 members of the Methodist church.

THE whole number of the insane in Massachusetts is stated at 5,000, women preponderating.

It is said that among the ministers of the Church of Scotland there are many converted Jews.

THE *Beaver*, the first steamer that entered the Pacific ocean, was damaged by fire lately at Victoria, B. C.

A DEEPENING dislike and distrust of Gladstone is beginning to be displayed throughout Germany.

SEVERAL Piute Indians near Winnemucca are making a success of farming. They raise grain and vegetables.

COUNT VON MOLTKE Oct. 26th refused the title of Prince offered to him on the occasion of his 80th birthday.

GEN. GARIBALDI and his son Menotti have withdrawn their resignations as members of the Italian Chamber of Deputies.

TWO wagon loads of venison arrived in Helena, M. T., on the 14th, and being the first of the season found a ready sale.

THE crew and the passengers of the *Mathilde Granville*, from St. Pierre for Granville, France, have been picked up at sea.

ELIAS SIMPKINS, Chief of the Pittsfield (Ill.) police, was shot and killed by Elliott Baker on Saturday night, Oct. 23d.

THE Goldendale (W. T.) *Sentinel* says a great deal of improvement is going on in that place and in Klickitat valley.

THE town of Kempen, near Crefeld, in the Rhineland, purposes celebrating the 500th anniversary of Thomas a Kempis.

THE body of a woman was found in the water at Chicago, Oct. 26th, with her infant child tightly clasped in her arms.

THE Puget Sound Salmon Packing Co. have closed operations for the season. They put up altogether about 3,000 cases.

M. LECOCQ, the composer of comic opera, is a diligent collector of old books, and has a special fondness for editions of Rabelais.

JOHN DUFF, builder of the Union Pacific railroad, died recently in Jamaica Plains, Mass. His estate is valued at \$4,000,000.

A MISSIONARY's wife wants the New Englanders to have old-fashioned apple-parings and send the missionaries some dried apple.

PHILADELPHIA has a sensation in the death, under suspicious circumstances, of the seventh wife of Michael Connor of that city.

CHILE and Colombia have agreed to submit their disputes to arbitration. The President of the United States is to act as umpire.

THE last Congregational minister deposed for doubt as to the eternal punishment of the wicked is Rev. Joseph Wassal, of Nora, Ill.

A FIRM in New York has been making a baby's outfit, for which is charged \$3,000, and has sent it home in two large wagons.

A DOG's head embroidered on the corner of a hankerchief is the thing to stick out of a gentleman's coat pocket for the moment.

THE oow boys threatened to stop the Presidential party at San Simon, N. M., but the train was run through the village and no trouble occurred.

THE Salt Lake *Tribune* figures that the average yearly bullion out-put in Utah for the past four years was a little more than \$6,000,000.

At Woodland, Va., on Sunday night, Frank Allison shot his unfaithful wife and her paramour. He killed the man and fatally wounded the woman.

"BEWARE of Pickpockets," was one of the decorations on the wall before the eyes of members of the recent Pan-Presbyterian council in Philadelphia.



The Hammer, The Press and The Plow.

(Written for the Lake County Agricultural Fair by H. WINCHESTER.)

In the dim and misty ages, ere the light of science spread
O'er the earth like sunlight flashing, rousing those in ignorance dead,
Vulcan from the swathe iron, in his forge of blazing fire,
Wrought a hammer for the builder, forged a hammer in his fire,
And that hammer still is ringing, forged by Vulcan in his fire.

Since that time the iron hammer swung by giant's hands has wrought
On the anvil of the brain, grand ideas and gendered thought;
Forging bolts of truth to scatter errors from the human brain—
Genius then took hold the hammer, forged an engine for the plane,
Rushing like a fiend or monster, flying, crossed the western plain.

Cities, temples, halls of science quickly into being sprung
With the ringing of the hammer by the arm of labor swung,
And by enterprise directed from the gloomy forests grew
Temples grand with marble columns, ships that cross the ocean flew,
Daring Neptune's storms and tempests and against the tempest flew.

By the genius born of labor nations of the earth would gain
Grand thoughts and grander ideas wrought by action on the brain—
Knowledge, light and truth to scatter errors from the minds of men—
By the Press and click of type with the scratching of the pen,
Fell the fetters of the slave, broken by the press and pen.

With the Press and click of type, o'er the earth a light was spread,
Light that pierced the gloom of ages, on by Freedom's Goddess led,
Breaking iron bands of error, giving freedom to mankind,
Building school rooms for the ignorant, giving eyesight to the blind,
Rousing up the dead and dying, giving eyesight to the blind.

Hail this grandest source of power, by its light the mind is free,
For the Press has given knowledge. Now the flag of liberty
Waves in triumph, and its stars gleam in brightness everywhere,
'Twas the printing Press that won it for its voice rang loud and clear—
"Freedom is a right inherent, born to every mortal here."

Sons of toil on whose shoulders rests the welfare of mankind,
Men who make the desert blossom—labor elevates the mind.
From the Halls of Science gathers new ideas that told them how
They could use steam's mighty power, harness it to run the plow,
Make it mow, and reap, and thresh, as they make it run the plow.

Then from every rank and station, men were heard to shout and sing,
Hail the Hammer, Press and Plow, but we'll crown the Plow our King.
Honor pay the Sons of labor, with the plow they feed the poor.
They who work and till the soil, open is their heart and door,
From their hearthstone none go hungry, from their ever open door.

Bring a wreath of flowers and twine beam and handles of the plow,
But for that the world would perish—famine write upon the brow,
Of brave men and noble women—but the plow that turns the sod,
Guided by the hands of labor, brings a blessing from our God,
None go hungry while the plow turns the ever fruitful sod.
Lower Lake, October 13th, 1880.

Mountain Top Letters.—No. 10.

(Written for RURAL PRESS by "JEWELL.")

Every housewife takes pleasure in reading about comfortable and convenient kitchens, and the ideas suggested by your Colorado correspondent about having them with pleasant outlooks also, is what we all appreciate I feel sure. And yet I do wish she had told us a little more about the inside of her kitchen; how the sink, table, stove and closets blended, for they must in some way unite to form my idea of a perfect kitchen, where the worker can do the labor of cooking, setting table, clearing away and washing dishes with the utmost dispatch, ease and least fatigue. Just now I am don'tly interested in that apartment, as we are to build one this fall; in fact, are now getting materials together to begin at once, and although it will of necessity be most primitive, still we are planning how best to arrange doors, windows, closets, etc., to the best possible advantage. It is quite possible to so build our homes that the housekeeper may double the amount of labor with half the fatigue, that a badly-arranged house will necessitate. Consequently it is somebody's business to give a little forethought to the subject, as it costs no more to build it right, and it

is equally to the advantage of master as well as mistress of the house. When my kitchen is finished, I will tell your readers how it is arranged, and meantime will not the "Sisters" please unite in giving suggestions or plans of their own home conveniences for the benefit of all, myself in particular?

Several items are essential in every kitchen, such as wood, water, drainage, etc., and if convenient are a blessing, otherwise they are causes of continual exertion; and the best method of arranging all these appliances are really of more importance than builders usually believe. I greatly wonder women do not study to become architects, for they certainly have better ideas about the convenient building of homes than men have; at least they have the ability if they would give mature thought to the subject, as they might do.

If one is not so circumstanced as to have their homes finished in the highest style of art—as so very many are not—it should not prevent them from having them convenient and attractive by big windows and glass doors that let in plenty of sunlight, and through which the busy ones may look upon the beauties without.

I have been in many a kitchen where the convenience of a wood-box even was wanting, and it was impossible to count the extra steps the housewife had to take to keep the room tidy and a supply of wood for cooking. Most kitchens have the stove between the table and cupboard where the dishes are kept; consequently double the number of steps are required to set table and wash and put away again after a meal. By a little thought given to the arrangement of furniture, the dish cup-board or shelves might be so near the work table that one would have only to stand and wipe and put in place.

I claim that the kitchen should be the pleasantest room in the house—airy, light, cheerful and pretty; why not? Here the mother spends the best of her life; children grow up in its atmosphere, for where the mother is, there are the little ones, and big ones, too, usually; and if the family eat there, as many a farmer's family do, surely it ought to be clean and fresh, with pictures and brackets, wall baskets of grasses, etc., to cheer and enliven the tired workers and hearty eaters.

Women's Social Science Associations.

EDITORS PRESS:—The above is a State organization which has seven departments—philanthropy and reform, education, art, sanitary science, household science and economy, political economy and the science of government. The object which it aims to accomplish is to suggest and develop plans for the advancement of industrial, intellectual, social, educational, philanthropic and moral interests to the end, that we may secure better homes, better schools, better churches, better people, better charities, better laws, better service for humanity and God.

The society is but three months old, yet it has a membership of 75 ladies, and commodious headquarters at 304 Stockton street, where it receives the general public every Monday, and gives monthly receptions on the second Thursday of each month from 8 to 11 P. M. It will open a silk school on Tuesday, the 9th of November, and will have a cooking school early in the new year. There will be daily classes in French, music, literature, elocution and various other sections for studying whatever one chooses.

The sisterhood desires to have auxiliary societies formed in every town and city in the State which will co-operate with the parent organization. The first annual conference will be held in this city on the first Wednesday and Thursday of September, and delegates are invited to be present from every part of the State and nation.

Social science, with its vast and comprehensive scope, will bring to woman what nothing in the past has brought to her—the true science of life, the true spirit of helpfulness, self-poise and a relish for activities (both mental and physical) hitherto unknown to her. It will create a bond of union among women—far-reaching and unbroken.

Letters fall about my desk like leaves in autumn asking how to form auxiliaries. Get a few ladies' names appended to a call for a preliminary meeting in some parlor, and there organize. The time is ripe for it. There will be no fears that it will not succeed. Meet every two weeks and have a carefully prepared paper of a half hour's length on some important subject, and follow it with a discussion. Do not admit gentlemen, for this reason: There are many delicate subjects to be treated that would be shut out were men admitted. They again, women, hesitate to speak before those that have been schooled in public speaking; and yet again household science has no attractions for men in detail. It is the perfected result which captivates them. There is another reason: No mixed social science association can ever be an adjunct of this. Have it a Simon pure woman's association, then you affiliate with us and the State societies of Indiana, Illinois and New York.

We have a purchasing committee which, for a small percentage, fills all orders from the interior; also a woman's exchange and registry, which supplies needed information and employment to women, with the exception of house servants, domestics. All letters addressed to the

S. S. S., 304 Stockton street, will be promptly answered. The "parlors" are open to ladies every day in the week, and to gentlemen on Mondays only, unless on special public occasions.

Now I wish to say a parting word to every woman in the State. Organize auxiliary women's social science associations at once, and get to work in real earnest, and you will realize, if you put the living spirit into it, how all-important the undertaking is before the end of six months. Call and see us when in town.

Mrs. J. W. Stow.
304 Stockton street, San Francisco.

About Girls.

The "girl of the period" is subjected to more violent criticism than ever at the hands of some of the English writers. A marked physical deterioration, it seems, is visible in the budding maiden of to-day, as compared with the youthful damsel of 50 years ago. Those who live to tell the story assert that the fashions of our age are, in the first place, more injurious to the health of women than the dress and customs of their grandmothers. High heels and tight lacing have been the standing homily of more preachers than can be thought of without a shudder. But the heels of the present generation are probably not so high as those of a century ago, and tight-lacing, as a rule, is very little practised. The hour-glass style of figure is not so much admired as it was 25 years ago. In the portraits which represent different epochs of the world's history, there is often greater artificiality in female costumes than in those of our own time. Holbein's women are stiffly and tightly encased in something like armor. Vandyke's court ladies, from Henrietta Maria down, have every appearance of being severely compressed.

The cure for moral ailments is more difficult to find than the remedy for "ills that flesh is heir to." Vanity and frivolity are the chief maladies which distemper the rising female generation in England, according to present writers. The spread of these not uncommon diseases is vast beyond precedent, and threatens to disintegrate and demoralize modern society, if not checked by some happy device. To hark in the sunshine of royal favor and win notice from the first gentlemen in England, the Prince of Wales, is the prize for which many an English maiden struggles. That the road to such distinction should be trodden in tight shoes with heels of unwonted height, with the accompaniment of much tight lacing and other unnatural inventions, may be the maiden's misfortune more than her fault. She chooses the shortest path as a general thing and the one surest to lead to the goal of her ambition. But it requires more experience of life than girls possess to distinguish notoriety from fame, and to know that physical advantages are only accessories to power, not its basis. Without any definite aim for her coquetties, the American girl sums up her stock in trade and arms for the fray with a clear sense of the amount of personal equipment to be discarded or retained in the manoeuvres of the campaign.—*The Hour.*

FEMALE FRIENDSHIP.—Women are the priestesses of predestination, and it is a wonderful advantage to a man in any pursuit or avocation to secure an adviser in a sensible woman. Disraeli says: "The society of charming women refines the taste, quickens the perception and gives a grace and flexibility to the intellect, although a woman who likes ambitious men must be no ordinary character." In women there is at once a subtle delicacy of tact, a plain soundness of judgment which are rarely combined to an equal degree in man. A woman, if she be really a friend, will have a sensitive regard for her admirer's character, honor and repute. Better and safer, of course, are such friendships where disparities of circumstances put the idea of love out of the question. Middle life has rarely this advantage; youth and old age have. We may have female friendships with those much older and those much younger than ourselves. Moliere's old housekeeper was a great help to his genius, and Montague's philosophy takes both a gentler and loftier character of wisdom from the date in which he finds in Marie de Gournay an adopted daughter, "certainly beloved by me," says the Horace of essayists, "with more than parental love, and involved in my solitude of retirement as one of the best parts of my being." Female friendship, indeed, is to man the bulwark, sweetener, ornament of his existence. To his mental culture it is invaluable; without it all his knowledge of books will never give him knowledge of the world.—*Exchange.*

ALWAYS remember no one can debase you but yourself. Slander, satire, falsehood, injustice—these can never rob you of your manhood. Men may lie about you, they may denounce you, they may cherish suspicions manifold, they may make your failings the target of their wit or cruelty—never be alarmed, never swerve an inch from the line your judgment and conscience have marked out for you. They cannot, by all their efforts, take away your knowledge of yourself, the purity of your motives, the integrity of your character and the generosity of your nature. While these are left, you are in a point of fact, unharmed.

SELFISHNESS mars the loveliest action; it stains the fairest beauty; it dims the brightest luster; it blotches the most munificent charity.

A Mother's Advice.

"Susan, my child, I am very sorry to hear you say such hard things and make such complaints about your husband. You should have more patience with Tom."

"Patience! Why, mamma, he is enough to provoke a saint, and I will not put up with his airs. I will give him tit for tat."

"My child, do not say so! A good wife will bear a great deal from her husband, though perhaps it may not always be quite just. I hoped for better judgment on your part."

"On my part! Mamma, you talk as if I was entirely at fault."

"No, I do not think so. I know Tom is petulant sometimes, but we do not know what trouble he may have in business transactions. If he is a man of sense, there must be some cause; and even if no cause, is it the place of a wife to try to break her husband's spirit by her constant snappishness? No, my child, a good wife does not want to be a termagant."

"Then, mamma, you would have the wife be a slave to her husband."

"I would have the wife be a true woman, and act with tender forbearance toward her husband, and not try to have her way in every thing. I would not have her subdue her husband into an abject wretch who is afraid to speak in his own house on account of his wife's doing, even if you could gain such a victory. My girl, you would despise yourself."

"But, mamma, I could not gain such a victory if I tried. Tom has a will and temper too strong for that."

"Then you had better give in yourself if you love your husband, and do not want to follow Hetty Vane's example and get a divorce for incompatibility of temper."

"Oh, mamma, how can you speak so dreadfully. Tom and I will never come to that. Yet I don't believe in being a 'slave of the ring.'"

"It is the wife's place to love, honor and obey. Hetty said she would do anything almost to undo what has been done through peevishness and temper. She says her life is ruined because she was determined to have her way."

"Mamma, don't say any more, please. I will try to do better before it is too late. I believe I have been thinking too much of what I called 'my rights,' and too little of Tom's. Poor Hetty! I hope she will be reconciled to her husband."

"And now, dear, take my advice. Cease this constant hickering, and do not return an unkind word every time you are contradicted. For your own happiness and that of your husband begin to act differently. Always speak pleasantly, and when he is petulant act the part of a faithful wife who loves her husband and not the part of a shrew. When your husband is in a good humor you may reason with him mildly and good-naturedly, but as you value your domestic happiness I beseech you cease this constant turmoil and confusion."

"I will, mamma; I will indeed do my best, I will not be provoked into saying things unkind. And now let me get you a cup of tea."

"No, my dear, I must go. Do not forget your good resolutions."

"Well, my dear," said Mrs. Roy, a month later. "I can see that you have taken my advice. I hope you have been happier."

"Oh, yes, mamma, a great deal; and so has Tom. Why, mamma, do you know, it must have been I, who was to blame, for Tom has not said an unkind word nor been cross since I begun to do better; and he seemed so pleased and so much happier. He is just like the Tom who used to come courting."

Mrs. Roy kissed her daughter and smiled, saying: "I am so glad, my daughter; and now you will be glad to learn that Hetty and her husband were married again last night."

"Oh, I am so glad! I hope she is wiser; and I am so glad you gave me such good advice."

—Mrs. L. G. T. in *Farm and Fireside*.

WE smile at the savage who cuts down the tree in order to reach the fruit; but the fact is that a blunder of this description is made by every person who is over-eager and impatient in the pursuit of pleasure. To such the present moment is everything, and the future is nothing; he borrows, therefore, from the future at a most usurious and ruinous interest; and the consequence is that he finds the tone of his feelings impaired, his self-respect diminished, his health of mind and body destroyed, and life reduced to its very dregs, at a time when, humanly speaking, the greatest portion of its comfort should be still before him.

THE LOVE which should exist in marriage is an attachment which causes a devotion, a kindness, a respect and adaptation in one person for another. Where this exists in marriage, the life, even if one of privation, is happy. No discords can grow up, for the reverence of each for the other is so great that it gives the most perfect love. But sentiment, simple admiration, idle fancy, is not love. Love is more than this. It goes to the very core of the being; while the other is superficial, transparent, fleeting.

He told her that chilling the stomach suddenly had hurried many bright and promising beings into early graves. She laid her head on his bosom and murmured, "happy death." They were seen issuing from a neighboring ice-cream saloon shortly thereafter.

Chaff.

A LITTLE girl was asked by her mother, on her return from church, how she liked the preacher. "Didn't like him at all," was the reply, "Why?" asked her mother. "Cause he preached till he made me sleepy, and then hollered so loud he wouldn't let me go to sleep."

A MAN may understand half a dozen languages which are musical and poetic, but when he washes in the morning and discovers there is no towel in the room, and is obliged to dry his face on his swallow-tail, he finds Anglo-Saxon fully equal to the exigencies of the case.

A WOMAN cured her husband of staying out late at night by going to the door when he came home and whispering through the key-hole, "Is that you, Willie?" Her husband's name is John, and he stays at home every night now, and sleeps with one eye open and a revolver under his pillow.

"Do you know," and she looked at him with a two-ton scowl, "why you are like a rainy day?" He asked if it was because she couldn't get along without him occasionally. "It's because I'd like to see you clear," said she. He never carried any stones in his pocket for her dog after that.

A MAN and his wife can never agree upon what constitutes a tidy-looking room. A woman will grow irritable when she finds half a dozen cigar stumps sticking to the scorched mantel-piece, and he can't be expected to keep calm when he finds a bunch of long "combs" in his shaving-mug.

EVERYBODY thought it was a match, and so did he, and so did she; but last evening, at a croquet party, she hit her pet corn a whack with the mallet that sounded like a torpedo, and he—he laughed. "We meet as strangers," she wrote on her cuff and showed it to him. "Think of me no more," he whispered huskily.

OLD lady (on donkey): "Boy, boy, isn't this very dangerous?" Boy: "Very dangerous indeed, marm; there was a lady a ridin' up here last year, and the donkey fell, and the lady were chucked over the cliff and killed." Old lady: "Good gracious! was the donkey killed, too?" Boy: "No marm; that's the werry donkey."

A COUNTRYMAN seating himself at a fashionable restaurant with the intention of taking a hearty dinner, summoned a waiter and made known his purpose. The latter skipped briskly away, and finally returned with a handsomely bound bill of fare, which he opened and placed before the guest, who, pushing it away, scornfully observed: "Oh, come now, you can't cram no literature down me; vittals is what I want—vittals—and purty durned quick, too."

Home and its Queen.

There is probably not an unpurged man or woman living, who does not feel that the sweetest consolations and best rewards of life are found in the loves and delights of home. There are very few who do not feel themselves indebted to the influences that clustered around their cradles for whatever good there may be in their characters and condition. Home, based upon Christian marriage, is so evident an institution of God that a man must become profane to deny it. Wherever it is pure and true to the Christian idea there lives an institution conservative of all the nobler instincts of society.

Of this realm woman is the queen. It takes the cue and hue from her. If she is in the best sense womanly—if she is true and tender, loving and heroic, patient and self-devoted—she consciously and unconsciously organizes and puts in operation a set of influences that do more to mold the destiny of the nation than any man, uncrowned by power of eloquence, can possibly effect. The men of the nation are what mothers made them as a rule; and the voice that those men speak in the expression of power is the voice of the women who bore and bred them. There can be no substitute for this. There is no other possible way in which the women of the nation can organize their influence and power that will tell so beneficially upon society and the state.—*Scribner's Monthly*.

A New Comet.

A new comet was discovered at the Ann Arbor Observatory, Michigan, on the evening of Sept. 30th. The next day a telegram was received from Europe announcing its discovery at Strasburg, a day earlier than at Ann Arbor. It is described as a superb telescopic object, just visible to the naked eye, but not growing any brighter as at first hoped. It has a large bright head with a sparkling nucleus, and a faint tail about two degrees in length. The head is nearly as bright, in the telescope, as the great cluster in Hercules. The tail points upward or away from the sun. It is moving about three degrees daily in an easterly direction, or nearly in a line drawn from Alphecca to Altair in the Eagle. It is a beautiful object, and its scientific value will be very great. When it was first seen it was in right ascension, 14 hours, 8 minutes and north declination, 29 degrees, 45 minutes.

THE desire to rise in life is universal. In some form or other it is the mainspring of human activity. It encourages industry, inspires enthusiasm, develops power, kindles energy. Thus it is not merely a legitimate desire, to be simply tolerated, but a necessary one, to be fully recognized and stimulated. Without it the man would be less a man, the woman less a woman, and society by so much the loser.

Young Folks' Column.

Our Puzzle Box.

Cross-word Enigma.

My first is in teal, but not in oak;
My second is in cleanse, but not in soak;
My third is in silver, but not in gold;
My fourth is in mint, but not in mold;
My fifth is in bear, but not in deer;
My sixth is in sight, but not in seer;
My seventh is in child, but not in man;
My eighth is in search, also in scan;
My ninth is in ant, but not in bee;
My whole is an animal of the sea.

OLD JOE.

Blanks.

[Fill the second blank with the first word synecopated.]
1. At the dry goods — the lady purchased a very fine —
2. The tramp from the top of the — took an apple — and walked away.
3. The — miss soon killed her — by careless usage.
4. The — man was the one who — the highest!
5. "You will — your hands, child, if you take the —," admonished the mother. O. G.

Curtailments.

1. Curtail a large collection of houses and leave to draw through the water; again curtail, and leave a preposition.
2. Curtail a part of a door and leave a square of glass; again, and leave a shallow vessel.
3. Curtail reward and leave to carry on; again, and leave a droll fellow.
4. Curtail a substance used in cooking and leave a turf; again, and leave an adverb.
5. Curtail a gem and leave a fruit; again, and leave a plant.

AUNT HANNAH.

Word-Square.

1. To seize with the teeth.
2. A valuable metal.
3. A small reptile.
4. Extremities.

MELANCHTHON.

A Group of Friends.

1. An affirmation and possessed by me.
2. A month, and a species of grain.
3. A covering for the head, and to fasten.
4. A kind of rug, sick, and a period of time.
5. To injure, and a valuable metal.
6. A wild animal, and a measure.
7. To become full, and a part of the face.
8. A French coin.
9. A conjunction, and a bird.
10. To bequeath, and a tropical fruit.
11. A contest, and a bird.

OMEGA.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Parsimony.

DECAPITATIONS.—1. Chill, hill, ill. 2. Clash, lash, ash. 3. Broil, roll, oil.

ORTHOGRAPHICAL PUZZLE.—A tone: 1, at; 2, ton; 3, tone; 4, one; 5, on.

WORD SQUARE.—

BOLD
OLIO
LIFE
DOER

TRANSPPOSITIONS.—1. Fear, fare. 2. Ale, lea. 3. Mite, time. 4. Roe, ore.

A Bright Boy.

An instance of an inventive genius in an illiterate farmer's boy is too good to be forgotten. A small farmer hired a youth to assist him in the work of his farm as an indoor servant. The first piece of work he was set to do was to thresh out some grain. As the farmer was passing the barn in which the youth was at work, he heard the flail lazily keeping time to a tune the lad was singing. Stopping to listen, he ascertained that the words were, "Bread and cheese tak' thy ease." Going into the house the farmer said to his wife, "this is a queer sort of a lad we have gotten, he seems to think that the speed at which he ought to work should be measured by the kind of food he gets." And then, relating what he had heard, he suggested, "suppose we give him something different at dinner to-morrow, and see how that acts." This being agreed to he had apple pie added to his bread and cheese. This brought down his flail somewhat more rapidly, for it was going to the speed wherewith the lad sang, "Apple pie accordingly." "Bob's doing a bit better to-day, lass," said the farmer to his wife, "let us mend his dinner again to-morrow, and see what that will bring forth." So when the next dinner came around, he had a good plate of beef and pudding set before him, which went down right grandly, and brought the flail into splendid action to the words, "Beef and puddin', I'll gi'e thee a drubbin'," and to a jolly good tune. "I see plainly," said the farmer, "if we expect to get good work out of Bob we must feed him well," so Bob had his bill of fare improved without having recourse to a strike.—*Chamber's Journal*.

WHO HAS SEEN THIS?—Here is a hint for our young people who have not seen the operation: Take an egg out of a nest on which a hen has had her full time, carefully holding it to the ear; turning it round, you will find the exact spot which the little fellow is picking on the inside of the shell; this he will do until the inside shell is perforated and then the shell is forced outward as a small scale, leaving a hole. Now, if you will take one of the eggs in this condition from under the hen, remove it to the house or other suitable place, put it in a box or nest, keeping it warm and moist, as near the temperature of the hen as possible (which may be done by laying it between two bottles of warm water upon some cotton or wool), and lay a glass over the box or nest, then you can sit or stand, as is most convenient, and witness the true modus operandi. Now watch the little fellow work his way into the world, and you will be amused and instructed as I have often

been. After he has got his opening, he commences a nibbling motion with the point of the upper bill on the outside of the shell, always working to the right (if you have the large end of the egg from you, and the hole upward), until he has worked his way almost around, say within one-half of an inch in a perfect circle; he then forces the cap or butt end of the shell off, and then has a chance to straighten his neck, thereby loosening his legs somewhat, and so, by their help, forcing the body from the shell.

GOOD HEALTH.

Health and Pure Water.

EDITORS PRESS:—Noticing an article under the heading of "Good Health" in your issue for September 4th, copied from the *Scientific News*, which would tend to confirm many individuals in the idea that any water was wholesome to drink, I would add my testimony to the importance of using only pure water—the result of experience and experiment of several years past. First—We lived on the dry plains of Tulare county, in good health, for five years, until the boiler of the engine that pumped water from our 80-ft. well was sent to San Francisco; after which, there being no way to pump the well dry (it being 12 ft. in diameter and 10 ft. of water in it), we continued to use therefrom until we all began to have attacks of chills and fever. We could not believe it was the water, as that appeared pure and sweet. About the same time the family of a neighbor, who had lived on the edge of the plains, in good health, for many years, was all taken with chills and fever, erysipelas and other troubles that continued with great severity until they, to prove that their well was clean, attempted to pump it dry, a work which, though it was only a 3½-ft. well 35 ft. deep, required three pumps with a relay of men to work them.

After failing to get anything but an abundant flow of clear water, they were about to discontinue the work with the impression there was nothing but the clear gravel, which could be seen upon the bottom, to be pumped out. To demonstrate beyond question that there was no sediment in the well, my neighbor took an iron scraper attached to a pole, and after placing the suction pipe of one of the pumps close to the bottom, he began to scrape among the gravel whilst the pump was being worked, when to the surprise of all there came forth the bed-smelling remnants of decayed vegetable matter, such as fig leaves, peach seed, and such things as would naturally get into an open well. After this well was cleaned they had good health again. I then put a Hooker pump close to the bottom of my well under the 10 ft. of water, and brought out yellowish green liquid enough to poison a large body of water, the extract from which had been causing our sickness.

When we moved to Kern county, near Bakersfield, a place notorious for malaria, we used, in common with others, water from a well bored into the surface soil, which extends very deep, and, like others, suffered with chills and fever until about two years ago, when we began boiling all the water used for drinking, since which time I have only had one attack of chills, and this was brought on by the use of unboiled water taken for the express purpose of testing the effect of it.

I could say more, but space forbids. The result is that (though I know improper use of food, especially much carbonaceous food, in this warm climate, or overeating, will and does in many cases cause bilious fever, chills and fever, etc.) the most prolific cause is the use of impure water; and I would be almost willing to insure any one to have good health on this island if they would abstain from grease food, temperately use a grain and fruit diet, and drink no water that had not previously been boiled. Two or three of us are experimenting upon this subject, and the past summer our friends have not failed to notice and compliment us on our appearance of improved health, though the medicine we used to depend upon we have not needed to call for.

I was glad to see the article you published, "Starved to Death by Overeating," and am glad to thus see some use made of Dr. Tanner's very valuable experiment. I. B. RUMFORD, Bakersfield, Cal.

SAFETY FROM DROWNING.—The Sheffield *Telegraph* says that the Rev. W. Cowell Brown, Wesleyan minister, of Sheffield, has patented an invention which appears to be a simple and practical means of lessening the number of deaths by drowning. A chemical preparation is inserted in a portion of the coat, waistcoat, or dress. It does not add to the weight or in any way alter the appearance of the garment. The preparation is inserted between the lining and the cloth; in the case of a coat, it is placed on each side of the breast and up the back. The moment a man touches the water the coat inflates and he cannot keep his head under the waves. The invention was practically tested at the swimming-bath of the Sheffield Bath Co. recently. The inventor states that his apparatus, which would simply form an additional lining inserted in a portion of the garment, would sustain a person in the water as long as he could possibly endure the exposure. For 40 or 50 hours it would be effective for its purpose. In the event of a person losing consciousness, the lining in the back would form a kind of bed, and that in the breast a pair of pillows, against which his head would rest.

DOMESTIC ECONOMY.

How to Sweep and Dust.

To sweep and dust a room properly is an art, and like all fine arts has a right method. Well done, it renovates the whole room, and the occupant takes possession feeling that "all things have become new." It is not merely a performance to be done by the hands, but a work into which taste and judgment—in other words, brains—must enter. Are these closets opening into a room to be swept? Arrange the shelves, drawers or clothing preparatory to sweeping day, then let this be the first to be swept. Cover the bed with soiled sheets, as also all heavy articles that cannot be removed; first, however, having carefully dusted and brushed them. Remove all the furniture that can easily be set in the hall or adjoining room, having first dusted it; then take a step ladder, begin to sweep, or brush, or wipe the cornice and picture cords and pictures. Draw the shades to the top of the window, or if there are inside blinds, dust them carefully. Open the windows. All the dust left in the room now is in the carpet or air, and the windows will soon settle it.

Now begin to sweep, not toward a door or corner, but from the outer edge of the room toward the center, where the dust will be taken up with a small brush and dust pan. Go over the room once more; this time with a dampened broom; that removes the last bit of dust, and it gives the carpet a new, bright appearance. Replace the articles of furniture as soon as the air is entirely free from dust, uncover the rest, and the room is new and clean. All this seems an easy thing to do, but there is not one in a hundred will follow out the detail. Some will sweep the dust into the hall, or from one room into another, and then wonder why their house is so dusty again. Others forget cornice and pictures, and thus leave a seed of future annoyance; while a third class will do all but using the damp broom, which is as the finishing touches to a picture.

SAUSAGE MEAT.—To fifteen pounds of the lean of fresh pork add five pounds of the fat. Having removed the sinews, skin and gristle, chop both the lean and fat as fine as possible, and mix well together. Rub to a powder sufficient sage leaves to make four ounces; mix the sage with two ounces of fine salt, one ounce of black pepper, and a quarter ounce of cayenne; add this to the chopped meat and mix thoroughly. Either stuff the sausage skins at once, or pack the meat closely in stone jars, keep in a cool place and cover securely. When this is wanted for use, make some of it into small flat cakes, dredge with flour and fry well. They can be fried in their own fat.

MINCE MEAT WITH TOMATOES.—Take cold roast or boiled meat and chop it fine, with about an equal quantity of tomatoes; season to suit; spread a layer of bread crumbs in a pudding dish, put in the mince meat and tomatoes; spread a thick layer of bread crumbs on the top with a little butter, and pour over a teacupful of water. Bake it one hour, and you will have a delicious dish. Cold gravy mixed with warm water, or a cup of stock, are nicer for moistening than water. Butter enough should be used to make the top brown, like scalloped oysters.

BUNS.—One pound of flour, six ounces of butter, quarter pound of sugar, one egg, quarter pint of milk, one dessert spoonful of baking powder, five drops of essence of lemon. Warm the butter without oiling it; beat it with a wooden spoon; stir the flour in gradually with the sugar, and mix these ingredients well together. Make the milk luke-warm, beat it up with the yolk of the egg and the essence of lemon, and stir them to the flour, etc. Add the baking powder, beat the dough well for about ten minutes, divide it into 24 pieces, put them into buttered tins or cups, and bake in a brisk oven from 20 to 30 minutes.

CREAM SHERBET.—Put the yolks of six eggs and a dessert spoonful of vanilla into two quarts of cream. Place on the fire in a stew pan and let it come to a boil, then strain. Add three-fourths of a pound of loaf sugar and stir until dissolved. When cold set on ice, or freeze as ice cream.

PICKLED PEACHES.—Nine pounds of peaches, three pounds of sugar, and three quarts of good cider vinegar. Peel the peaches, and stick two cloves in each peach, then put them with the sugar and vinegar in a porcelain-lined kettle. Cook from five to ten minutes.

MIXED GEMS.—Take a half pint of corn-meal, pour boiling water upon it, enough to wet it; then cool with skim milk to the consistency of pancake batter; and thicken with equal parts of "middlings" and Graham flour; to be baked as the same as gems, only not so quickly.

CHICKEN SALAD.—It is no longer "good form" to chop the chicken and celery for salad. They must be cut with a knife, in pieces about half an inch long. Put the celery in just before serving, that it may be fresh and crisp.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 203 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line.....25.....80.....\$2.00.....\$5.00
Half inch (1 square).....\$1.00.....\$3.00.....7.50.....\$24.00
One inch.....2.00.....5.00.....14.00.....30.00
Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:
Saturday, October 30, 1880.

TABLE OF CONTENTS.

GENERAL EDITORIALS.—Home Grown Tea; The Supply of Wheat Abroad, 273. The Week; Thanksgiving Edition; Taking Their Choice of Immigrants; Let No Dog's Bark, 280. Preparing Almonds for Market; Orange Colored Rust on Rose Leaves; A Visit to Baden Farm; American Silk Industry, 281.
ILLUSTRATIONS.—Japanese Ladies Picking Tea on a Mountain Plantation; Method of Plucking Leaves in Japan and India, 273. Orange Rust on Rose Leaves, 281.
CORRESPONDENCE.—Tehama County—No. 3; The Los Angeles Fair, 274.
THE DAIRY.—The Dairy Resources of Los Angeles County, 274-5. Calf Distemper, 275.
HORTICULTURE.—Best Fruit to Grow.—No. 4; Pruning, 275.
THE FIELD.—Experience with Odessa Wheat, 275.
THE STABLE.—A Good Horse, 275.
PATRONS OF HUSBANDRY.—Recollections of the State Grange Meeting; The Press and the Grange, 276.
AGRICULTURAL NOTES from the various counties of California and Nevada, 276-77.
NEWS IN BRIEF, on page 277 and other pages.
HOME CIRCLE.—The Hammer, The Press and The Blow (poetry); Mountain Top Letters.—No. 10; Women's Social Science Association; About Girls; Female Friendship, 278. Chaff; Home and Its Queen; A New Comet, 279.
YOUNG FOLKS' COLUMN.—Our Puzzle Box; A Bright Boy; Who Has Seen This? 279.
GOOD HEALTH.—Health and Pure Water; Safety from Drowning, 279.
DOMESTIC ECONOMY.—How to Sweep and Dust; Sausage Meat; Mince Meat With Tomatoes; Buns; Cream Sherbet; Pickled Peaches; Mixed Gems; Chicken Salad, 279.
ENTOMOLOGICAL.—Orange Insects in Florida; Popularizing Entomology, 280.

Business Announcements.

California Farmers' Mutual Fire Association, S. F.
Short-Horn Cattle for Sale—Robert Ashbrenner.
White Russian Seed Wheat—A. Gerherding, S. F.

The Week.

The work of the year is now being rapidly finished. The threshers have flocked to the coast counties and are beating to pieces the stacks which have stood so long awaiting their coming. We hear of 13 machines working at once in a small, hilly district of San Mateo county. This will soon close up the greatest grain year our State has ever known. The vintage is at its height, and some wineries cannot handle the grapes as fast as they are delivered, but they are doing their best to dispose of the material, and the rumble and tumble of the new empty casks as they roll upon the decks of out-going boats from the city wharves continue. They will be more sedate when they return, and yet they will have more hilarity inside their staves than now.

This week will finish up the agony of the long political campaign. The fever heightens as it advances. Large and small towns are ablaze with bonfires and torch bearers, and resonant with songs and hand music. Our country exchanges are still filled with speeches and glowing editorials, and agricultural items are conspicuous by their absence.

From across the Atlantic there come very threatening sounds. The breach between the Irish leaders and the British government seems widening, and there are grave apprehensions of an uprising in the Emerald Isle. The question is a serious one, and deeds of darkness are frequently done. There has been a hard year for tenants; landlords are disposed to be inexorable, and the Irish leaders deem the time opportune to realize their dream of Irish autonomy. It is to be hoped that a conflict may be avoided, for blood would follow freely if it began. The British government promise reforms, and acts to accomplish them are now said to be in preparation. Thus the matter stands; the worse may come, but we hope it may be avoided.

ON FILE.—"Los Angeles Fair," J. C. C. and N. E. B.; "Poultry Notes," L. J. W.; "Tulare Notes," J. W. A. W.; "The Remedy for the Phylloxera," J. H. W.

Thanksgiving Edition.

We have it in our mind to print an enlarged issue of the PRESS about Thanksgiving time and adorn it with engravings appropriate to that occasion, including also other themes for pen and picture which will make the paper pleasing and valuable to our readers. The present year has been in some respects one of the great things in our agriculture and general progress as a State, and it will be a fitting time to place the items of our advancement upon record and express our thanksgivings thereat. We shall be pleased to have all contributors sharpen their pens and send us something characteristic and seasonable. We desire a good measure of sentiment to awaken our sympathies and attune our rejoicings. We desire also notes of the material benefits which call for thanksgiving. Let each write of the progress of his neighborhood or of the special line of agriculture in which he is engaged. Let us hear of California homes and those who dwell in them. Give us glimpses of California scenery and how to gain access to it. Open to us pictures of the future in the manhood, the society, the industry of our commonwealth, so far as the future may be forecast by the light of our progress hitherto. The busy season is now approaching its close; let the special Thanksgiving edition of the PRESS be a general return and remission of old and new contributors.

We expect to print more pages than usual in the Thanksgiving edition and to recompense the reader for any encroachment which the present active time in trade makes upon our reading columns.

Taking Their Choice of Immigrants.

We are informed that the agents of the Oregon Immigration Bureau are busy overhauling approaching immigrants, learning their conditions and characters, and then making especial effort to turn the feet of the desirable ones northward. They work, we are told, on all the routes by which people come to this State, and it is believed that they capture many who would have staid in this State had the Oregon singers not chanted so seductively. It is said that if they find an immigrant with his coin to purchase land, they do every thing in their power to inform him of the good things in Oregon, and do every thing to smooth his progress thither. It is further reported that these agents search out the good men among the moneyless ones, those having some stamp of trustworthiness or some testimonial thereof, and then they help to go to Oregon, confident that they will prove an advantage to the State. Having thus made their choice, the balance are set aside as California's share of the incomers—many of them a sorry gift to any State.

Whether this plan is employed very generally or not, or what percentage of immigrants is captured by these arts, we are not aware; we mention the plan as illustrative of the enterprise of our sister State in efforts to secure good men to occupy her vacant places. Even though the arts operate against us and are practiced on our own soil we are not disposed to resent them, for we are not aware that any misrepresentations are employed, though there may be. It may be that California is depicted as so forlorn a land that the immigrant, in his simplicity, may wonder that the agent can be induced to live here; but we have no evidence upon that point. Upon the face of the matter it appears to be a very fair stroke of enterprise, and as such, for present purposes, we accept it.

The question then arises, shall we give the Oregon proselytere a free field to lead aside the men of means and the men of arms and thus secure the cream of the immigration? There have been attempts to organize an Immigration Bureau for California, but according to common reports they were failures. The last proposition died of inanition before it fairly drew the breath of life—perished for lack of a quorum at its meetings. Why was this? Was it because the enterprise was expected to play into the pockets of certain land owners or agents? Whether it was because of a fear of the establishment of a grindstone for private axes, or for other reasons, we do not fully know; but one thing was certain; those who were expected to attend the meetings did not, and those who were expected to contribute funds, would not. The whole effort was a persistent negative. Shall that experience suffice? There is very effective work being done by local enterprise, especially in some of our southern counties, and groups of very worthy people are being led in; but there is nothing being done for the whole State, except the good words and good deeds of individuals and the pertinent paragraphs of California journals. We have an ideal of an Immigration Bureau, and of an Immigration Commissioner. The former to be composed of citizens of good repute, whose interest would be merely that of the upbuilding of the State; and the latter a man of unequalled information of our productions and resources, and wholly devoid

void of the prejudice which springs from the hope of gain. He should expect nothing beyond the reward of being indispensably useful to the State. If such could be had, the bureau would gather about it the support of our best citizens. It would disseminate trustworthy information of our whole area, and the success of the industries which have taken root upon it, and the prospects of those just planting. It would not be an illumination as from a dark lantern, revealing objects toward which its rays were directed and obscuring others. There has already been plenty of this style of promoting the interests of the State. Are we to have something different—something to properly urge California, or are the Oregon solicitors to have the field to themselves? The matter is certainly worthy of discussion.

ENTOMOLOGICAL.

Orange Insects in Florida.

We have just received a copy of Prof. J. Henry Comstock's report for 1879, as entomologist of the U. S. Department of Agriculture. The report was submitted June 30, 1880, just before the author set out for his California investigations. It is on the whole a document exhibiting a large amount of original work and is highly creditable to Prof. Comstock, and Gen. Le Duc's wisdom in his appointment. The part which will be found of greatest interest to Californians is the review of last summer's studies in Florida orange groves. Although the great amount of material there obtained has not been fully worked up, there are descriptions of several insects which prey upon citrus fruits, which will be of interest to growers everywhere. We shall merely mention each, with its leading characteristics, so that our readers may be on the watch for their appearance here.

The first insect mentioned is a true bug, which has long been known to cotton growers of Florida and the West Indies, and has been called the "cotton stainer" or "red bug" (*Dysdercus suturellus*). These bugs are .67 of an inch in length, of red color with the segments of the body margined with white and with dark wing covers. The bugs puncture the rinds of oranges and suck their juice, causing them to decay and fall to the ground. The principal injury seems to have been done when cotton was grown near the trees. A Florida orange grower one year planted cotton between his orange trees, and lost nine-tenths of his oranges by this insect. Some trees lost every orange. The puncture in the orange is minute and is made when the fruit is green, the skin around the sting becoming yellow. Later the orange would drop and the pulp be found to be rotten. It also attacks the guava in Florida.

Another insect is the orange-leaf nothris (*Nothris citrifoliella*). It is a moth and its larva is found webbing together the half grown leaves of the new shoots of the orange, eating the leaves and destroying the buds. The larva is a cylindrical worm with head, first segment and first pair of legs black. It drops by a thread when disturbed. When full grown it is almost one-half inch long. The moth is of a yellowish-gray color.

Another moth affecting the orange is the orange case-bearing tineid (*Coleotechnites citrillus*). Both the genus and species are new. The encased larva was found on the bark of an orange tree at Manatee, Florida. The case was .43 of an inch long, and rather pointed at the hinder extremity. The moth is of a pale dull ochreous color, not quite half an inch in length. The larva lives in the case in which it was found, and feeds upon the orange.

Other insects mentioned are a small beetle (*Aræocerus fasciculatus*) which infests the fruit; also a small gray-tineid moth (*Blastobasis citricolella*), the larva of which also attacks the fruit; and the moth was hatched from a "dry orange" while in Prof. Comstock's keeping. This is also a new insect. The orange-leaf notcher (*Artipus floridanus*) is a small whitish snout-beetle, one-fourth of an inch in length, which eats jagged notches in the edges of orange leaves. These may be caught by spreading sheets under the trees and jarring them off, as they catch the plum curculio at the East.

It seems from Prof. Comstock's report that the Florida orange growers are also troubled by the attack of white ants, which do much harm to the orange trees. They seem to work differently from the ants lately reported from Riverside, and confine their operations to the crown of the roots, and at this point they girdle the orange trees and guava bushes. Their attacks may be prevented to a great extent by preventing the heaping of dirt around the stem of the tree, as the insects attack the bark just below the surface of the ground. If the crown of the roots is exposed, the attack is prevented. They may be killed by applications of hot water, as the trees will not be injured by water sufficiently heated to kill the insects.

Of beneficial insects, Prof. Comstock describes two new ichneumon flies—one very minute (.07 of an inch in length) and shining black, which attacks the dark green aphid which eats the terminal leaves of the orange. Another ichneumon fly, of larger size (.28 of an inch), which probably attacks the larva of some orange-eating insect, was found on an orange leaf.

Popularizing Entomology.

We have in English papers correspondence from Paris concerning the popular insect exhibition which was held in that city in September. In connection with the exhibition there was a meeting of the Phylloxera Congress, and the President, M. Henry, expressed an opinion that the phylloxera were but the result of the long use and over-fatigue of the vine, and that they might be got rid of by restoring vigor to the soil and the plant. One of the speakers recommended rooting up all diseased vines and coating the rest with a mixture of oil and pitch. The £12,000 prize is not yet won.

A resolution was voted to the effect that, "Considering that the ravages of insects cause a loss of more than £40,000,000 a year, and that these might be diminished by protecting insectivorous birds, and by founding in the primary schools societies of lads who should engage to desist from bird-nesting, and to destroy noxious insects instead; considering, further, that in the important question it is advisable that the teachers themselves be acquainted with the insects of their locality, the Congress asks that the study of applied entomology be obligatory in the normal schools."

Let No Dogs Bark!

We do not claim to be experts in judging public policies, but it seems to us the Railroad Commission has placed itself before the people of the State in rather a peculiar light. It has set itself up as a thing not to be spoken against, and, according to reports received of the Stockton meeting, it was more its own attitude than the wrongs it was charged to correct, which occupied its attention. For example, there was a statement being made by a prominent wool grower to the effect that when he shipped 50 bales of wool, one at a time, from Modesto to Stockton, the expense would be less than if he shipped the whole together in a carload. In other words, if the grower had shipped one bale of wool per day for 50 days, the cost of the 50 shipments would be \$67. If a single car had been laden with 50 bales, and the whole shipment done at once, the cost would be \$72.50. Before proceeding to explain this interesting statement, the witness unfortunately remarked that an employee of the railroad had said that he would be a fool to appear before the commission with such a grievance. This remark obscured at once the subject of wool and its transportation, and the discovery of this employee with a wagging tongue seemed the whole object of the setting of the commission, for the reports in the Stockton papers give the following dialogue:

Mr. Beerstecher—Who is the man that made that remark, Mr. Shippee?

Mr. Shippee—I it is not necessary for me to quote names.

Mr. Cone—I would like to know, Mr. Shippee; we want to know the names of the employees that told you this.

Mr. Shippee—it is not necessary for me to quote any names. I don't propose to tell it to you.

Mr. Cone—Then we don't want to hear anything more from you.

Mr. Shippee—I propose to show you this wool question. I started in on that.

Mr. Beerstecher (interrupting)—Mr. Shippee, if you want to make a statement about the wool question, come forward.

Mr. Shippee (going forward)—I was forward. I didn't come here expecting to be treated in this way.

Mr. Cone—We don't want to hear you at all.

Mr. Shippee—All right. I expected when I came here to be treated like a gentleman.

When the other gentlemen saw how the Commissioners stood, they all got up and left the room with Mr. Shippee, feeling that it was useless to appear before that Board thus constituted. Dr. C. Grattan, John Griffin and Jas. M. Kee were some of those who would have preferred complaints.

How it could be possible that the name of a man who made light of the commission could be more important than evidence of inconsistency and hardship to producers in the transportation of their products, is something which we cannot at all comprehend. At all events, the intrusion of this apparently immaterial allusion fired the heart of the commission and made the Stockton meeting a perfect failure.

What is there in the being, action or state of the Railroad Commissioners which elevates them above the plane of other public servants and destroys the individual right to comment upon their public services? We grant that it is unseemly to call a man a fool for appearing before them, and some punishment for contempt would be well enough; but are they to be turned from their purpose and their meetings changed into snarls and quarrels simply because some one's tongue breaks loose? One would think from the ill success that the commission has met hitherto in drawing out testimony, that they would be glad to overlook irrelevant matter and encourage the witness to proceed at once to the essence of his complaint. We trust the commission may take this view of the matter on reflection and perceive that their appointment was to pursue genuine evils and not to fight gossip.

TWELVE locomotives for Adelaide, South Australia, have just been shipped from Philadelphia by the Baldwin, and nine turn-tables, for the same destination, from New York, by William Sellers & Co.

The gymnasium at the University of the Pacific at San Jose is to be completed and furnished with necessary apparatus.

Preparing Almonds for Market.

We happened to meet on Tuesday morning Henry Curtner, a well-known farmer of Harrisburg, Alameda county, and had an interesting conversation with him concerning his methods of preparing the almond crop for market. Mr. Curtner has a young almond orchard at the foot of the Contra Costa range of hills, the land sloping gently toward the west and south. As we have passed the place we have marked the symmetry and vigor of the trees. Last year there was a tendency among them to overbear and the crop was a very large one; consequently this year there are fewer nuts, although still a paying quantity, and Mr. Curtner counts the almond a reasonably sure crop in his region.

Mr. Curtner has devised a machine for hulling the almond, which does the work to his satisfaction and has been adopted by most of the almond growers of the neighborhood. It consists of a grooved iron roller and a set of bars arranged with reference to the roller, as the concave is to the cylinder of a threshing machine. Each of these bars is supported behind by a spring at each end, so that each works independently of the other and yields a little if an extra large nut strikes it. At first the concave bars were set solid and the result was the breaking of many nuts, but supporting them by the springs overcome this completely and hardly any nuts are broken at all. The machine was constructed by Mr. Rix, of Washington Corners, and worked perfectly from the start. The machine runs by hand crank and requires but little effort to hull a sack in two or three minutes. It is simple and costs but about \$15. The roller and concave bars are 16 inches in length, but of course the same principle could be applied to a large machine to run by horse power or steam if any one required such a one.

Mr. Curtner bleaches all the almonds he markets, and produces a bright handsome nut, as we saw from a sample he had with him, which were to be sent East to test the chance of selling there. It costs him about one-tenth of a cent to bleach a pound, and the price is improved thereby full three cents per pound. His bleaching apparatus is very simple, and one he devised himself. He makes trays about 18x40 inches, the sides made of one-inch stuff two and a half inches wide; the bottoms of lath near enough together to hold the nuts from falling through. The top edges of the sides are partly cut away, except at the four corners, where the full width of two and a half inches remains. The almonds, when hulled and dried, are put in the trays in thin layers, not more than two nuts deep, and the trays are placed one upon another over a little pit in the ground, which serves as the furnace. There are then four side boards, each separate. When the trays are filled with nuts and placed one upon another over the furnace, the sides are put up and held in place by hooking to each other. This serves as a little house to enclose the trays, and there is space all around between the sides and the trays for the passage of the sulphur fumes. Over the top is thrown a piece of wet sacking, which holds in the fumes as well as a closely fitting cover would do it. As the bottoms of the trays are lath, and as the sides are cut away so that they only touch each other at the corners, there is free admission of the fumes through and over the layers of nuts. With a little bleacher of this kind, one can have as many trays as is desired, as the fumes permeate all parts quite evenly. Mr. Curtner uses trays enough to hold about 150 lbs. of nuts, and the nuts are kept in bleach about five hours. As the men are sorting the cleaned nuts from the hulls near by, one of them throws a small shovelful of sulphur now and then upon the live coals in the pit under the bleacher, and that is all the attention it requires.

Mr. Curtner has never hit upon anything to separate the nuts from the hulls, after both have come from the huller; the husks are too heavy to blow away, and too near the size of the almonds to allow separation by sieves; therefore, he has them picked out by hand, and does not count it much expense. Even if there were some apparatus used to remove the nuts from the broken hulls, the latter would probably have to be gone over, for some nuts would remain, and he thinks as the hulls have to be handled anyway, it is just as well to pick out all the nuts in the first place. However, the separation of nuts from hulls is a good enough problem for ingenious inventors to study if they choose. Mr. Curtner is harvesting his almonds with Portuguese labor, 15 men being employed. He thinks the crop costs him a little more than if he used the Celestial, but still, it pays well enough, and he does not like to employ the Asiatic if a crop can be made to pay without it.

DEMONSTRATED.—Pasteur's theory that the formation of vinegar is a physiological phenomenon caused by the vegetation of a particular bacterium, *Myroderma aceti*, has been apparently demonstrated to be correct by Herr Wurm, in experiments at the Breslau Institute of Plant Physiology. He has succeeded, according to report, in effecting the economical production of vinegar on the commercial scale, in accordance with Pasteur's views.

Orange Colored Rust on Rose Leaves.

We have been grievously afflicted with a bright orange-colored rust on the leaves of our rose bushes, especially on the moss roses. Last spring we received specimens of the same fungus from Santa Clara county, and probably the disease is quite prevalent. Hence we give an engraving of the fungus as seen with a microscope. We first noticed the trouble in the spring, and at that time there appear orange-colored blotches on the leaves, leaf stems and bud stems, some of them as large as a small bean. Sometimes, when the fungus appears upon the base of the unopened bud, it will turn the bud almost to a right angle with the stem. The first appearance is a swelling beneath the cuticle, and finally, the sack bursts open and discloses a mass of orange-colored spores, which rub off upon the hand and sometimes fall in large enough quantities to redden the ground beneath the bushes. Later in the season the blotches become smaller but more numerous, and then appear only upon the under side of the leaf, as shown at *a* in the engraving. Finally the leaves drop off freely. We have some moss rose bushes, which were wholly stripped of their leaves by the fungus.

If one of the small spots on the leaf be placed under a good microscope it will appear as at *b*; the cuticle is seen to have been broken and lifted, and a mass of roundish, orange-colored bodies are seen nestling closely beneath it, or pouring out from the breach. If a cross section

ORANGE-RUST ON ROSE LEAVES.—(*Lecythea Rosae*.)

of a spot be made carefully, the spot will be as shown in *c*; the cuticle lifted, the mass of spores beneath it, and they resting upon the cellular substance of the leaf and drawing sustenance from it. The orange-colored spores are shown at *e* very much enlarged, and the spores and barren cysts which are found with them may be seen at *d*. This fungus is akin to the red rust of wheat. It is a member of the order *Cecidomycetes*, and specifically is *Lecythea rosae*. It is quite distinct from the rose mildew.

We would like to know what our rose-growing readers who have met this rust have done for it. We had in mind to experiment with sulphur, blue-stone, etc., this summer, but the time failed. Any experience had with this fungus will be heard with interest.

SHELDON'S DAIRY FARMING.—Of this work, which is being published in monthly parts by Cassel, Petter, Galpin & Co., of New York city, we have formerly spoken in favoring terms. The 15th part has now been reached, and the comprehensiveness of the work and its richness in practical details are becoming more and more apparent. The discussion of the subject of cheese we consider the best in the language, so far as our reading goes; and that of butter is also praiseworthy and full of information concerning the host of improvements which have, of late, been introduced in butter-making implements and contrivances, and in process of manufacture as well. Prof. Sheldon has command of vast resources of information, and he is enabled to draw very interesting comparisons between prevailing methods. His work should be in the library of every dairyman who can afford the outlay. As we said once before, the volumes will be an encyclopædia of dairy husbandry.

THE epizootic is affecting the horses on the Comstock.

A Visit to Baden Farm.

One day last week we escorted some of the students at the College of Agriculture (Berkeley) down to Mr. Robert Ashburner's establishment, Baden farm, San Mateo county, to give them a little insight into the practical operation of a milk and fine stock ranch. The party were handsomely entertained within doors and shown many valuable object lessons in field and barn; and a few notes of salient points may interest our readers.

The method of keeping the dairy cows on Baden farm differs somewhat from that of the majority of milk dairies; but as this is a breeding, as well as a milk-selling establishment, keeping the cattle in good and vigorous health is one of the first considerations, as it ought to be in all dairies where the production of purely wholesome milk is aimed at. The cows are kept indoors as little as possible. The milch cows eat their hay and roots in the field, whenever the weather will permit, according to the method of feeding described in the *RURAL PRESS* of September 11th, the youngest of the calves and the bulls only being kept under cover at nights. The milch cows are kept in on wet and stormy nights only, with plenty of nourishing food. This method of rearing and keeping cattle causes a healthy, vigorous growth throughout the herd, and there are visible signs of hardiness and strong constitutional qualities such as all breeders ought to cultivate. The thrifty nature of the young stock is

have a supply for those who have applied to him for young bulls.

As our agricultural students were anxious to find how correct records of the breeding, names, etc., of so many cattle were kept, Mr. Ashburner showed us his private herd register, which is kept in such a way that no imposition could ever be practiced on the pedigree of any animal bred by him. As soon as a heifer has produced a calf, her pedigree is written in full, and underneath each cow's pedigree are ruled columns for date of birth, color, sex and size of the calves produced by each cow; and when an animal is sold or dies, a note is immediately made of the fact; and we noticed written under the pedigree of at least one cow who had only had one calf, and that one dead when calved: "Sold for beef without living produce."

The herd now consists of 63 pure bred Short Horn cows and heifers, and 85 head of graded cows and heifers, many of which have four or five crosses of Short Horn bulls, as we saw by separate record that is kept for them. From a few of the choicest of these cows bull calves are sometimes kept, or sold when young to dairymen who think they cannot afford to pay the difference in price between a thoroughbred and a grade. Some even hold on to the old-time idea that the former are more delicate than the latter, and for that reason prefer the grades. Nothing could be more fallacious than such an idea, as any one might be convinced of by viewing the herd at Baden farm, where both grades and thoroughbreds receive the same treatment in every respect. As Mr. A. does not make a practice of exhibiting cattle at the fairs, no pampering is tolerated. He did exhibit a few young bulls at Oakland and Sacramento this year, but we could see no difference in condition between those that had been to the fairs and those that had been left at home. This could hardly be expected, as Mr. Mr. A. told us he did not make up his mind to go to any fairs till about the 1st of September.

When we were looking at the milch cows in the field, we asked Mr. A. his opinion upon the escutcheon theory; to which he answered that he only looked upon it as one among many other good points—some of which he considered of more importance than the escutcheon—to be taken into consideration in the selection of dairy cows. What Mr. A.'s opinion might be on the subject, however, we could not help noticing (as we examined cow after cow, till nearly the whole herd passed in review before us) that the majority of the cows had finely developed escutcheons, and that even a cow with a moderately developed one was almost an exception, and one or two of those we excepted to, Mr. A. told us ranked amongst his best milkers, and one cow especially we remember having one of the best developed escutcheons in the herd that, we were told, ranked amongst the worst milkers on the place. This cow was, however, only milking after her second calf. There is plenty of time for improvement, as cows do not get to their best, as a rule, before they are six or seven years old.

An interesting event in live stock circles will be Mr. Ashburner's fourth annual sale, which will occur on the farm November 10th. Of this, however, we need not speak at length, for his advertisement gives the leading particulars.

A Citrus Fair on Wheels.

We acknowledge no little admiration for an enterprise which is now projected by our friend in the southern counties, which is, in short, to make a representative collection of the citrus fruit which will ripen next spring, and exhibit it in the principal Eastern cities. These fruits are quite durable in their nature, and will stand a good amount of transportation if the frost can be kept out of the car, for at the time our citrus fruits are at their best there is still a groveling thermometer at the East. It is believed that favorable arrangements can be made with the new overland route, which will be in operation by that time, to transport the exhibition to the East. The exhibit will attract great attention at the East and will be a splendid illustrated advertisement for the counties contributing. We trust the project may be realized.

At a meeting held last week in Los Angeles to take action upon the general subject, the following action was taken:

Resolved, That it is the opinion of this meeting that the southern counties of California—Santa Barbara, Ventura, Los Angeles, San Bernardino and San Diego—should make a display of their citrus fruits, and other productions, in the principal cities of the Atlantic States during the spring of 1881.

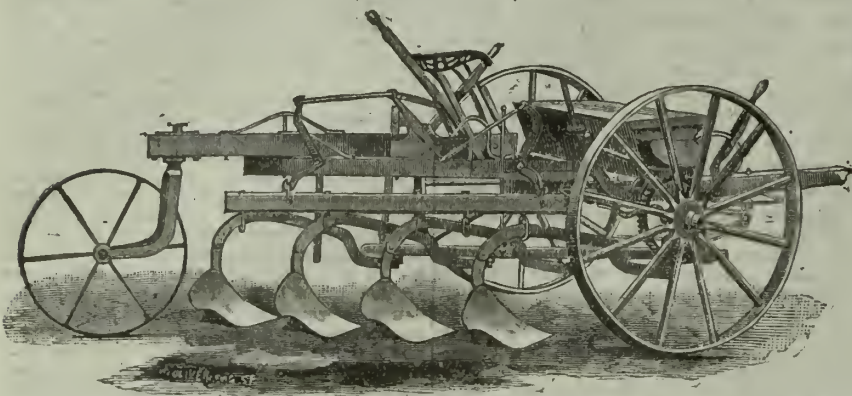
Resolved, That a committee of three, in each of the counties of Santa Barbara, Ventura, San Bernardino and San Diego, and a committee of five in the county of Los Angeles, be appointed to take charge of this work in the various counties; and that the chairman of each committee constitute a member of an Executive Committee of five, to have general control of the work, and that the county committees work under direction of this Executive Committee.

Under this resolution the following committees were appointed: Santa Barbara county—Col. W. W. Hollister, Ellwood Cooper and O. N. Cadwell; Ventura county—N. W. Blanchard, James A. Day and Thomas R. Bard; Los Angeles county—H. K. W. Bent, J. H. Shields, J. F. Crank, J. E. Hollenbeck and A. B. Clark; San Bernardino county—S. C. Evans, S. E. A. Palmer and Capt. Fishon; San Diego county—Frank A. Kimball, J. M. Asber and H. M. Higgins.

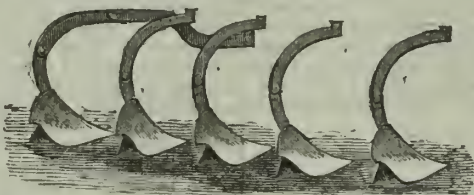
The matter now rests in the hands of these gentlemen and the names signify an aggregate of energy, skill and tact, which must make the affair a success if they decide to carry it forward.

SHERRILL GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows.



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco,

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street, CHICAGO, ILLINO S.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to

AUTOMATIC STOCK FEEDER!

FOR HORSES AND CATTLE.

A simple contrivance for saving time and labor, and Feeding regular. The Clock and Trap complete, ready set in barn for use, \$15. Each extra Stall, \$5.

J. B. TUPPER, Agent.

Petaluma, Sonoma County, Cal.

**SADDLES,
HARNESS, WHIPS,
LEATHER.**

W. DAVIS,

410 Market St., S. F.

Manufacturer and Dealer

in All Goods in this line.

Send for Catalogue

Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the Mining and Scientific Press, San Francisco, at favorable rates

1,000,000 Strawberry, Raspberry and Cranberry PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 1.50	\$ 5.00
N. J. Scarlet, Sterling, Great American.....	0.60	1.75	6.00
Pres. Lincoln, Triomphe de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.50	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cutbert Early.....	1.60	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Herstine, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Manmoth Cluster, Vina Seedling.....	1.00	3.00	20.00
Kittatiny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Bk's Hamburg, Bk's Prince.....	2.00	8.00	50.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address,

H. NYLAND, Bouldin Island, San Joaquin Co.

CLARK'S

Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair, with Nash & Cutts' No. 3 Grain Cleaner. Its capacity is from 80 to 60 sacks per hour. Faria rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

THE MECHANICS' INSTITUTE

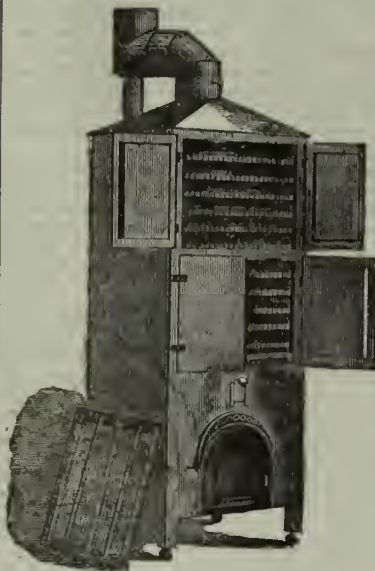
(Of San Francisco, Cal.)



**FIRST
PREMIUMS
OFFICIAL.**



Awarded at Fifteenth Industrial Exhibition—1880.



OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50, is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

Improved Galvanized Iron, Portable Combined
FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-speed of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

AWARDED A SILVER MEDAL

BY THE MECHANICS' INSTITUTE, San Francisco, Sept. 1880.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,

General Agents for Pacific Coast,

Nos. 323 and 325 Market St., San Francisco, Cal.

LOCAL AGENTS WANTED.

Davis Vertical Feed Sewing Machine VICTORIOUS AGAIN!!

FIRST PREMIUM Gold Medal at Mechanics' Institute Fair, 1880.

FIRST PREMIUM for work done on the spot, Silver Medal, 1880.

FIRST PREMIUM Oregon State Fair, 1880.

FIVE FIRST PREMIUMS Central New York Fairs, 1880.

FIRST PREMIUM and the only machine placed in First-Class at Australian International Exhibition, 1879-80.

(THE REPORT OF COMMITTEE OF AWARDS WAS THAT)

THE NEW DAVIS SEWING MACHINE,

Being a complete departure from the ordinary style of sewing machines, possessing all the advantages of such ordinary machines, and in addition an increased range of work, with the greatest simplicity of construction, and reduction of number of working parts, we consider it to be entitled to the first place in the awards.

Agency—130 POST STREET, San Francisco.
INSURANCE AGENCY.

Gold Medal
FOR THE
BEST PHOTOCRAPHS
AWARDED TO

Taber

AT MECHANICS' FAIR, 1880.

PHOTOGRAPHIC PARLORS,

Opposite Grand and Palace Hotels. 2nd Elevator—8 Montgomery street, over Hibernia Bank, San Francisco.

SPECIAL NOTICE.—To Mining and Insurance Companies, Surveyors and Architects.—We beg leave to inform you that we have just received the very latest improved instruments from Europe, especially adapted for Photographing Maps, Drawings of Machinery, Shafts, Buildings, etc., which we furnish at lowest rates. Would be pleased to have you favor us with an order.

**J. BROWELL,
Silver Medal,
FOR PATENT CHIMNEYS
And Ornamental Chimney Tops.**

Can be placed in any part of the House, or attached to the outside of any building with perfect safety.

Terra Cotta Chimney Tops, all sizes for sale.

CONTRACTOR AND BUILDER.

442 Jackson St., N. E. cor. Montgomery, S. F.

**THE FIRST PRIZE,
A Silver Medal.**

**HERRMANN,
THE HATTER,**

For the BEST HATS, the LARGEST VARIETY and the NICEST DISPLAY. Send for Illustrated Catalogue.

C. HERRMANN, 336 Kearny St., near Pine

PACIFIC LAMP & REFLECTOR FACTORY.

**First Premium
AGAIN AWARDED AT**

INDUSTRIAL EXHIBITION, 1880

For Patent Locomotive and Mining Head Light.
For Patent Street Lamps to Burn Coal Oil Without Chimney, Naptha and Gas.
For Patent Sign Lamps. Also, Robert Mill Sectional Globe Lamps for Hotels and Restaurants.
For Patent Central Reflector Lamps for Mills, Factories, Cars, Etc.
Frink's Patent Silver Corrugated Glass Reflectors and Sun Lights for Churches, Halls, Etc.
Square Reversible Coach Lamps; Dash Board and Stage Lamps.

**E. BOESCH, 583 and 585 Mission St.,
SAN FRANCISCO, CAL.**

THE CALIFORNIA

**Furniture Manufacturing Comp'y.
Gold Medal.**

BEST GENERAL DISPLAY OF FURNITURE.

SILVER MEDAL—Assortment of Chairs.
SILVER MEDAL—Set of Parlor Furniture.
SILVER MEDAL—Set of Dining Room Furniture.
SILVER MEDAL—Set of Bed Room Furniture.
BRONZE MEDAL—Easy Chair.

The only large and complete Stock of Furniture on the Coast. Latest Styles at lowest prices.

220, 222, 224 & 226 BUSH STREET, S. F.

**DAVID KERR,
CARRIAGE, WAGON and TRUCK
MANUFACTURER.**

**First Premium,
Best Display of Trucks.**

47 & 49 BEALE STREET, S. F.

OFFICE AND ADDRESS:
9 Geary Street, Junction of
Market and Kearny, S. F.

White Russian Wheat.

White Russian wheat has been grown with success in some of the rust-ridden districts along our southern coast. In fact, this wheat has saved some farmers from abandonment of their lands. It is quite probable that this year the White Russian will be tried in all districts liable to rust.

We have been shown by Mr. Gerherding, of 214 California St., samples of White Russian wheat grown in Ventura, and we can bear out the truth of the following description of a sample of similar wheat which was shipped to London, to obtain the opinion of English experts upon its desirability. The English receivers of the sample write as follows:

We have been shown your sample of California wheat, grown from Russian seed, and have submitted it to the opinion of some of our best judges. The wheat is not handsome, nor regular in shape, but it is of a large, bold grain, which is much liked here, and a cargo of the quality of your sample would probably sell for London and this district, as well as for some parts of the continent, at more money than the present quality of California White wheat.

This assurance of marketable characteristics will be encouraging to growers of the new grain. The White Russian wheat was first introduced to the United States by a Wisconsin grower, and has been tried and found valuable in a number of the wheat-growing States. The following is a description of its standing in Wisconsin:

The White Russian wheat is a bold, white chaff wheat, of a much lighter color than most varieties of spring wheat, and has proved itself to be the best spring wheat ever grown in Wisconsin. The White Russian wheat has astonished all who sowed it. Such long, strong, healthy, yellow straw, standing straight several days after ripening, and bearing large, long, white chaff heads, well filled with plump kernels, weighing oftentimes from 60 to 62 lbs. to the measured bushel, while the wheat produces 5 to 10 bushels more per acre than once well thought of varieties. The White Russian wheat stands well after being ripe, and is not liable to lodge or rust when green; it is decidedly healthy, and has in many cases produced a full average crop, where other varieties alongside of it failed.

By Universal Accord,

AYER'S CATHARTIC PILLS are the best of all purgatives for family use. They are the product of long, laborious and successful chemical investigation, and their extensive use, by physicians in their practice, and by all civilized nations, proves them the best and most effectual purgative pill that medical science can devise. Being purely vegetable, no harm can arise from their use. In intrinsic value and curative powers no other pills can be compared with them, and every person, knowing their virtues, will employ them, when needed. They keep the system in perfect order, and maintain in healthy action the whole machinery of life. Mild, searching and effectual, they are specially adapted to the needs of the digestive apparatus, derangements of which they prevent and cure, if timely taken. They are the best and safest physic to employ for children and weakened constitutions, where a mild but effectual cathartic is required.

FOR SALE BY ALL DEALERS.

(Advertisement.)

Insurance Decision.

Office of the California Farmers' Mutual Fire Insurance Association, No. 310 Pine Street, (Room 31), San Francisco, Oct. 21st, 1880.

EDITORIAL RURAL PRESS:—In the suit brought by this association against Schiwerin to recover on contract for insurance upon the (so called) "Mutual Plan," judgment was rendered yesterday in the Justice's Court in favor of plaintiff. This establishes our right to collect the last call made upon holders of policies under the aforesaid plan, so far as the Justice's Court has jurisdiction. In the case of the C. M. F. I. A. vs. Beecher, defendants motion to dismiss on account of jurisdiction, was denied. This establishes our right to commence the suits in this city.

I. G. GARDNER, Manager.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

To Exchange for Ranch in Healthy Locality A Legitimate Business, netting over \$400 per month, and can be largely increased. Value, \$8,000, including Machinery, Stock, etc. Owner obliged to leave city on account of health. Thorough investigation solicited. Address "J. B." care of Dr. Morton, corner of Sixth and Harrison Sts.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAYEN, Propr.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

S. F. MARKET REPORT.

NOTE—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Oct. 27, 1880.

The week's produce trade has not been marked by notable features. There has been rather a holding off on Wheat for several days, but to-day the market has better tone.

The Liverpool cable is 10s 10d to 10s 1d for fair to choice California Wheat.

The Foreign Review.

LONDON, Oct. 26.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "The foreign Grain trade has shown some weakness and uncertainty. The Wheat cargo trade became dull on Tuesday in consequence of cable advices from America of large shipments at low prices. This tendency continued, and although Breadstuffs were firmly held, very limited transactions favored buyers. Flour supported Monday's quotations, in consequence of a steady consumptive demand. Barley met a healthy demand, but the cargo trade was a trifle easier on Saturday. Oats were weaker. Maize was firmly held, the quantity on passage increasing, but the supply off coast and in granary is only equal to the consumptive demand. Prices in London generally remain stationary and firm."

Freights and Charters.

Four wooden vessels have been taken for Cork at 71s 6d. The ship *Lucile*, 1,491 tons, was chartered on Monday at 69s, to Liverpool direct.

Eastern Grain and Provision Markets.

NEW YORK, Oct. 23.—Wheat to-day was moderately active, but lower; Barley fairly active; Provisions dull but steady.

CHICAGO, Oct. 23.—The Grain markets have neither regularly advanced nor receded during the week, but there has been a speculative fluctuation. The closing cash prices were: Wheat, 99¢; Corn, 39¢; Oats, 29¢; Rye, 83¢; Barley, 81¢; Pork, \$18.75; Lard, \$7.90; 7.95. The closing November prices were: Wheat, \$1; Corn, 39¢; Oats, 29¢; Pork, \$11.00 bid; Lard, \$7.75 bid.

Eastern Wool Markets.

BOSTON, Oct. 20.—The demand for Wool is steady. Prices are firm, and manufacturers are purchasing with more confidence. California Spring is in fair demand, and prices range at 25¢ to 27¢. Pulled Wool is steady and firm at 40¢ to 45¢ for good and choice super, up to 45¢ to 50¢ for very choice Eastern and Maine. Foreign Wool is quiet, but is held with more firmness.

PHILADELPHIA, Oct. 26.—Wool is in improved demand. Prices are strong, with a slight upward tendency; Oregon fine, 27¢ to 30¢; medium, 22¢ to 33¢; coarse, 30¢.

New York Dried Fruit Markets.

NEW YORK, Oct. 23.—Foreign Fruits are dull. Raisins are weak; sales of new Malagas at \$2.35 to \$2.37 1/2 for layers; \$2.40 for loose; \$2.65 to \$2.75 for London layers. Prunes are dull and irregular; new, 5¢ to 6¢; 4¢ to 5¢ for 1879. Currants are weak at 5¢ to 6¢.

BAGS—The market is quiet except for standard Gunnies. There has been an increased demand for Gunnies, and the supply is thought to be short. Sales of Gunnies have been made at 16¢ to 17¢.

BARLEY—Barley is a shade lower and is dull. We note sales: 120 tons choice Bay Brewing, for overland shipment, 95¢, an extreme figure; 500 sks choice do, 91¢; and 325 sks Coast Feed, 72¢.

BEANS—There has been a slight advance in Bayos, Butters, Pea and small White Beans. Castor Beans are reduced to \$3 per cwt.

CORN—We note sales: 100 sks small round Yellow, \$1.15; 400 sks do, \$1.12 1/2; 126 sks large do, \$1, and 70 sks White, 92¢ to 94¢. The demand is light at present.

DAIRY PRODUCE—Butter prices are unchanged and the supply is enough for the current trade. Cheese is also unchanged, but the trade is quite good.

EGGS—Another advance has been realized for strictly fresh California Eggs, which have sold at 37¢ to 40¢ per doz. Stale lots are neglected and low.

FEED—Hay now ranges from \$9 to \$14 per ton. Bran is advanced to \$14 per ton; Straw is cheaper, 85¢ to 90¢ per bale.

FRUIT—The low time in Grapes has come, and this week the choicest varieties are selling at 20¢ to 25¢ per box. Mexican Limes are very high, \$25 to 30¢ per box.

HOPS—Hops are dull, both here and at the East. Lots are held above the present prices; probably forced sales could not be made above 17¢.

OATS—Oats are unchanged and dull. Sales of 400 sks good Feed at \$1.17 1/2; and 200 sks Washington Territory at \$1.10.

ONIONS—Onions are now being held back, and the price has gone up rapidly; Silverskins being quotable at \$2 to \$2.12 1/2. The men in the trade think there are too many Onions to let the price go very high at this time.

POTATOES—An improvement is noticeable in nearly all kinds, except Sweet Potatoes, which fluctuate from day to day from 75¢ to \$1.25 per cwt.

POULTRY AND GAME—Fowls are cheaper, as shown in our price list. Turkeys have also dropped off. Game Ducks are plentiful and weak.

VEGETABLES—A few changes may be seen in our list. The amounts of summer Vegetables are now gradually diminishing.

WHEAT—The trade is better to-day than it has been for several days, although the rate is hardly as high as one week ago. Sales were: 500 sks gilt-edged Milling, \$1.51; 200 tons and 750 sks choice No. 1, \$1.50; 400 tons do Shipping, \$1.47; 100 tons good Milling and 4,300 sks do Shipping, \$1.46; 250 and 150 tons No. 1, \$1.45; 140 and 100 tons and 500 sks No. 2, \$1.40; 500 sks pinched, \$1.37; 50 tons smutty, \$1.32; 450 sks pinched, \$1.30; and 900 sks Odessa, \$1.25.

WOOL—Choice Wools are in better demand, and sales have been quite free at the improved range of prices, which we give this week. Inferior lots are still neglected.

FRUITS AND VEGETABLES.

[WHOLESALE.]

WEDNESDAY M., Oct. 27, 1880.

FRUIT MARKET.	
Apples, basket...	40 @ 75
do, box...	50 @ 1.25
Apricots, bx...	1 @ 1.00
Bananas, bunch...	2.50 @ 4.00
Blackberries, chst...	10 @ 10.00
Cherry Plums, bx...	10 @ 8.00
Citrons, Cal, 100...	7.00 @ 8.00
Cocoanuts, 100...	7.00 @ 8.00
Crab Apples, bx...	50 @ 60
Cranberries, bbl...	10 @ 12.00
Figs, black, bx...	30 @ 60
Grapes...	40 @ 50
Cornichon...	25 @ 40
Sweetwater...	25 @ 40
Muscats...	20 @ 45
Rose Peru, bx...	20 @ 45
Elk Hamburg...	25 @ 40
Tomato...	25 @ 50
Limes, Mex...	25 @ 30
do, Cal, box...	1.75 @ 2.25
do, large, box...	5.00 @ 7.00
Lemons, Cal bx...	3.00 @ 3.50
Sicily, box...	8.00 @ 9.00
Australian...	5.00 @ 6.00
Nectarines, box...	4.00 @ 4.75
Oranges, Cal bx...	3.75 @ 4.75
do, Tahiti...	4.00 @ 5.00
do, Mexican...	4.00 @ 5.00
Peaches, bx & bsk...	1.25 @ 2.00
Pears, box...	5.00 @ 6.00
do, Bartlett...	2.75 @ 3.25
do, Seckel...	1.25 @ 1.75
Pineapples, doz...	8.00 @ 9.00
Plums, bx...	50 @ 1.25
Prunes, German...	75 @ 1.00
Quinces, bx...	75 @ 1.00
Raspberries, chst...	13.00 @ 15.00
Strawberries, chst...	8.00 @ 10.00
Sugar Cane, bbl...	2 @ 2.50

VEGETABLES.	
Asparagus, bx...	1 @ 1.00
Beets, chl...	1 @ 1.00
Beans, String...	3 @ 3.00
do, Lima...	3 @ 3.00
Cabbage, 100 lbs...	1 @ 1.00
Cantaloupes, cri...	1 @ 1.00
Carrots, sk...	50 @ 60
Cauliflower, doz...	30 @ 50
Chile Peppers, sk...	50 @ 75
do, Bell...	1 @ 1.00
Cucumbers, box...	50 @ 60
Egg Plants, bx...	50 @ 75
Garlic, New, D...	3 @ 4.00
Green Corn, doz...	8 @ 15
Green Peas, D...	3 @ 3.00
Lettuce, doz...	10 @ 12
Mushrooms, D...	1 @ 1.00
Parasols, D...	1 @ 1.00
Horseradish...	1 @ 1.00
Rhubarb, bx...	1 @ 1.00
Squash, Marrow...	8.00 @ 10.00
fat, tn...	50 @ 60
Summer box...	50 @ 60
Tomato, box...	50 @ 75
Turnips, box...	50 @ 60
White...	75 @ 1.00
Watermelons...	6.00 @ 8.00
100...	100 @ 8.00

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Oct. 27, 1880.

BEANS & PEAS.	
Bayo, chl...	1.00 @ 1.25
Butter...	1.20 @ 1.25
Castor...	1.25 @ 1.30
Pea...	1.25 @ 1.30
Red...	85 @ 90
Pink...	85 @ 90
Sm'l White...	1.20 @ 1.25
Lima...	25 @ 30
Field Peas, bbl...	25 @ 30
do, green...	1.10 @ 1.15

BROOM CORN.	
Southern...	14 @ 2
Northern...	24 @ 3 1/2
California...	4 @ 4 1/2
German...	6 1/2 @ 7

DAIRY PRODUCE, ETC.	
Cal. Fresh Roll, lb...	35 @ 40
do Fancy Brands...	40 @ 42 1/2
Pickle Roll...	30 @ 32 1/2
Firkin, new...	30 @ 32 1/2
Western...	— @ —
New York...	— @ —

EGGS.	
Cal. fresh, doz...	37 1/2 @ 40
do, poor to good...	30 @ 36
Ducks...	— @ 32
Oregon...	27 1/2 @ 30
Eastern, by ex...	25 @ 26
Picked here...	25 @ 26
Utah...	25 @ 26

FEED.	
Bran, ton...	— @ 24.00
Corn Meal...	23.00 @ 24.00
Hay...	9.00 @ 14.00
Middlings...	— @ 18.00
Oil Cake Meal...	30.00 @ —
Straw, bale...	35 @ 40

FLOUR.	
Extra, City Mills...	5.12 @ 5.25
do, Country Mills...	4.75 @ 5.00
do, Oregon...	4.75 @ 5.00
do, Walla Walla...	4.75 @ 5.00
Superfine...	4.75 @ 5.12 1/2

FRESH MEAT.	
Beef, 1st quality, lb...	5 @ 5 1/2
Second...	4 @ 5
Third...	4 @ 4 1/2
Mutton...	4 @ 4 1/2
Spring Lamb...	4 @ 4 1/2
Pork, unadressed...	4 1/2 @ 4
Dressed...	6 @ 6 1/2
Veal...	6 @ 6 1/2
Milk Calves...	8 1/2 @ 8 1/2
do, choice...	7 @ 7 1/2

GRAIN, ETC.	
Barley, feed, chl...	7 1/2 @ 7 1/2
do, Brewing...	8 1/2 @ 9 1/2
Chevalier...	20 @ 25
do, Common...	80 @ 100
Buckwheat...	— @ 100
Corn, White...	92 1/2 @ 95
Yellow...	100 @ 105
Small Round...	12 1/2 @ 15
Oats...	10 @ 12 1/2
Milling...	— @ 35
Rye...	— @ 50
Wheat, No. 1...	1.45 @ 1.50
do, No. 2...	1.37 @ 1.45
do, No. 3...	1.10 @ 1.15
Choice Milling...	— @ 50

HIDES.	
Hides, dry...	— @ 18
Wet salted...	10 @ 10 1/2

HONEY, ETC.	
Beeswax, lb...	22 1/2 @ 25
Honey in comb...	12 @ 13 1/2
do, No. 2...	— @ —
Dark...	— @ —
Extract...	6 @ 7 1/2

HOPS.	
Oregon...	— @ —
California, new...	18 @ 20
Wash. Ter...	18 @ 20
Old Hops...	— @ —

LAMB, ETC.	
Wainuts, Cal...	9 @ 10
do, Chile...	7 @ 9
Almonds, hd sh lb...	8 @ 10
Soft sh...	16 @ 18
Brazil...	14 @ 15

BAGS AND BAGGING.

[JOBBER'S PRICES.]

WEDNESDAY M., Oct. 27, 1880.	
Eng Standard Wheat...	9 @ 9 1/2
California Manufacture...	45 inch...
Hand Sewed, 22x36...	9 @ 9 1/2
22x40...	12 @ 12 1/2
24x40...	13 @ 13 1/2
Machine Sewed...	9 @ 9 1/2
Flour Sacks, halves...	9 @ 9 1/2
Quarters...	5 1/2 @ 6
Elghths...	3 1/2 @ 4
Hessian, 60 inch...	— @ 12 1/2

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.

CASH ADVANCES Made on CONSIGNMENTS



Liberal advances on consignments. Wool Sacks, Twine, Shears, and Ranch Supplies furnished

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradersmen's National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; O. W. Reed; Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA AND OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

— AND —

DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.
505 & 507 Sansome St. (Niantic Building), S. F.
Canning Factory and Packing House of all kinds of Green and Dried Fruits.

Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.
Branch House in Honolulu, H. I.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.

A. S. HALLIDIE

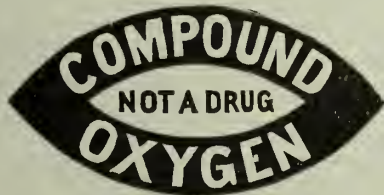
Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, **DRS. STARKEY & PALEN**, 1109 and 1111 Girard street, Philadelphia, Pa., or **H. E. MATHEWS**, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

AND

EARPHONES

For Deaf People. Trial before purchase if desired. Ask terms.

SWEEPSTAKE SHEEP.



FOR SALE.

The entire flock of Thoroughbred French Merino Sheep, known as The Blacow Flock, consisting of 100 head of Yearling Rams, 190 head of Ewe Lambs and Yearling Ewes, 260 head of Breeding Ewes. Are all in good thriving order. Have been carefully bred, are much improved in form, constitution and quality of fleeces. For further particulars apply to **MRS. R. BLACOW**, or **Shepherd, Centerville, Alameda Co., Cal., near Niles Station.**

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the **Brake** arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but **one** simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a **Lever** on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a **jointed Pole**, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the **ONLY HARROW** that has the right to use a **LEVER** to change the angle, or that has the Axles of the Gangs hinged together, or that has **Flexible Joint Bearings ON THE AXLES.**

GEO. A. DAVIS, SOLE AGENT,

No 327 Market Street, - - San Francisco.

IMPORTANT TO FARMERS! WHITE RUSSIAN SEED WHEAT.

NEW VARIETY—SURE CROP—LARGE YIELD.

This new variety of wheat commends itself to the California farmers, for its strong and healthy growth; its great productiveness, and above all, its **NON-RUSTING** qualities. It has been successfully grown in Ventura Co., on the sea coast, where until the introduction of this variety and the "Odessa," all other kinds have invariably failed in consequence of Rust. It is a bald, white chaff wheat, stands well after ripening, and not liable to lodge when green. It has proven itself to be a healthy and sure crop wheat, yielding this year an average of 50 bushels to the acre. The White Russian Wheat was first grown in Wisconsin, where it proved itself to be the best Spring Wheat ever raised in that State. It astonished all who tried it for its great productiveness, and no Wheat ever grown in this country received such unanimous commendation. It was increased from a small quantity received from Russia, and has been known as the White Russian, though it is not exactly white, but much lighter than most varieties of Spring Wheat.

A limited quantity of this Seed Wheat, and of the celebrated **ODESSA NON-RUSTING** Wheat grown from seed imported from Russia last year for sale by

A. GERBERDING, 214 California Street, San Francisco.

LASH'S ADJUSTABLE FRUIT GATHERER.

Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. Also, sole agent for Pacific Coast of **HECOR FORCE PUMP**, with patent stone cylinders, making them acid proof. The best pump yet invented.

T. M. LASH, 601 N St., Sacramento, Cal.

Engraving done at this office.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular

ISAAC B. MILLINGTON & CO., Chester, Pa.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

H. H. H. Horse Medicine.

Stockton, February 4, 1880, H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

R. J. TRUMBULL & CO., Growers, Importers, Wholesale and Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND ORNAMENTAL TREES, ETC. FANCY WIRE DESIGNS, GARDEN TRELLISES, SYRINGS, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—OUR DESCRIPTIVE ILLUSTRATED CATALOGUE OF SEEDS, TREES, PLANTS, ETC.

R. J. TRUMBULL & CO.,
419 and 421 Sansome Street, S. F.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE 116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.
BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00.
Pamphlet on Cure of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents.

Please send stamp for Price List to

Dewey & Co. { 202 San- } Patent Agts
some St.

The Best Music Books!

3 **WELCOME CHORUS.**—(\$1.00). By W. S. TILDEN, for High Schools. Just out. **SONG BELLS** (50 cts). By L. O. EMERSON. Just out; for Common Schools. **WHITE ROBES**, (30 cts), for Sunday Schools.

PARLOR ORGAN INSTRUCTION BOOK.

(\$1.50). By A. N. JOHNSON, is out of sight ahead of any others in teaching beginners on Reed Organ, both secular and sacred music, Sunday School, Temperance, Gospel and Hymn music. All teachers take to it at once.

3 **CHOIRS AND SINGING CLASSES** WILL not forget our three superior books: **Voice of Worship** (\$1.00), by L. O. EMERSON; **Temple**, (1.00), by W. O. PERKINS, and **Method for Singing Classes**, (60 cts), by A. N. JOHNSON.

3 **CHOIRS** will find no better Anthem Books than our new—**AMERICAN ANTHEM BOOK**, (\$1.25), by Johnson, Tenney and Abbey, or **EMERSON'S ANTHEM BOOK**, (\$1.25), by L. O. Emerson, or **ANTHEM HARP**, (\$1.25), by W. O. Perkins.

3 **TEMPERANCE PEOPLE** will be sure to use **TEMPERANCE JEWELS**, (35 cts.), by Tenney & Hoffman; or **TEMPERANCE LIGHT**, (12 cts.), by Hugg & Servoss; or **HULL'S TEMPERANCE GLEE BOOK**, (40 cts).

Specimen copies of any book mailed for above prices.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co. 843 Broadway, N. Y.

MAST, FOOS & CO.

SPRINGFIELD, O.
MANUFACTURERS OF THE



FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

ADJUSTABLE

SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERRICKSON,
Clayton, Contra Costa County, Cal.

SEED GRAIN.

AUSTRALIAN WHEAT.

500 Bags Australian Seed Wheat. "Purple Straw and White Jammas."

NEW ZEALAND OATS.

580 Bags New Zealand Oats. White Tartarian and Canadian.

The above Grain has been selected with great care from the best Varieties and all re-cleaned previous to shipment; is just landed ex-Steamer City of Sydney, and will be sold in lots to suit purchaser. Apply to WATERMAN & CO., 113 Clay Street, or S. L. JONES & CO., 207 and 209 California Street, San Francisco, Cal.

TRADE



MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.00 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

To Fish Raisers.

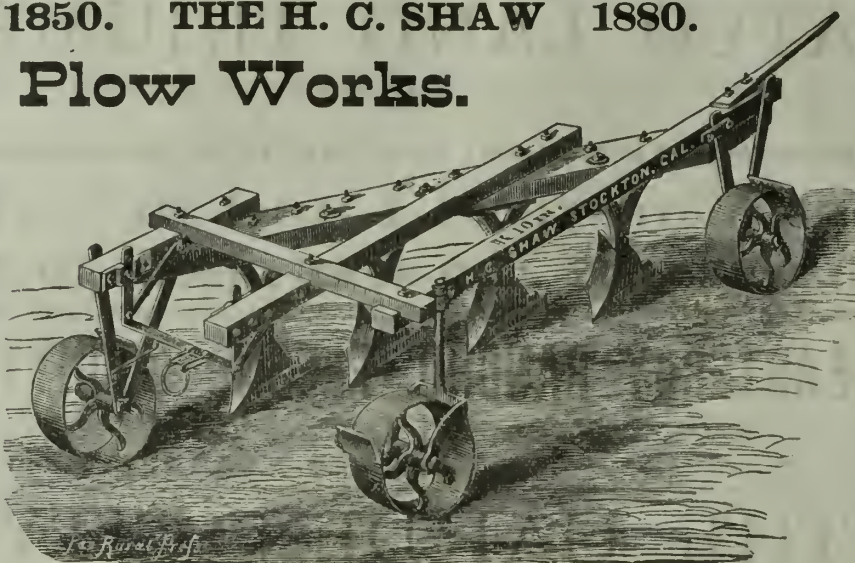
I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

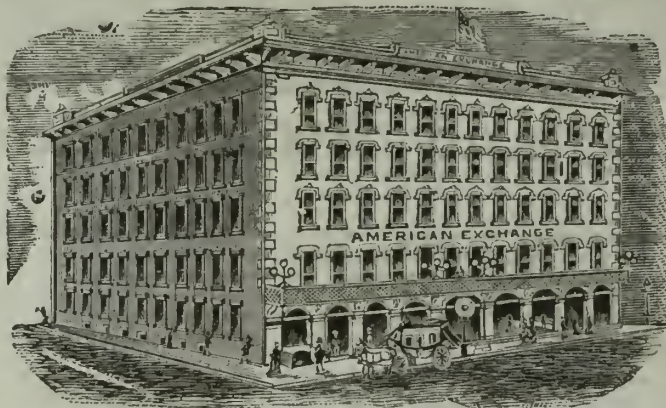
Caloon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags.

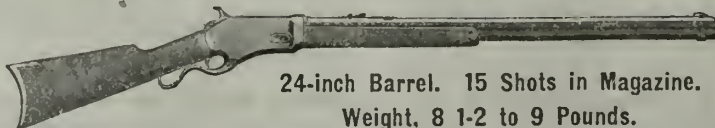
Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apilary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, postpaid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT

FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street, Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion of Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '83 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

RUHL'S PATENT LIFT AND SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principal houses in San Francisco.

JOS. HANSEL, Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for Sale at the Lowest Rates, and guaranteed to give satisfaction. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on hand of my own make, the Latest Improved Harrows and my Patent Buck Board and Breaking Cart. Carriage Painting and Trimming Neatly Done. HUNTER STREET, STOCKTON, CAL. Adjoining the Baptist Church.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

Adams' Patent Pillow Sham Holder

Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. G. W. WAGGONER, 408 Tenth St., Oakland, Cal., General Agent for Pacific Coast.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating
WINDMILLS,
Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babbitted boxes. Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or hells to get out of order, as such things do. Mills in use six to nine years in good order new, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information.

HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE,
ALAMEDA CO., CAL. Also, Best Feed Mills for sale.
San Francisco Agency, LINFORTH, RICE
& CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.
This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.
Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpener. In Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by
THOS. POWELL, Stockton, Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.



Windmills!
HORSE POWERS!
TANKS AND PUMPS
Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.
F. W. KROGH & CO
(Successors to W. I. TUSTIN.)



A. W. LOCKHART,
N. W. Cor. 11th and J Sts, Sacramento, Cal.
Sole Manufacturer and Proprietor of
Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequalled by any other Feeder in use. Call and examine before purchasing elsewhere.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST.
For two months, August and September, will sell eggs at \$2.50, for setting.
C. E. NAYLOR,
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

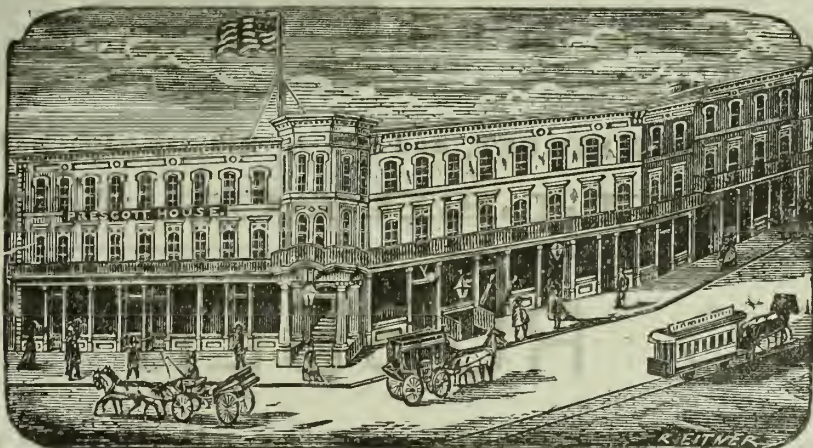
The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.
ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.
W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

CEO. F. SILVESTER,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

Hedge Shears, Pruning and Budding Knives, Green House Syringes, Etc.

Seed Warehouse, 317 Washington St., San Francisco.

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct. 50 Elegant, All New, Chromo & Scroll Cards, no 2 alike Name nicely printed, 10c. Card Mills, Northford, Ct.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,
TOGETHER WITH
2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres Irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian. On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,
Merced County, Cal

SPORTSMEN'S HEADQUARTERS.



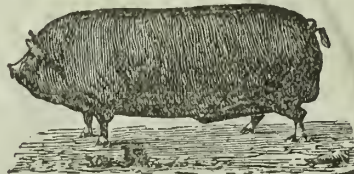
ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price cannot be excelled, if equalled, on the Pacific Coast. Also, Importers of Gun material, Breech loading Implements, Ammunition, Fencing Folds, Boxing Gloves Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks. Card's Rotating Glass Ball Traps and Glass Balls.

BERKSHIRES A SPECIALTY.



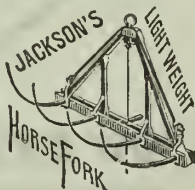
My Berkshires are Thoroughbred, and selected with great care from the best stock of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,
18th and A Streets, Sacramento City, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address
BYRON JACKSON, Prop'r.



DO

NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address,
MONTGOMERY WARD & CO.,
227 & 229 Wabash Ave., Chicago, Ill.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wheats. Apply to
A. SCHULLER,
209 Sansome St., S. F.

A. AITKEN.

F. N. FISH.

AITKEN & FISH,

Premium Pioneer Marble Works,
617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.

A KEY THAT WILL WIN ANY WATCH AND NOT WEAR OUT.
by Watchmakers. By mail, 30 cts. Circulars SOLD FREE. J. S. BIRCH & CO., 38 Dey St., N.Y.

50 All Gold, Chromo and Lithograph Cards, (No 2 alike,) Name on, 10c. Clinton Bros., Clintonville, Con.

PIONEER WHITE LEAD.

Home Manufacture!

Superior in COLOR, BODY, FINENESS and DURABILITY to any Imported Brands.

FRESH AND EASILY WORKED—NO SKINS OR OLD DRIED LEAD.

PURITY GUARANTEED.

Patronize Home Industry, Secure the Best Quality at the Lowest Price.

WORKS—239 & 231 FREMONT STREET, and 228 to 238 BEALE STREET, San Francisco.

WHITTIER, FULLER & CO., Manufacturers.



PACIFIC RUBBER PAINT.

Applicable to all Kinds of Work.

Prepared in any Shade or Color.

Best Mixed Paint in the World.

WE EXCEPT NONE.

READY FOR USE—JUST THE THING FOR FARMERS.

BEWARE OF COUNTERFEITS.

See that Our Trade Mark is on Each Package. Take no Other.

Send for Sample Card and Circulars.

Works—228 & 230 Beale st. Office S. W. cor. Pine & Front Sts.

WHITTIER, FULLER & CO., Manufacturers.

COAL OILS. COAL OILS. COAL OILS.

“Star,” 150 Degrees Fire Test.

THE HIGHEST GRADE OF COAL OIL IN THE MARKET: PERFECTLY SAFE AND MANUFACTURED EXPRESSLY FOR FAMILY USE.

“I X L” 150 Degrees Fire Test.—THE NEXT BEST BRAND.

ASK YOUR STORE KEEPER FOR THEM,

And Secure the Best and Safest Light.

WHITTIER, FULLER & CO., - - - - - SOLE IMPORTERS

SAN FRANCISCO, SACRAMENTO and OAKLAND.



PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, NOVEMBER 6, 1880.

Number 19

The Scenery of the Columbia River.

There will soon be published by the Continent Stereoscopic Co., of New York, an illustrated work descriptive of the upper Pacific coast, [entitled "Picturesque Northwest," by E. Conklin, of the Frank Leslie publishing house. It is pronounced by a New York critic, who has seen the advance sheets, to be "a superb volume." By the courtesy of the author we are enabled to give our readers a glimpse at a few scenes which the book will present, choosing for this page La Tourelle falls on the Columbia river, and in connection therewith we shall quote from an advance sheet the authors' comments upon these falls and the scenery leading thereto. "The Columbia river drains over 400,000 superficial square miles in its course. It rises in the Rocky mountains, in British America, just north of the United States line. It takes a due southerly course and holds this general course south, traversing the eastern half of Washington Territory until it reaches Oregon. It then turns directly westward, forming the boundary line between Washington Territory on the north and Oregon on the south. Near the point where it first touches Oregon, it connects with the Snake river from the east. The Snake, a large and navigable stream, rises far to the south in Idaho, comes north to a point a short distance north of the northern boundary of Oregon, and then turns east to join its waters with the Columbia in its grand march to the sea. A sail up the river is a continuous revel among nature's most charming diversions of foliage, hill-creeping forests; level, verdant plains, stretching back on each side of you, and little heads and islands which lend the finishing enchantment to the whole.

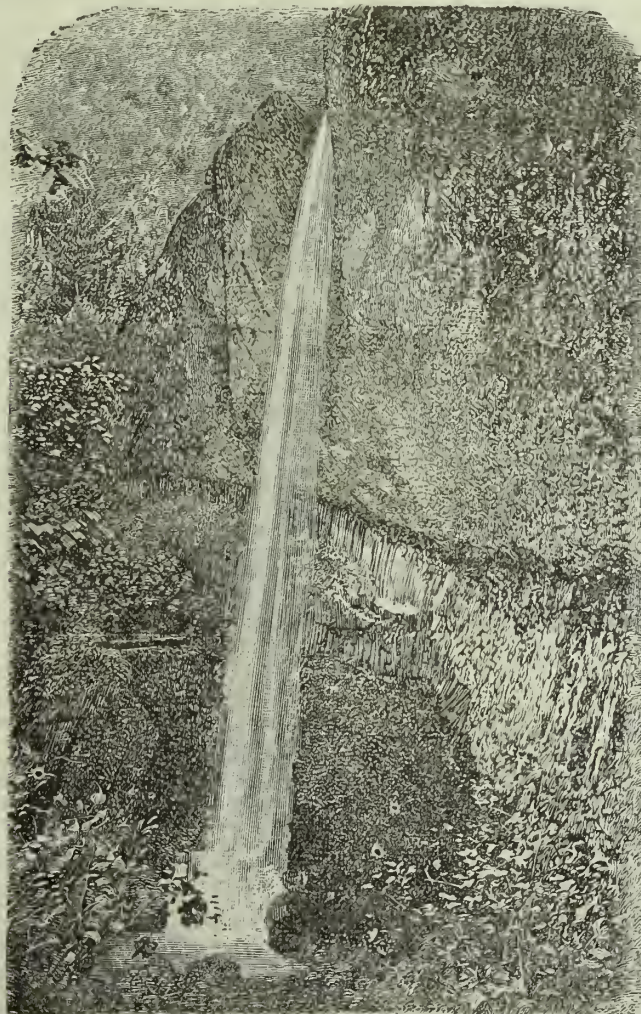
"At the end of 125 miles, having passed the mouth of the Willamette river, you enter the region of the great cascades of the Columbia, and what is known as the 'Cascade Route.' This is a section which justly claims a place among the natural wonders and phenomena of the United States, and what is laid openly and holdly before you, on each side of the river, warrants this assertion. Being comparatively unexplored, little is known of this section but what is conspicuously laid open to the sight in the trip on the river; but the sturdy pioneer, in search of agricultural pursuits has, even at this present writing, found ample to award him, and settlements can now be seen in many cases, occupying the very brink of the river.

"The Cascade trip comprises a distance of 60 miles; and the upper portion—or the last five miles—is the portion where the waters of the mighty Columbia forces its way through the Cascade mountains. Roaring and surging, with immense walls and mountains, 3,500 ft. high, on either side, to assert that this is one of America's premium sights, and makes the traveler feel there is yet more in this country of ours than was 'ever dreamed of.' Huge mountains from 1,000 to 3,500 ft. high fret the surrounding country to the very water's edge and ever find their way beneath this current in such promiscuous and ponderous masses as to throw the boats out of recognition of their courses.

"One of the first points of interest is, that known as Cape Horn, a peculiar formation of concrete and sandstone rock rising perpendicularly from the water's edge to a height of 250 ft., and extending along the river for one-half a mile. The formation resembles large posts, pillars and cones cemented together to form some immense wall or barricade. The river boats, in their passage, run within stone's throw of it, and one gets his first sense of inspiration of the region he is now passing through. Following for a distance of eight miles is a region where the nymphs seem to have resorted; in their greatest ecstasy, to fulfill the delights of their wanton spirits. It would be hard to say how many water-falls there are in this limit. The La Tourelle fall is one of the grandest on the river, and to those who will stop at the La Tourelle Mountain House, and visit the fall, there will be at least one lasting reminiscence of a successful tourist. The falls are about 400 ft. high. Coming from an overhanging wall

projecting from the land a distance of about 50 ft., the water is thrown in rain-how style, far out from the main land; and coming through mid air with great force, dashes itself to pieces in a basin carved from the rocks by its own power, and ornamented with wild flowers and vines in gorgeous profusion. Behind the falls there is a distance to the main land of about 80 ft. This is ample room for a drive-way between the fall and the hack wall. You look out upon a broad open vacuum and up to a spotless azure sky; and between you and infinity there comes dashing down, in appearance, one colossal water column from heaven".

THE PREVALENCE OF THE PHYLLOXERA.—We have received a note from W. R. Olden, of Anaheim, taking exception to a statement in J. H. Wheeler's letter in last week's PRESS,



LA TOURELLE FALLS ON THE COLUMBIA RIVER.

that "the phylloxera has been found in most parts of the State." The spread of the insect is far wider than was suspected. How far it has extended will be shown by the report of the Viticultural Commission, which we understand will be published in a few weeks. There are, however, districts which are thus far exempt, and Mr. Olden is doubtless right when he writes: "The insect is not found in Los Angeles county, and owing to the deserts that intervene cannot get there until it is imported by some foolish person on infected cuttings." There are also other counties in California which are also thus far exempt, and these were in the mind of the writer when he said *most* parts instead of *all* parts of the State. As we said before, the report of the Viticultural Commission will state where the insect was found the present season. We note by French journals that the inroads of the phylloxera are on the increase in the department of Savoy. At the close of 1879 there were 68 points attacked, extending over 65 acres; but the disease has now appeared in 175 fresh places.

THE QUEEN BUYS AN AMERICAN MACHINE.—Those readers who know how much English merchants and mechanics set store by the right to announce themselves as merchants or manufacturers "to Her Majesty," it becomes a matter of much interest to know that an American manufacturer has gained the right to place the Queen's arms over his door. We learn from Scotch papers that at a trial of self-binding reapers at Aberdeen, September 16th, the Queen was present, and was so well pleased with the working of Woods' string-binding reaper that she ordered one for her farm at Abergeldie, to be delivered for the harvest of 1881. The Aberdeen Free Press of September 17th, says: "In the course of the afternoon, and while the machine was at work, Her Majesty, accompanied by Princess Beatrice and

Do They Want Fresh Meat in Asia?

An East India journal announces that the successful result of the attempt to carry fresh meat from Australia to London, has led to the adoption of immediate steps for opening up in India another market for the Australian beef and mutton; and a shipment of frozen meat is in course of being dispatched from Sydney to Madras. The distance between these points is only one-fourth of that between Sydney and London; and as it has been demonstrated that the meat can be safely carried during a voyage of over eight weeks' duration, there is little doubt that it can be conveyed without difficulty in a perfectly fresh state during a voyage of little more than a fortnight. If the experiment succeeds in the case of Madras, our East India contemporary thinks the trade must ultimately be extended to Calcutta and other parts of India, and probably even to China.

It would be interesting to know how much of a market can be found for fresh meat in China; for if there is demand enough to warrant it the large steamers sailing from this port to China could easily prepare cold chambers and fill them with Pacific coast meats. The amount of fine beef and mutton which could be produced upon this coast is practically unlimited, and the chance for a profitable outlet would stimulate the business to a wonderful extent. As it now is the price of fine beef in this city is amazingly low. No large city of which we have any knowledge enjoys such a cheap supply of flesh food. The price is so low that stall feeding yields no profit. The cheaply fattened cattle from Nevada and other hack districts supply the demand, and there is, consequently, no field for stall feeding as there is in most parts of the world.

It is easy to picture the effect upon our agriculture of a rise in the price of fine meat; the feeding of cattle would create a call for the immense amount of feeding-grains and fodders which can be grown here, and which are now so low in price that the production is unprofitable. It would make straw a desirable commodity, and would result in the transformation of what is now bon-fire material into desirable manure. This would reclaim our worn soils and give them a perpetual lease of fertility. The increase of the stock feeding would diversify our agriculture, and greatly increase our resources. In short, we could fill columns with an outline of what the benefits could be if exports raised the price of meats, but it would be waste time until some one can show that such an export can be carried on. Who can tell whether they want meat in Asia or not?

AN AFRICAN "GRAPE" VINE.—The French are scouring the corners of the globe in the hope of bringing to light something in the form of a grape vine which will withstand the phylloxera. They have been growing wild American vines, wild Mexican vines—in fact wild vines from nearly every where in the hope that native wildness may be found some where with such vigor that the insects which lay low their fine cultivated grapes may be powerless against it. The latest report of a discovery of this character comes from the French explorer, M. Lacart, who is at present on the banks of the Niger, writes home from "Koumdian (Gangaran), July 25th," that he has discovered a new vine which promises to be of great economical value. He says the fruit of the vine is excellent and abundant, its cultivation very easy, its roots tuberose and perennial, while its branches are annual. It can be cultivated as easily as the dahlia. He himself had been eating the large "grapes" of the vine for eight days, and found them excellent, and he suggests that its culture ought to be attempted in all vine-growing countries, as a possible remedy against the phylloxera. He is sending home seeds for experiment, both in France and Algeria, and will bring home specimens of the plant at all stages. This announcement comes direct from Paris, and must have some basis to it. Accepting it, therefore, until we know better, it must be acknowledged to be a flank movement on the phylloxera, for if we can grow grapes on what is not a grape vine there seems nothing left for the pest to do but to step out of the controversy.

AMERICAN hams are sent to England, recovered, branded with new names and sold as English meat.



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

Tulare County Notes.

Syrup, Sugar, Cotton, Jute and Cat-Fish.

EDITORS PRESS:—As more and more of the naturally dry plains of San Joaquin valley and other parts of California have been supplied with canals and ditches for irrigation, the RURAL and its contributors have been calling attention, as occasion required, to the opportunity offered, by increased moisture of irrigated soil through the summer months, to increase the variety of our vegetable products.

The well irrigated lands of Kern, Tulare and Fresno counties have offered advantages never before possessed to test the growth and yield of various plants noted in the manufactures and commerce of the world.

On lands of the Mussel Slough country, irrigated by five main ditches from King's river and two from Cross creek, which have long since been described in the PRESS, several such plants have lately been tried with a view to increasing our agricultural productions. This year

Sorghum, Cotton and Jute

Have all been tested on lands near Hanford—the two former on a large scale, the latter to a smaller extent. The sorghum here referred to is not the species known as the Egyptian corn which has been so successfully raised for some years on most of our irrigated lands, but the three species known as Lybian, Amber and Imphoe canes, which are useful as feed for stock, but are especially employed for the manufacture of syrup and sugar. The Lybian or African cane has grown most luxuriantly here on the places of Mr. T. G. Thornton and Mr. O. H. Foster. Mr. Thornton's was planted from the seed in April, and has matured its round black seed already. Mr. Foster's was not planted till June, and has not yet gone to seed. The growth already attained here is about 10 ft. high and some 2 inches through at the ground. Except that the joints are very short, the general appearance of this sorghum is very similar to the true sugar cane of the West Indies, Louisiana, Mexico and the Sandwich islands—*Saccharum officinarum*.

For Making Syrup and Sugar

Here this African species has not yet been tried, but the Amber and Imphoe have both been thoroughly tested for the last two years and this; and of the two, the Amber proves to be best. Several farmers south of Hanford made syrup from both kinds in the summer of 1878. Last year Mr. O. Paddock made as much as 275 gallons of syrup per acre from the Amber, and Mr. P. Clough about 300 per acre, making altogether about 1,200 gallons from the cane on four acres. This year the latter has now, ripe enough for use, about three acres of Amber cane, while another rancher, Mr. John Starkweather, has 10 acres.

Your correspondent lately examined Mr. Clough's process of syrup making. He uses the Victor mill and Cook's evaporator. His Amber Cane

Is a sight worth seeing. It is from 10 to 14 ft. high, from an inch to an inch and a half through at the ground, and sends up from 10 to 20 such stems from each root. He finds it easy to raise two such crops a year. First, the seeds are planted early in April. By the end of June the cane is ready to cut. Two or three days before cutting the leaves are stripped from the cane. This makes excellent fodder for stock. To make syrup the cane should be cut while the seed is in the dough. For sugar making the cane should be older. Soon after the cane is cut a volunteer crop springs up from the roots and seed. The cane from this is ready for use during the first half of October. One man, with the aid of three or four boys, can make from Twenty-five to Thirty Gallons of Syrup Per Day.

So that it requires about 10 days to work up the product of each acre with the force named. Last year the syrup sold here for 80 cents a gallon. It is unexpectedly proving that the presence of considerable alkali in this soil is an advantage in the production of this syrup. In the older States lime or soda must be added to the syrup, when boiling, to cause the scum to rise and to remove the acidity which has always given more or less trouble in the manufacture of syrup or sugar from sorghum juice. Here, without the addition of any such alkali, the syrup is certainly very rich and free from acidity. When this syrup stands but a short time in barrels or other vessels, it tends to granulate rapidly. Hence, Mr. Clough is confident that he can easily make coarse sugar from this syrup by adding the requisite amount of lime. He proposes to make such sugar this fall, and will send some of it, with some syrup, to San Francisco to have them purified by the usual processes for other crude sugars and syrups.

A Few Rows of Cotton,

Planted near Hanford last April by Mr. James A. Hill from seed furnished by Major Strong, prove that cotton will do quite as well here as it did six and seven years ago near Centerville, in Fresno county. Of several kinds planted,

insects destroyed all the young plants but those of the Matagorda variety. The plants of this kind, without any water in the ditches even for seepage, after August 1st, and with very little attention of any kind, are now about three ft. high, and their numerous bolls are already opening and exposing an excellent quality of cotton, the staple of which is very white, fine, long and strong. This experiment only confirms what has long since been fully established, that cotton can be produced as well on the irrigated lands of San Joaquin and Tulare valleys as anywhere else. But we must bear in mind another fact quite as fully established—that until we have our own

Cotton Factories in California

It will never pay our farmers to raise more than about the 250,000 lbs. that are used by our woolen mills in some of their cloths. The jute grown about two miles south of Hanford has done quite as well as that lately reported on as produced on one of the Carr and Haggin ranches, near Bakersfield. Major J. L. Strong, who has interested himself considerably on experiments with cotton, rice, sugar cane, etc., in this valley, furnished the jute seed to Mr. L. C. Hawley. The latter planted them last April along a small distributing ditch on his ranch. The plants, some 200 in number, now vary in height from three to six ft. and more. They are thickly covered with seed pods that are rapidly maturing. In appearance and leaves the plant is like a small willow. It bears a small yellow flower. Botanically, this valuable plant, from the fiber of which is made

The Material for Our Grain Bags—

That is, burlaps, and the gunny from which many coarser sacks are made—is a *Corchorus*. While at least seven species are known as natives of the Indies, Arabia and South America, the two noted ones, from which are made not only the above materials, but other coarse cloth and ropes, and a linen known as *tal*, are *C. olitorius* and *C. capsularis*. The former comes from India, the latter from the East Indian islands. In ancient times the Greeks, and in later times the Jews, around Aleppo, in northern Syria, had used the leaves of the first-named species as a pot herb to boil with meat. It is now clearly proved that jute can be grown with the greatest success on irrigated lands in this valley. All that remains to be proved is: Can it be handled profitably here? It is worth recording, also, that the celebrated

Linden or Lime Tree,

Or bass wood (*Tilia rubra*, *T. alba*, etc.), from the inner bark of which coarse mats and ropes are made in Wales and in northern Europe, is closely allied botanically with jute. It will certainly grow well by irrigation in most of California, and no more beautiful or useful shade tree can be recommended to our people. Botanists describe at least eight species of this fine tree, of which four are natives of Great Britain, one of Hungary and four of North America.

Many of your readers will be pleased to hear of evidences that the

Cat-Fish

Placed by the State Fish Commissioners in Tulare, Buena Vista and Kern lakes, are increasing finely. Large numbers of young cat-fish came this spring down the "Lake Side ditch," having evidently gone from Tulare lake, in high water, up Cross creek, which supplies the Lake Side and Settlers ditches with water. Considerable numbers of cat-fish were also caught in Kern river the past summer, evidently derived from the same source. The Commissioners have done California no small service by introducing this fine fish into her lakes and rivers.

J. W. A. W.

Hanford, October 23d.

Los Angeles Fair—At the Park.

EDITORS PRESS:—Your talented and tireless correspondent from Pasadena has so faithfully noticed the varied products of field and garden, vineyard and orchard shown at the Horticultural pavilion, that no one else need ask your readers to survey that ground again. But they should also visit the Agricultural park, three or four miles westward; and although the trip to the live stock is nearly as long here as it was last month at San Bernardino, the tediousness is lessened by the excellence of the roads and the beauty of the many improved places that we pass; and besides, there are horse cars from the foot of Temple street hill (the site of the pavilion) to the center of interest in the park, so that people can easily go thither and return without saddle-horse or vehicle of their own.

The ample grounds of the Sixth District Association are girt about with tall blue gums, and the long straight avenue from the entrance to the building is skirted by several rows of the same and pepper trees, which latter thicken into quite a grove to the left and in the rear of the neat two-story club house. Beneath their shade were pitched 10 or 12 tents—the week's abode of campers. It was a happy thought of the Board to offer parties from a distance such free accommodations inside the park, where good water for man and beast is convenient, together with a premium of \$10 for the best arranged and furnished tent of fair visitors. They—the management—seek to establish the

pleasant and economical custom of "tenting to the fair in genial, rainless October."

Good was it, also, to have that avenue so thickly spread with straw, which kept the many wheels from sinking deep in sand, and prevented much dust from rising.

The Cattle.

Among the cattle, Coleman Younger's herd of Durhams, 19 head, appeared to draw most notice. These notable prize-winners at Oakland, Sacramento and elsewhere are so famous that it need only be said they were here from San Jose—transported by rail at unknown cost of coin and care. "The finest cow in America!" says young Younger, proudly confident, as he leads out the four-year-old mother of three calves; and we hear him telling that the grandmother of "first Golden Gate" had to be milked thrice a day, and gave from 9 to 12 gallons. Anderson Rose's Durham bull, "Ballona Chief," 7 years old, now girths 7 ft. 7 inches. When fat a year ago, he was 7 inches larger and weighed 2,300 lbs. He was bred by John W. Prewitt, of Clarke Co., Kentucky, and named by pedigree "King of Denmark." F. J. Barretto, of Downey, showed 13 head of Jerseys. His herd—though not away from home before during the present season—has been well known in previous years, and taken plenty of premiums at agricultural fairs. The sole entries of graded cattle were W. M. Williams' two heifers—one a two-year old, seven-eighths Short Horn, by A. Rose's "Ballona Chief" aforesaid; the other a Devon and Short Horn yearling.

The Horses.

Three draft horses were entered. The first premium went to J. D. Patterson, of Hueneme, for his six-year-old stallion, "Napoleon," 3 Norman and 1 English Draft, sired by imported "Napoleon Third," mother by imported "Roland." This magnificent—I had almost said awful—but gentle monster, is a dark dappled gray, 18 hands high, measuring 27 inches around the front arm and weighing 1,850 lbs. He was brought into the State only last May, and this is his first appearance at a California fair. In Illinois he took first premiums every year, from the time he was a sucking colt; and also at St. Louis in '79. J. R. Simmons imported Norman-Percheron "Wide-awake," a lighter dappled gray stallion, seven years old, came next; and the two-year-olds were represented by Thos. Parsons' "Thunder," (by "Chieftain," dam, by "Lummix"). W. K. Robinson, of Santa Ana, was on hand with a numerous stud of beautiful animals, chief among which was Hambletonian "Odd Fellow," a splendid mahogany bay which passed at Sacramento last year as the best three-year-old roadster stallion in the State. (He was sired by "Echo," dam, by Fisher's "Comet.") There were four of his colts with him, bay or brown, and his full brother, "Patriarch," one year older, making, with "Odd Fellow," a superbly matched carriage span. The walking span of "McClellans"—dark sorrels, 16½ hands and weighing about 1,200 lbs. each—were also Mr. Robinson's. However one may disapprove the races, he cannot fail to admire such a racer as Lucky Baldwin's "Mollie McCarthy." In charge of her groom, at Saturday's stock parade, she appeared to me the paragon of horses. Seven years old, they say, and has gone a mile inside of 102 seconds. Symmetrical, sensitive, intelligent, lithe of limb, sleek of coat, fine of feature, with healthful life, intense in every fiber, I doubt if the glorious creature ever had her peer among the famed Thessalian mares of old.

Sheep and Swine.

French Merino sheep were entered by C. Garnier and Germain Gremone. The exhibit of the former comprised three rams, eight three-year-old ewes and 15 lambs; in all, 26 head. Their fine, thick wool, which had been growing since April, made the rams' eyes almost invisible and half buried their horns. The largest, Mr. Garnier assured me, sheared 55 lbs. Blanketed with gunny sacks, and having stout leather pads hung over the forehead to break the force of casual butting, they are very queer looking objects.

The exhibitors of swine were more numerous. F. J. Barretto had two thoroughbred Berkshires, and Wm. Niles a dozen dish-faced, including the four and one-half years old "Prince Consort," "Victoria" and "Queen," imported from the Prince Consort's Show Farm, Windsor, England; W. M. Williams, of Los Angeles, the huge Poland-China boar "Vinton Duke;" T. C. Starr, of San Bernardino, two pens of Poland-Chinas—nine head, all told; S. Washburn, of Pasadena, one half-faced Berkshire boar and four Magie Poland-China pigs. There were entries, too, by three other persons.

Poultry.

In the poultry line, T. C. Starr, of San Bernardino, showed two fine trios, one of old and one of young Black Cochins; and Gen. Shield's son Aleck, four coops, of which the Rouen ducks and the Bronze Turkeys were most noticeable. All the other coops, numbering a score, were Wm. Niles', and considered choice. They included pairs of Black-Breasted Red Game, Leghorns (both Brown and White), Houdans, Langshans, Brahmas, Buff, White and Partridge Cochins, Plymouth Rocks and Black Spanish (white-faced variety), beside Guinea fowls, Aylesbury and Pekin ducks and Emden geese.

The Riding.

Two ladies only rode into the speed ring Thursday afternoon to display their skill as equestriennes. Miss Flora Wood, from the Rincon—the same to whom we would have

awarded that San Bernardino saddle—cleaving to her horse like a centaur, was adjudged the most graceful and accomplished.

N. E. Boyd.

Los Angeles, Oct. 2d.

The Los Angeles Horticultural Fair.—No. 2.

EDITORS PRESS:—The second day of the fair brought important additions to the display from San Diego, Santa Barbara and Ventura county, and on Wednesday the scene presented from the galleries was truly a magnificent one. Around the central fountain, filled with carp from Mr. Pettit's ponds in San Bernardino county, were grouped rare exotics, and in the near vicinity rose an octagonal structure some 10 ft. in height, whereon the deciduous fruits of Pasadena were arranged in solid ranks, tier above tier; apples, pears, peaches, pomegranates, amid Eschol-clusters of amber and purple grapes, the whole surmounted by a silver vase filled with magnificent roses. Two immense tables contained the "annex" in the form of dried, jellied and preserved fruits, figs, nuts, guavas, oranges, lemons and limes; the floor space underneath being filled with cereals and other non-irrigated products of what was San Pasquale sheep ranch only five years ago. This collection took the premium of \$25 for the best collective exhibit from one locality. Mr. Hixon, of the firm of Hixon, Justi & Co. of San Francisco, offers to pay the expense of transporting, the apples and pears to that city, and exhibiting them, in order that others may see what the southern counties can do in this line.

Should this be done, the apples from Mr. Higgins' and the Kimball's orchards in San Diego, Elwood Cooper's noble "Gillyflowers," and the fine collection of 42 varieties of seedling apples from O. N. Cadwell, of Carpinteria, should accompany them.

The San Diego contributions were by far the most tastefully displayed, and astonished everyone by their range and excellence.

Mrs. Fleming, of Paradise Valley, showed 37 varieties of jellies, including jelly of the "tuni," or small purple prickly pear, which was exhibited among the other fruits, facetiously labelled, "the chief product of San Diego Co." This, however, was pronounced a libel by all who saw the superb plates of oranges, lemons and limes, the royal pears grown in the Sweet-water district, and also upon the National ranch. Mr. Higgins' "King of Tompkins' Co." was the handsomest apple shown. There were very fine "Blue Pearmains" also.

The exhibit of White Peerless potatoes from the Don Juan Foster ranch was much praised. So was the display of oranges, scarce at this season. Mrs. Brewster showed seven plates, and others a smaller number, with guavas, Japanese persimmons, and rare new fruits. The display of preserved fruits, in jars, exhibited by the Kimball ladies, was the finest in the fair. The olives attracted all interested in that culture, and no one act of the managers has given greater satisfaction than the conferring of a silver medal for the San Diego exhibit. The brothers and sisters Kimball, Mr. Asher, Mr. Higgins, and other citizens were warmly congratulated on the brightening prospects of their county, financially and industrially.

There was a great crowd for the last two days round the Santa Barbara corner, tasting, testing, and with one accord praising the canned fruits presented by the new establishment of Dimmick & Sheffield. Oil of the purest amber color, and butter as delicate as clover blossoms, from Elwood Cooper, golden branches of persimmons, almonds and walnuts, with fine quinces and pears from Col. Hollister, more very promising seedling pears from Mr. Cadwell, who sends the Hoover apple, are among the more noticeable exhibits. J. Sullivan sent very fine pears, and E. J. Knapp the best prunes that I have ever seen of American manufacture. A good many of us thought we had dried prunes until we compared them with Mr. Knapp's.

The largest and finest chestnuts were from Mr. Childs', of Los Angeles; though there were also very fine specimens from Pasadena. The largest oranges came from Mr. Lyons, of Tustin City; but those sent by Mrs. B. D. Wilson and J. De Barth Shorb, of San Gabriel, and Mr. Crauk, of Pasadena, were scarcely inferior. From the orchard of J. A. Days, of Ventura county, came the best dried apricots. I saw no raisins except one lot exhibited by Mr. Lanterman, of La Canada rancho.

The exhibits from Florence, Santa Ana and Tustin were worthy of all praise. R. Ranney, of Florence, showed the Burbank seedling potato. B. W. Mower and others, superb apples "not irrigated." Mr. Wilcox's Lisbon and Genoa lemons deserve honorable mention. I should like to enlarge more upon individual contributions. Mr. Hollenbeck, of the Commercial bank, sent a patriarchal Mission vine 104 years old, loaded with clusters. H. Groepper, of Santa Ana, sent an extraordinary show of grapes, including Barbarossa, Charbonneau and the Black Cornish. Of walnuts there was no end; Dr. Truesdale's, of Orange, were the largest and finest shown.

The multitude of placards announcing non-irrigated products was a conclusive argument in favor of the new treatment of deciduous fruit.

Messrs. Weingarth and Stengel, the principal florists of Los Angeles, contributed much to the effect of the stage and of Ceres court with

hanks of greenhouse plants, fine baskets and ornamental pieces. During the President's speech, I saw Mrs. Hayes' comely face intently gazing upon this mass of tropic leafage and bloom, and while Gen. Sherman bore off a mammoth quince for a trophy, Mrs. Hayes' escort was burdened with more graceful gifts from those displays. It was said that the Presidential party lingered unduly in the gallery where the incubator and artificial mother, and the blessed bees performed for their amusement. Their visit was all too hurried to give them any adequate idea of the resources of this section. They flew through Pasadena and took cars at San Gabriel; too late to see the sunset shadows of Mount San Bernardino; out of the desert into the desert at steaming speed! They were seen of thousands, for a moment, and our mountains and valleys remain to us for ever.

One fair is very like another, but this has been exceptionally delightful, well managed and successful. If, as it is rumored, the Horticultural Society, now out of debt, and praised in all the gates, is sought in marriage by the Agricultural, we can only advise that the settlements be drawn with care, otherwise the fast horses will run away with the fruit interest. Legitimate agriculture and horticulture no longer need extraneous aids to create an interest in occasions for a fair comparison of their work.

JEANNE C. CARR.

Pasadena, Los Angeles Co., Oct. 23, 1880.

[We have received from George Harter, of Downey, Los Angeles county, a box of the premium apples exhibited by him, and we pronounce them magnificent specimens for size, appearance and internal evidence. The production of such apples fully justifies the claims made by Los Angeles county for its adaptation to the growth of temperate-zone as well as semi-tropical fruits.—EDS. PRESS.]

POULTRY YARD.

Notes on Management.

EDITORS PRESS:—What can we do to make poultry keeping more profitable, pleasant and popular? is a question often asked. Will it pay? is a vital question. That some do make it pay is an assured fact if we take the statistics of many careful breeders, who show a profit of \$1 and over for each hen kept. And, if some, why not all? For the same reason that all farmers do not meet with success, or that all merchants or mechanics do not make it pay. Success comes with right management, and that management is a good deal in knowing how to utilize many small profits and avoiding the chances of small wastes. If farmers would give their poultry one-half the care bestowed on other stock they would soon realize that poultry does pay. With most of them poultry is incidental. One instance I have in my mind now, of a large farm, where the wife raised a good deal of poultry. I questioned the husband as to the profits of poultry, and his answer was: "Well, generally when we have good crops I don't pay much attention to it—wife does that—but, in years of drouth, I find that \$200 or \$300, for poultry sold, helps out a good deal."

Keep their departments clean and the fowls free from vermin. You would not expect a horse or cow to be profitable if vermin-stricken, then why fowls? Keep your can and brush handy and go over the roosts and coops every week or two with kerosene and you will be repaid. Have a general oversight yourself.

This need not apply to farmers only, but to anyone—man, woman or child—who has even a small enclosure, where a few fowls may be kept. There will be waste enough from the table of even small families to nearly keep one dozen fowls. It is always well to feed grain at night. Where quarters are limited keep five stock. The first cost is more, but you will not regret the outlay when once made. Sell an occasional trio; also eggs for setting; and be sure to keep a strict account of outlay made and eggs laid, and of fowls, and at the end of the year report to the PRESS. Some breeders assert that 50 hens in their prime are more profitable than a cow, and I am not prepared to deny it.

Where yards are already well stocked with common varieties, and breeding for market the object in view, the improvement of the stock on hand, as regards laying and other qualities, will claim the first attention. Now that the breeding season is near, kill or sell every hen over two years old, and every *stupid* looking one in the flock without regard to age. Invest in some pure-bred cocks, if eggs are the main object—Leghorn, Spanish or Poland; if size and eggs, Plymouth Rocks, Light Brahmas, Langshans, or other large breeds. After doing this once do not consider the work all done, but look after them each fall, culling out all the refuse hens and supplying fresh cocks.

Where there are many fowls kept and the object is improvement of stock on hand, select out 12 or 15 of the cream of the flock and put them in a yard with a vigorous, pure-bred cock. It is never well to have more than one cock in a breeding pen, unless there is a good range. If the 12 or 15 already selected do not furnish eggs enough for setting, have another pen managed in the same manner. All this is supposing that

everyone breeding fowls do it just as they would breeding any other kind of stock for the most that can be got out of it. L. J. WATKINS.
San Jose, Cal.

Fattening Fowls.

As the holiday season is approaching, there are many readers doubtless who have a few fowls which they would like to fatten well for home use. To such the following hints from the *Poultry Monthly* may be of value: The methods of fattening fowls vary in different countries. In India they are kept in a cool place and darkened, and fed on boiled rice once or twice a day, and in addition, about a teaspoonful of coarse sugar to each fowl for the first few days, to clean and dispose them to fatten readily.

In France and other countries of Europe, where the system of cramming by artificial means is not resorted to, boluses of barley meal, ground buckwheat and oatmeal, made into a stiff paste with milk, and sometimes with tallow drippings, is rolled, and then fed three or four times a day to the birds intended for fattening. In this country our method is different, and we recommend the best way to fatten, is to confine the fowls in limited numbers, and about the same age, in places especially fixed for them. Each place may be arranged to contain from 12 to 20, and should be warm and dry, with a raised earth floor, covered with fine gravel, and over all some clean straw. These places are intended for those poulterers who make a business of fattening for market, but are too expensive for the ordinary breeder who fattens for his own use. Now for ordinary use, coops about 24 inches square and 2 ft. high, the front lathed, will answer every purpose. These will accommodate 10 or 12 birds each, varying, of course, according to size.

It is useless to try to fatten fowls that have full liberty; they may be in good condition, but there is no excess of fat. Fowls are fattened quickest and cheapest by putting them in coops and feeding with such food as will accomplish the purpose best. Oatmeal, corn meal and barley meal alternately cooked, and mixed with milk and seasoned, will be found to be the most nutritious, and in the best form, so that their digestive mills shall find no difficulty in grinding it. The troughs or feeding boards must be constantly kept clean, and the food placed outside the coops at regular intervals, and enough at a time to be picked up clean, and when satisfied, it is better to remove the troughs, placing a little gravel within reach of the birds to assist digestion.

Darkening the coops after feeding gives the needed rest the fowls require. We all know a fowl that frets and endeavors to escape from confinement, or that sees every object of temptation and excitement about it, will not readily put on either flesh or fat during the time. Rest and contentment insure fatness, and this is best accomplished by proper food and quiet surroundings.

It is not generally understood that the food and the manner of preparing it for fowls has a great deal to do with the tenderness, flavor and delicacy of the flesh. No hard grain is as nutritious for fattening as it is in a ground or cooked form; consequently, if it is convenient, cook it, and he sure in any way to add all the milk you can spare. What a different taste a fine, nicely and quickly fattened fowl that is served on the table has, compared to one which has been forced to scratch for all its living, and then consigned to the spit in anything but a fit condition for food. Farmers realize the vast importance of fattening quickly when fattening bees for the butcher; and what holds good in that kind of meat is equally true when applied to fowls.

The chickens most likely to fatten well are those first hatched in the brood, and those with the shortest legs. Long-legged fowls, as a rule, are by far the most difficult to fatten. It is economy to fatten quickly, and to dispose of all surplus stock as early as they can be forced into good condition.

THE APIARY.

Beekeepers Meeting at Los Angeles Fair.

The Los Angeles *Herald* gives the following report of a meeting of beekeepers held in that city during the recent fair. The annual convention of beekeepers, representing the southern portion of the State, has been in session at Good Templars' Hall two days, finishing their business this morning. The society is known as the Beekeepers' District Association. In the absence of C. J. Fox, President, J. S. Harbison was called to preside until the election of officers for the year, which resulted as follows: President, J. E. Pleasants, of Los Angeles; Vice-Presidents, J. S. Harbison, San Diego; A. W. Hall, San Bernardino; J. N. Wilson, Los Angeles; Frank Flint, Santa Barbara. Secretary, Jasper Kaskell, Los Angeles; Corresponding Secretary, C. J. Fox, San Diego. Treasurer, E. F. Spence, Los Angeles.

The annual address of the outgoing President, C. J. Fox, was read by Mr. Flint. The address sets forth the progress made in the business of beekeeping, and presents an estimate of the condition of the business at this time.

In March, 1880, San Diego county had 331 beekeepers, with 15,621 stands of bees, and had in store and shipped during the year 418,700 lbs. of comb honey and 488,700 lbs. of

liquid honey in barrels and cans. It is estimated that at this time the number of stands in the county is about 25,000.

Santa Barbara had in March last 31 beekeepers and 1,757 stands of bees, and has this season produced 257,800 lbs. of honey, nearly all extracted. The number of stands is now estimated at 3,655.

Ventura county had 70 beekeepers and 4,600 stands last spring. It has since produced 700,000 lbs. of extracted honey for export, and now has 7,000 stands of bees.

San Bernardino county has produced 350,000 lbs. of extracted and 100,000 lbs. of comb honey this year, and has now 6,000 stands of bees.

The product of Los Angeles county is not given, but it is very large.

The address continues: "Our railroad freights are so high that we can scarcely ship overland in competition with Eastern producers." He favors shipments direct to Europe, and adds: "Two years ago I made direct shipments to Europe to the amount of over 150,000 lbs., and although it did not bring as good a price as I expected, yet I learned that but for this and other shipments to Europe the price in San Francisco would have fallen far lower than it did. * * More consideration of the interests of producers should be given by the railroads and other public carriers, and this can best be obtained by unity of action on our part. The through lines should be willing to guarantee through cars, for it is destructive to comb honey to have it transferred from one car to another en route, and I can see no reason why liquid honey in barrels or cases should be charged higher rates than syrups or other liquids. Some of the steamship agents refuse to take liquid honey, on the excuse that it will injure iron ships by leakage, a frivolous excuse when acids and other articles much more dangerous are transported."

A paper on floriculture, by Mr. Gilchrist, was read, the writer exhibiting a collection of honey-producing plants. Mr. Wilson read an article on the "Backward Movement in Apiculture;" Mr. Barber on "Apiculture," and Mr. Gilroy gave his ideas on various matters in connection with the interests of beekeepers. Mr. J. S. Harbison related his experience in bee culture, and gave points in the management of the apiary. Mr. Levering read a paper on the "Honey Producing Interest." Messrs. Carter & Rice made a statement that by the 1st of Jan. a bee journal will be started.

An article on "Bees and Fruit" was read by Mr. Levering; also a paper on the "Extermination of Foul Brood." The latter was referred to a committee composed of C. N. Wilson, N. Levering, L. S. Butler and the President of the Association, the object being to draft an act to be presented to the Legislature to prevent the spread of the evil. Mr. J. S. Harbison was selected to go to the capital during the next session and explain to members what legislation is required for the protection of the interests of those engaged in the production of honey.

THE STABLE.

Horse-Growing in Montana.

A correspondent of the New York *Evening Mail* announces that Montana is going into horse-breeding, and gives a forecast of probable expenses and income. He says: This business in the West is, comparatively speaking, yet in its infancy; and it is strange, for it is immensely profitable. One cannot handle personally with advantage one-half so much capital in cattle, or a sixth as much in sheep, as horses. Breeding for the general market does not require any great amount of special knowledge, and taken as a rule, a drove of horses are almost exempt from any disease, and that fact in itself should offer stirring inducements to engage in the enterprise. For location of a ranch no better place can be found than Montana. In that Territory there is no necessity for sheltering or feeding the year round, the horses finding ample living from grazing on the succulent grasses, which abound in the valleys and hollows of that section.

One gentleman engaged in the business, intimates the increase at from 78% to 80% on full grown mares each year, and after the fourth year 25% of the herd. One man can easily look after and care for 200 brood mares. During the season the cost of establishing a ranch of, say the above number, would be as follows:

200 mares at \$40 each.....	\$ 8,000
5 stallions at \$500 each.....	2,500
Ranch.....	1,200
Expense of herding.....	800
	\$12,500
At the expiration of the first year the increase may be estimated at 150 young colts, which appraised at \$30 each would show a value of \$4,500, or returning to the owner 35% on his investment. The second year he starts in with:	
200 mares at.....	\$ 8,000
150 stallions (yearlings).....	4,500
Stallions.....	2,500
Expense of herding.....	800
Ranch.....	1,200
	\$17,000

At the expiration of the second season his increase of 150 yearlings at.....\$ 4,500
Increase in value of 150 two-year-olds.....4,500

Would be, total.....\$ 9,000
Or netting to the owner 50%. At the end of the third season his expenses for herding would in-

crease perhaps one-quarter, and he might have an additional outlay of \$1,500 or \$2,000 for the purpose of increasing the number of stallions for the drove. Changing the stallions every second year for a better class would no doubt amply repay the breeder by returning to him better and more valuable colts. Montana affords choice locations where the veriest novice could embark in the raising of horses, cattle or sheep almost without limit, and with a sure promise of great reward.

That phrase of Greeley's (Go West, young man), is a greater truism to-day than when he first uttered it, and should be considered and acted on by numbers of our young men who are frittering away an aimless and objectless life in our great cities, now overcrowded.

HORSE LEATHER, it is reported, has been officially adopted as the material of which the hoots issued to sailors of the German navy are in future to be made, experiments in the use of this material for the past 18 months having been so satisfactory that calf skin is to be abandoned.

METEOROLOGICAL.

Change of Climate in the Sierras—The Cause.

Prof. Legate has just returned from a trip into the Sierras of eight days' duration. He had with him two assistants and his own vehicle for the transportation of his instruments, and camped out most of the time. The object of the professor's trip was the study of recent interesting meteorological changes in the elevated regions of the Sierras. He was led to believe that during the present season the warm belt had shifted south. Beginning at a point just north of Lake Tahoe, the snow has not melted away as in former years. There are now hanks of snow from 50 to 100 ft. in depth at points where heretofore at this season no snow has lain. Nearly the whole of this snow will remain where it now lies until the snows of winter again set in. Up toward the head waters of the North Fork of the Yuha river, where no snow is usually seen at this season, it has but little more than begun to disappear. In that place are to be seen huge hanks of snow, under which flow the waters of the stream, forming arches or natural bridges 100 ft. in height, and from 200 to 300 ft. in width.

It was for the purpose of ascertaining the cause of this remarkable change of climate that Prof. Legate went on his expedition into the mountains. Through the results obtained by observations made at many points with various delicate instruments, but principally by means of careful thermometrical tests, the professor has established the fact that there has occurred in the range of the Sierra Nevada mountains this season a grand isothermal change. He finds that the warm current of air which ever since the settlement of California by Americans—and probably ages before—has moved upward from the Pacific seaboard to the Sierra Nevada mountains and thence turned and flowed to the northward along the west side of the main ridge of the range, thus giving to all regions in that direction a warm climate, no longer moves in that direction. It now comes up from the side of the ocean and pours eastward directly across the crest of the Sierras near Lake Tahoe.

Prof. Legate has satisfied himself that this wonderful change, which is leaving all the northern parts of the Sierras buried in snow, summer and winter, is caused by the denudation of timber which the mountains have suffered through a belt beginning at Lake Tahoe and extending some 20 miles southward. Through the great gap thus left by the sweeping away of the forests now flows the warm current of air which formerly moved—with something of the circling motion of water in an eddy—far along the mountains to the northward. Prof. Legate says it must not be supposed that the change has been caused merely on account of the gap or trough left by the clearing away of the forests. The denudation of the ground is the principal cause. The heat of the sun pouring down upon the broad belt of bare ground now reaching across the mountains causes at that point an immense ascending column of heated air which draws in from the west the current which formerly moved to the northward and now all crosses the Sierras, passing in an upward and eastward direction.

The professor is of the opinion that the only thing capable of changing the isothermal line which has been recently accidentally and disastrously established is the creation, at some point well north, of another broad belt of denudation, the influence of which will be to draw in that direction a portion of the warm current of air moving up to and along the western slope of the Sierras, and thus partly restore the equable temperature that formerly prevailed. He thinks the railroad which is to run in the direction of Oregon from Reno, and which is to strike and tap the great pine forests of the Sierras well to the north, will after a few years effect the desired change.—*Virginia City (Nev.) Enterprise*.

A NEW OIL FROM GRAPEVINES.—M. Laliman, a French *savant*, has discovered that an oil can be distilled from the American vines which will not congeal above 8° Fahr., while other oils congeal at 27½ Fahr. M. Laliman, therefore, recommends this oil for watch-making and similar uses.

PATRONS OF HUSBANDRY.

The Grange.

The members of this organization are true labor reformers. They do not ask for an eight-hour law, but simply ask our legislators to pass laws that will protect the farming interest, and thus give the tillers of the soil a chance to compete with the manufacturer in acquiring property. Mr. Spilman, of California, in speaking to an assemblage of Grangers, said:

The agricultural interest was the basis of all the prosperity of the United States. To accomplish any good results it was necessary that the agriculturists should make their power felt. Our law givers should be given to understand that members of the Grange did not intend stopping until they obtained all their rights. The National Grange had been demanding that the Commissioner of Agriculture should be a Cabinet officer. Gen. Le Duc, the present Commissioner and his chemist, were friends of the Grange. Prof. Collyer had shown the farmers how they could manufacture their own sugar from millet, corn stalks and sorghum. Yet this great Government don't give that man sufficient room in which to make his experiments. His work has been entirely ignored by the law makers. Bro. Aiken, of South Carolina, and Bro. Forsyth, Master of the State Grange of Illinois, had both told him that for two years the Committees on Agriculture of the two Houses of Congress had not had a meeting. Mr. Spilman asked if such treatment was right and just to the great industry of the country. But a Congressional Committee had recommended that a salary of \$3,000 be allowed the Commissioner of Agriculture, and that he be made a subordinate officer of the Government. But this was not satisfactory to the agriculturists. They had too long been hewers of wood and drawers of water, and they now intend to demand their just and equitable rights. Ours is an aggressive Order, but they simply demand justice. I don't care whether a man is a Republican, Democrat or a Greenbacker, if he will represent and protect my interest, and I am going to vote for him.—*Westfield (Mass.) News Letter.*

Meeting of the National Grange.

The National Grange will meet at Washington, D. C., commencing Nov. 15th. This will give Patrons an opportunity seldom offered to visit the Capitol City, attend the session of the National Grange, meet not only the regular delegates from every State in the Union, but visiting Patrons besides, as excursions are being arranged from other States also. All the great public buildings of Washington, such as the Capitol with its statuary and paintings, the Patent Office with its thousands of models, the post office, treasury, and other department buildings of the Government; not the least interesting would be the Department of Agriculture "that does recognize the Grange," the Botanical and Experimental Gardens under charge of Bro. Wm. Saunders, one of the founders and first Master of the National Grange. Then there is the Smithsonian Institute with its great museum, the Corcoran Art Gallery, the largest in the country, the White House with a call with the rest of the Patrons on the President, the Washington Monument, the Parks, and the beautiful city itself. Then there is Mt. Vernon with the home and tomb of Washington only a few miles sail down the Potomac, fine steamboats going down and back by daylight each day. Last but not least, would be the grand and beautiful scenery of the Baltimore & Ohio R. R. among the mountains of West Virginia, crossing the Alleghenies, then on to Harper's Ferry and among the fine farms of Maryland. There will be special rates at hotels in Washington for Patrons.—*Cincinnati Grange Bulletin.*

PARAFFINE AS A PROTECTION TO WOOD AND IRON.—A German scientist recommends paraffine as an efficient means of protecting wood against damp, acids and alkalis. The wood is first well dried, and then covered with a solution of one part melted paraffine in six parts petroleum, ether or bisulphide of carbon. The solvents evaporated quickly, leaving the paraffine in the pores of the wood. Great care must be taken in the use of this preparation, as paraffine, as well as petroleum, ether or bisulphide of carbon, is especially inflammable; and even the vapor of the two last mentioned substances, if mixed with air, may give rise to dangerous explosions. Paraffine melted, with equal parts of linseed oil and rapeseed oil, is also very useful to protect iron from rust.

CAOUTCHOUC dissolves more or less perfectly according to its condition in various liquids; among which may be mentioned the various fixed and hydro-carbon oils, chloroform, ether and carbon-disulphide. Unless, however, the caoutchouc has been masticated or otherwise degenerated, it is doubtful whether a true solution is obtained. When a clear, limpid solution is required, one of the best solvents is that proposed by Payen, namely, carbon-disulphide, mixed with 5% of absolute alcohol. If one part of masticated caoutchouc is dissolved in 30 parts of the above solvent, a solution is obtained which can be filtered through paper, and may be employed in covering the most delicate mold with layers of caoutchouc.

AGRICULTURAL NOTES.

CALIFORNIA.

FRESNO.

LAND LEVELING.—*Expositor*: "The terror of the San Joaquin valley is this land leveling," said Pat. Murphy, a young Frenchman, who drives a scraper team at the Barton vineyard, when on last Saturday evening he and four other stout fellows with a good team each, and the most improved machinery now in use here, had about finished leveling six acres of land, after three week's persistent and well directed labor. Strong as Mr. Murphy puts the case, those who have had much experience in that line will not think him too harsh. Experience has taught our people that farming on these plains without irrigation is a labor without profit, and in the same school they have learned that attempting to irrigate their rough lands that will not sub-irrigate, is, if possible, a worse business still, without they first go to work and properly level them. Proof of the latter proposition is amply furnished on this same Barton vineyard, for the gentlemen from whom Mr. Barton purchased the vineyard planted about 200 acres in trees and vines of the choicest varieties last season, without first leveling the land, and notwithstanding he kept a large force of men throughout the spring and summer trying to irrigate them. Mr. Barton has now a large force of men and teams at work plowing up the aforesaid vines and trees, 75% of which are dead, and is leveling the land in a proper manner. Land leveling as a prerequisite to successful irrigation has been vigorously advocated in the columns of this paper since the planting of the first colony in this neighborhood. People did not take kindly to it at first, but now in passing through any of the neighboring colonies, save in a few of the hottest months, people in all directions may be seen diligently at work at this new industry, some with four horses, some with two, others again with wheelbarrow and spades. Some of the best land leveling done in the valley was performed by Thomasini, a little Swiss, with no other implements than a wheelbarrow and spade. He showed us last winter three-quarters of an acre as level as a billiard table, off which he sold the last dry season 13 tons of hay. Grapevines planted in ground thus leveled, well manured, irrigated and cultivated, at two years, look like four-year-olds and bear 15 lbs. to the vine, which is over five tons to the acre, worth \$125. It is well known here that men have bought land with water right in the Central Colony for \$50 an acre, leveled it at a cost of \$50 an acre more, and cleared the whole amount off the first year's crop. But owing to his temperance, the average American has not the stolid industry and patience to devote three or four weeks hard and incessant labor on one acre of ground, which is necessary in most cases to level it. New as this industry is, many inventions have already been patented and introduced for that purpose, but none of them appear to have much improved on the old-fashioned dump scraper, as we see many of them are in use yet. It is claimed that through the hydraulic process land can be leveled for \$4 or \$5 an acre, but that is such a great innovation people are afraid of it, and again it costs \$3,000 or \$4,000 for an outfit. What is wanted is something that each small farmer can afford to buy and operate with his own labor that can accomplish the work well for \$15 or \$20 worth of his own labor per acre. The invention and introduction of a machine that will do the work aforesaid would not only insure the inventor an independent fortune, but it would send things going with unexampled activity throughout this whole valley—it would give as great an impetus to business as did the invention of the cotton gin in the South.

KERN.

SORGHUM SUGAR.—Prof. Hilgard to W. H. J. Brooks: Your letter of the 3rd and imphee and juice duly received. The juice was too far gone to be used for determination of sugar, but we pressed the cane as soon as possible. Found it rather dry, and it looked somewhat shrunk. I suppose it passed through a hot spell on the road. Specific quantity of the juice, 1.082; cane sugar therein, 15.15%, leaving only between 3% and 4% of "non-sugar." This should yield a very fair sugar quite readily, but I am under the impression that there will be a better showing when the cane is riper. As I write I receive your package of granulated sugar, from the amber cane I suppose. It looks very well for raw sugar, and would be easy to refine, but I judge from its more or less acid aftertaste, that you are boiling your juice without previous defecation by lime. That spoils a part of your cane sugar and makes the whole far darker than it need be. You should use enough milk of lime to just clear the juice before it boils. Settle and steam off the green, flaccid sediment and then boil down—the sugar will granulate much better. Send me a dozen stalks of your amber cane and another batch of the imphee more mature. The imphee cane you sent should have yielded you about a pound and a quarter per gallon of juice.

LAKE.

HILL LANDS.—*Lakeport Bee*, Oct. 30: If in any portion of Lake county there was a tract of level land containing a quarter section, and not pre-empted by some ambitious settler, how long is it fair to suppose that piece of land would remain without an applicant? We will leave out of consideration the possibility that it may be entirely covered with an impenetrable

underbrush and timber. At the present time how long would such a tract remain idle? Not an hour. And just here is where so many display their lack of judgment and foresight. It is a mere handful of labor to clear and convert into good, tillable land our side hills, as compared with the tedious undertaking of making farms out of tracts that only years of bard struggles will succeed in partially clearing. Then, again, actual tests by old and reliable farmers in our county have proven the grape crop, under the least favorable auspices, to be more lucrative than the wheat crop. Experienced wine-makers declare that up-land grapes produce a better quality of wine than the product of low-lands. Now, the plain light in which to view this question is: thousands of acres of our hill lands, which, if made to order, could not be improved for grape purposes, can be obtained at Government prices. They are prepared for fruit with as little expense as the valleys used for wheat, and a vineyard once started does not require the repetition of that labor each year. The grape crop at \$1 per hundred is more profitable than grain raising.

LOS ANGELES.

GRAPES.—*Anaheim Gazette*, Oct. 30: The grape crop which, owing to the cool weather, has been long in maturing, has ripened very rapidly during the past week. In the early stages of the vintage some apprehension was expressed lest the proportion of saccharine matter in the grapes would fall below the quantity required for a perfect wine, but Mr. Langenberger tells us that the juice of his Muscat grapes stood 106 in the must scale on Tuesday morning, which is much higher than he had ever known it to stand heretofore. This large proportion of saccharine in the must is good for the wine, but the process of fermentation is slow.

VINE PRUNING.—It has heretofore been the practice to gather up the prunings, carrying them to the side of the vineyard and there burning them, little reckoning that very valuable fertilizing material was thus being wasted. This season, however, will witness a different disposal of these prunings. Mr. Dreyfus tells us that as soon as the grape crop is picked he will have his vines topped, just leaving enough canes on the vines to make cuttings. These topplings he will let lie on the ground as they are thrown down until it is time to plow the vineyards, by which time they will be dry, and when plowed into the soil will not sprout. This will be returning to the soil exactly the same elements which are taken from it by the growing vines, and the result cannot be otherwise than beneficial. We commend this plan to the attention of vine growers here and elsewhere.

HIGH-GROWN VINES.—Mr. E. S. Saxton had 300 vines of the Muscat, Flaming Tokay and Black Hamburg varieties. From these vines he gathered this year 7,000 lbs. of grapes. The cause of this heavy yield is that his vines are staked, and this brings up the idea whether it would not pay to resort to staking more extensively. Six hundred and seventy vines per acre would, Mr. Saxton believes, be all that could be advantageously worked. These 670 vines would require 670 stakes at 7 cents apiece or \$46.90 per acre. Four tons of grapes per acre is a good average for the vineyards as now planted, and whether an increase of the average to seven or eight tons to the acre would pay for the staking is a question which we leave to more experienced men to solve. One of the vines alluded to bore 60 lbs. of Muscat grapes.

SAN BERNARDINO.

GRAPES AND RAISINS.—*Riverside Press*: The Muscat grape is three or four weeks later in ripening in this valley than it was last year. The season has been exceptional in many respects. During the entire summer, heavy fogs have hung over the southern California coast to a greater extent than before for years. These fogs have been heavy along the immediate coast and lighter in the interior valleys. Riverside has frequently escaped these fogs, or had them in a very mild form on mornings when the coast valleys were being drenched in Scotch mist. These fogs usually last till about the 1st of July, but this year they extended, with slight intermissions, through the entire season. The result is that while the grape crop has been pretty well perfected, the weather has been too foggy to dry the grapes to good advantage. In this valley no serious delay has been experienced as yet, but our vineyardists fear that the lateness of the season and the unsettled weather will yet give them trouble. The grape crop is being picked, and the yield is much better than has been expected. Several weeks since a committee of the Fruit Growers' Association made a thorough canvass of the settlement and estimated the raisin crop at about 17,500 boxes. Some time afterward it was thought this estimate was too large by 20% or more; but now that picking has actually commenced, it is found that some vineyards yield more than was at first estimated even, and the probabilities are that the crop will come up to 15,000 or 16,000 boxes, unless it be cut short by heavy exportations of grapes to Arizona, which is now going on.

SACRAMENTO.

FARMING ECONOMIES.—*Record-Union*: A ride through any wheat-growing section of the State at this season of the year will show the observer not only burnt stubble fields, but burnt straw stacks in great numbers. Now, while we know that straw cannot be utilized for fertilizing the soil, on account of the peculiar dry climate in the warm season, still we insist that there is no good reason for burning the straw to get rid of

it. This straw is almost as good as hay for cattle and sheep, and young and idle horses. Turn out any stock in a field where they can have free access to wheat or barley straw stalks, and they will make a good living even with no green grass to graze upon. Good wheat straw is worth from \$4 to \$5 a ton, to winter stock upon, and will pay that to anyone who has the stock to feed upon it. Why then do people continue to burn it from year to year, and wonder how they are going to manage to keep up the fertility of their wheat lands. We must raise a less number of acres of wheat, and more cattle, horses, sheep and hogs; put our straw into meat, beef, pork and mutton, and manure. The farmer who feeds his straw to stock, gathers two crops from his land each year, while he who burns his straw, will soon cease to gather even one crop. We cannot, on our own grain lands, raise without irrigation, beets and vegetables to relieve and rest the soil from constant cropping of wheat, but we can do what is just as well for the soil; we can alternate wheat and beef, and pork, and mutton, and at the same time put more money in our pockets annually. Summer fallowing is good for the land, but pasturing is better and more profitable. Beef, and pork, and mutton, butter, lard and wool, are always in demand, and will always bring money as well as wheat, and as a rule the grain farmer who calculates every year to turn off a few head of fat hogs and sheep, some butter, lard and wool, will in the long run sell more wheat than his neighbor, who can find no place on his farm for anything but wheat.

SAN JOAQUIN.

NEW DREDGER FOR GRAND ISLAND.—*Examiner*: A new steam dredger and levee-builder is lying in the waters of Channel street, which is said to have a greater dredging capacity than any machine of the kind ever before constructed. It was built by the Golden State Miners' Iron Works for General Thos. S. Williams, and is to be used to cut a canal through Grand island, 12 miles long and 25 ft. deep, to carry off the surplus water of the Sacramento river. The earth raised will be thrown on the banks each side of the canal, and will form the levee. Seen at a distance, it looks like a grain elevator, and consists of a large scow, 100 ft. long by 80 ft. wide, upon which the massive machinery and lumber are placed. The dredging apparatus consists of a heavy ladder projecting over one end of the scow, around which revolves an endless chain, to which is attached 35 scoops that will hold 16 cubic ft. or about a ton of mud each. When worked to its utmost capacity, it will dredge 4,000 yards in 10 hours. The ladder will go down to a depth of 25 ft. and raise the mud to a height of 40 ft., from whence it is dumped into a large iron hopper. Attached to this hopper is a new invention for throwing the earth on the banks. It consists of an iron pipe 36 inches in diameter and 100 ft. long, attached to the hopper by a turn-table which permits the dredger to swing from side to side when at work, while the pipe remains stationary. The mud from the buckets is dumped into the hopper and, after a fall of 12 ft. is shot through the iron pipe at rate of 1,500 ft. a minute, on the banks. The machinery is run by two 100-horse power engines, and the machinery, belting and running gear is on an immense scale. When at work a "spud" pile is let down through the scow and around which it swings as the ladder changes its position. When completed the dredge will have cost about \$40,000.

SONOMA.

EXTRAORDINARY YIELD OF HAY.—*Santa Rosa Democrat*, Oct. 30: Mr. G. N. Sanborn, who lives seven miles from Santa Rosa, on the Laguna two miles north of Sebastopol, recently cut between five and six tons of barley hay from one and three-fourth acres of land. It was seeded July 10th. In one-half of the land the seed was plowed in, and the other half was sowed on the furrows. The half that was plowed in produced two-thirds of the hay.

TEHAMA.

EDITORS PRESS.—Our sturdy agriculturists are all busy putting in their summer-fallowed land and volunteer. The long stretch of level country to the south of Red Bluff is covered with teams, traversing new land, which for years has lain idle. The whole country from Red Bluff to the counties south is one vast wheat field, which, next harvest, will yield its golden wealth to our sturdy farmers. Many have finished seeding their summer fallow and volunteer land, and are waiting for rain—the glorious rain! whose cooling showers will bring the tired soil to its former vigor, and bring out the hidden wealth now buried in mother earth's bosom. The rain which all are so anxious to hear patter, patter on our humble roofs has not yet put in appearance, though the signs of an early winter have been numerous and marked. Why it is we know not, but live in hope that He who regulates the higher order of things will send us copious showers ere a drouth sets in. Wheat is still lower than the producers care to sell for, so but few sales have taken place since my last. Many farmers will hold their crops until the new year, hoping a boom will then be started in the wheat market. The fall clip of wool is arriving briskly from all quarters. Choice lots have been sold at 16½ cents per lb. Ordinary fleeces are not being much sought after, and the market is somewhat flat. Mountain produce is coming down, and, so far, good prices have prevailed. Butter is very scarce, but good, demanding 27 cents per lb. wholesale. No doubt the severe winter of last year affected the butter producing very materially, as from inquiry I learn that no

time in the history of the industry has butter been so scarce as it has this fall. Potatoes are commanding an excellent price this season. They are just coming into market from our foothill and mountain ranches. They are in fine condition, and find a ready market at 1½ cents to 2 cents per lb. Cheese is very scarce from the same cause, probably, that butter is. Only one lot has been brought down, and was soon disposed of at a good price. Chickens are being brought in by the poultry raisers and are getting from \$3.25 to \$4 per dozen for choice ones. Turkeys are not yet marketable, though the coming month they will be quite a factor in our commercial world. I think the turkey holders will reap a rich harvest this year. The birds are scarce, but are in exceeding good condition. The late spring killed thousands of young chicks for the owners this year, so turkeys will probably bring high prices. Hay, which, in the hay harvest was being sold from \$6 to \$7 per ton, now commands \$16 and \$17.50 per ton, and those who made early sales are very much disgusted at the state of affairs. It seems strange that our farmers who have ranches within easy distance of the city of Red Bluff that they do not put in more hay. In the 10 years of my residence in this city, I have never seen the time when hay was a drug in the market; it always commands a good price, and by spring it generally reaches from \$25 to \$30 per ton. I would draw the attention of those sturdy husbandmen of Antelope valley to the fact that hay will be a surer crop for them to raise and bring them a larger profit than wheat.

—FELIX, Red Bluff, Oct. 31st.

VENTURA.

STRAWBERRY GROWING.—Signal, Oct 30: It will soon be time for our small fruit raisers to get their strawberry plants in shape. Without taking space to ask why the farmer, who should have an abundance, so generally has no strawberries, we put in our plea for his family, and insist that he should immediately provide them with the fruit. Much that has been said about strawberry culture has conveyed the idea that to keep a bed in order is considerable trouble. Of course the plants will not care for themselves as weeds do, but the satisfaction of having the fruit amply repays one for the labor expended. They are comparatively little trouble when nature furnishes so much of the work as in our sunny clime. Select a good bit of soil, all the better if it was in potatoes last year, and if practicable, within sight of the house, and prepare it just as you would for a good crop of cabbages; this means an abundance of good manure well worked in. Mark out the rows two ft. apart, three if a cultivator is to be used, and set the plants one ft. apart in the row, using a trowel to open the ground, and when the plant is put in crowd the soil down firmly over the roots with both hands. Thereafter run the cultivator, hoe or rake often enough to make the soil mellow and keep down the weeds. The plants will by and by throw out runners; turn them into the row and let them take root. If it is preferred to buy a few plants to start with and raise a stock to put out next year, set these two ft. apart each way, and let runners form. Ashes are very useful to promote a large growth of runners.

NEVADA.

SURPRISE VALLEY.—Reno Gazette: Surprise valley seems all alive with progress. New farm houses have gone up on every hand, and of a better quality than heretofore. I was very much surprised at the number of large ricks of hay and grain. I was informed that there were over 100,000 bushels of grain, from three miles north of Cedarville to the south of the valley. The crop is as large or larger than ever known.

HOME-MADE TURKISH RUGS.—Turkish rugs are very fashionable just now, and at all times are an ornament. The imported rugs are very costly, but there is a way by which our housewives and their daughters may make their own. At this year's fairs there have been shown "Turkish rug patterns," which are being sold by Charles Peake, 209 Kearny street, San Francisco. They are in fact designs of animals, flowers, scrolls, etc., printed on suitable jute cloth (burlaps), and are shaded in the various colors required to make them perfect. The designs or patterns are not on paper, but cloth, which forms the foundation for the rug, and are so plain that the most inexperienced can fill them readily and make good work. They are filled with various kinds of rags or wool yarn, with a hook made expressly for this purpose, and clipped or sheared off to imitate the best Turkish rugs, and when well made, it is hard to tell one from the other, and they will wear four times as long as velvet rugs. They are splendid for needle-work (cross-stitch), for the close attention required for transferring designs from paper patterns is all saved, but the hook-work is more rapid and much more durable. A catalogue of designs and cost of each may be had by addressing Charles Peake, 209 Kearny street, San Francisco.

SIR EDWARD DENNY is to make an interesting experiment on his Irish estates. He offers to grant leases forever to occupying tenants on the Denny estates, and it is understood that the rents will be the same as those fixed in 1829. It is expected that the tenants, who are generally in comfortable circumstances, will gladly avail themselves of this offer.

Premiums at Los Angeles Horticultural Fair.

The following are the awards in the agricultural departments of the fair of the Southern California Horticultural Society at Los Angeles:

Fruits.

Display of California fruits, Pasadena display; fruits grown by one man, Los Angeles nursery; display of apples, B. W. Mower, Florence; 12 varieties apples, do; 6 varieties apples, do; 3 varieties apples, do; display of pears, O. N. Cadwell, Carpinteria; 6 varieties pears, J. Sullivan; 3 varieties pears, E. Ayleworth; display of peaches, O. H. Congar; 1 variety peaches, J. S. Mills; variety plums, James Smith; display green figs, George C. Swan; display Japanese persimmons, W. W. Hollister; display grapes, J. F. Durrell; 1 variety table grapes, L. Kimball; 1 variety white grapes, J. L. Pierson; cluster of grapes, Mrs. E. A. Brewster; exhibit of California raisins, crop of 1879, J. L. Lanterman.

Aptary.

Display honey, Haskell & McLellan; comb foundation, J. L. Lanterman; honey extractor, M. W. Childs; colony of bees, N. Levering; Italian queen, do; vinegar from honey, Mrs. Josephine Benedict; package for honey, Chapman & Paul; display of fruit in honey, Miss Nind; cake made from honey, Mrs. Josephine Benedict; extracted honey, M. Segars; comb honey, H. W. Henschen; extracted honey by Los Angeles apiarists, J. F. Duns-moor; 10 lbs honey, H. W. Henschen; display honey flowers, John W. Wilson.

Field and Garden.

Display grain, W. E. Willmore; sack of wheat from machine, D. Raab; rye, Mrs. E. Brown; bushel yellow corn, F. A. Coffman; white corn, F. R. Slaughter; 6 ears of corn, George Harter, Downey; red potatoes, Kimball Bros.; white potatoes, H. Goepfer; Peach Blow potatoes, Wingate Smith; display potatoes, Wingate Smith; sweet potatoes, John Baugh; carrots, J. M. Stewart; sugar beets, R. Nadeau; display pumpkins, S. C. Smith, Florence; tomatoes, R. R. Bryant; Hubbard squashes, J. F. Crank; Crookneck squashes, R. R. Bryant; pumpkin, E. W. Thaxter; green sweet corn, J. M. Stewart; water-melons, W. R. Frick; cucumbers, E. S. Frost; Lima beans in pod, A. F. Bland; dry white beans, J. F. Crank; field peas, C. N. Wilson; castor oil beans, William S. Arnold.

Miscellaneous.

Display of beet sugars, E. T. Gennert; beets and sugar made from beets raised in Los Angeles county, R. Nadeau; olive oil, Ellwood Cooper; pickled olives, F. A. Kimball; dried apples, L. B. Clapp; dried pears, James A. Day; dried peaches, do; dried apricots, do; dried figs, L. L. Roberts; English walnuts, W. W. Hollister; soft-shell almonds, W. C. Kimball; peanuts, R. Ranney; seedling orange tree, Co-operative nursery; budded orange tree on orange stock, do; exhibit deciduous trees, Los Angeles nursery; grape vine, L. J. Rose; white wine, B. Dreyfus & Co.; red wine, do; California port, do; California sherry, Theo. Reiser; angelica, L. J. Rose; 10 lbs dressed flax, Asa Ellis; display of broomcorn, S. D. Newbill; system of sub-irrigation, Asbestine Sub Irrigation Company.

Dairy.

Display of cheese, J. J. Harshman & Co.; cheese, Ramon J. Valdez, 1st prem; Kellogg & Sewell, 2d prem; display of butter in rolls, F. J. Barretto.

Live Stock Awards at Sixth District Fair.

The following is the list of premiums awarded for live stock at the Sixth District Agricultural fair, held at Los Angeles the third week in October:

Horses.

Thoroughbred Stallions—Three yrs, Rutherford, E. J. Baldwin; 1 yr, Albert C. E. J. Baldwin. Mares—Four yrs, with colt, Peggy Ringold, J. W. Adams; 3 yrs, Molly McCarthy, E. J. Baldwin; mare colt, Aunt Betsy, J. W. Adams; thoroughbred dam and 2 colts, Peggy Ringold, J. W. Adams.

Graded Horses—Stallion, 3 yrs, Odd Fellow, W. K. Robinson; mare, 4 yrs, with colt, Flora Temple, H. B. Thomas.

Draft Horses—Stallion, 3 yrs, Wide Awake, J. R. Simmons; 2 yrs, Thunder, Thos. Parsons. Roadsters—Stallion, 3 yrs, Sultan, L. J. Rose; gelding, 3 yrs, Sir Guy, L. J. Rose; mare, 3 yrs, Puente Maid, Jos. Workman; roadster team, Penants and Candy, A. J. Hutchinson; saddle horse, Empress, A. J. Hutchinson; walking horses, Queen and Dash, W. K. Robinson.

Colts—Yearling mare colt, Belle Monte, W. H. Freer; sucking horse colt, Twilight, W. K. Robinson; suckling mare colt, Twilight, W. K. Robinson.

Families—Stallion, other than thoroughbred, with 5 colts, Odd Fellow, W. K. Robinson; best dam, other than thoroughbred, and 2 colts, Queen Esther, W. K. Robinson.

Sweepstakes—Best stallion, Rutherford, E. J. Baldwin; 2d best stallion, Grinstead, E. J. Baldwin; best mare, Molly McCarthy, E. J. Baldwin; 2d best mare, Peggy Ringold, W. K. Robinson.

Cattle.

Durhams—All awards to Coleman Younger. Jerseys—All awards to F. J. Barretto.

Herds of Thoroughbreds—Best herd of thoroughbred cattle over 2 yrs, C. Younger; 2d prem, F. J. Barretto, silver castor; best herd under 2 yrs, C. Younger; 2d prem, F. J. Barretto.

Graded Cattle—Cow, 3 yrs, Vista, W. M. Williams; heifer calf, Rose, W. M. Williams.

Sweepstakes—Best bull of any age or breed, Red Thorndale, C. Younger; 2d best, Seventh Red Thorndale, C. Younger; cow of any age or breed, Red Dolly the Second, C. Younger; 2d best do, silver syrup cup, \$15, no name given.

Sheep.

All awards for French Merinos and graded sheep to C. Garnier.

Swine.

Berkshire—Boar, 3 yrs, Prince Consort; breeding sow, Queen; 2d best do, Victoria; sow, 6 mos, Beauty; pair pigs under 10 mos, Royal Duke and Beauty, all to Wm. Niles; boar, 1 yr, Queen's Own, F. J. Barretto; 2d best boar, 1 yr, S. Washburn.

Poland-China—Boar, 3 yrs, J. G. Bell; also breeding sow; 2d best boar, 3 yrs, Vinton Duke, W. M. Williams; boar under 3 yrs, Stoddard, T. C. Starr; also 2d do, Jesse.

Sweepstakes—Best family of any age or breed, Prince Consort, Queen Victoria and pigs, Wm. Niles; also sow, Victoria; also pair of pigs, 6 mos; boar, Vinton, Wm. M. Williams.

Poultry.

All awards, except Black Cochins, to W. Niles; Black Cochins, T. C. Starr; Bronze turkeys, A. M. Shields.

Prize Horses at Lake County Fair.

Ironwood, R. J. Hammack; Phoebe Belmont, L. H. Gruwell; Nellie, C. T. John Adams; black filly, Harry Bond; bay colt, sucking, Harry Bond; sorrel horse, C. A. Lambert; Billy Burnett, Peter Burnett; Milburn, W. H. Moore; Robert Steel, J. D. Adams; Manning filly, Thomas Manning; Gruwell, L. H. Gruwell; gray stallion, G. M. Wood; gray colt, G. M. Wood; Norman colt, sucking, D. M. Hanson.

The coinage of silver dollars for Oct. was \$1,200,000, while the amount put in circulation was \$1,800,000.

Improvement in Short Horn Values.

In the reports of Short Horn sales made during the last four months we notice a marked improvement in prices over those obtained during the same period last year. The leading sale on this continent was that of Messrs. Cochran & Cannon, which took place at Chicago, June 30th, when 43 animals made a total of \$38,700, an average of \$900; 3 animals of the Duchess family sold for \$19,900, leaving a balance of \$18,800 for 40 animals, being an average of \$470 each. Since that time we have reports of several other sales, from which we select seven of the best herds, in which a strong admixture of Bates blood prevailed; in all 306 animals were sold for \$81,840, an average of \$267.

In turning our attention to sales of English Short Horns, we find, as might be expected, Earl Bective's heading the list of averages, 72 animals selling for an average of \$792—one Duchess selling for over \$10,000, and four of the Princess family sold for an average of over \$2,000 each.

The above sales contained animals of fancy values, but undoubtedly worth the money to breeders whose object is to breed pure-bred Short Horns, especially good bulls to sell to farmers to use on good farm stock, bred for producing both milk and beef.

Speaking of another herd, Mr. Stratton's Alton Priors, recently sold, several members of which have taken prizes at the general shows of breeding stock and the dairy shows, *Bell's Messenger*, of Sept. 27th, says: "When the late Mr. Richard Stratton's Short Horns were sold in March, 1871 (prices then being generally high, but an exclusive fashion in the ascendant), 55 animals averaged \$169½. At Alton Priors on Wednesday last (it is scarcely necessary to say in a season of serious depression), 47 animals descended from the same source, averaged \$226½—reckoning \$5 to the pound sterling. The cows sold in 1880 made an average of \$62½ per head more than those sold in 1871, but the bulls only about the same. Mr. Geo. Game's entire herd of 76 head averaged \$172½." The same paper, referring to both sales, says: "The Alton Priors and Churchill Heath sales last week afforded encouraging evidence of the existence of a real healthy demand for good Short Horns and of an extensive knowledge of what is valuable in the Short Horn. Animals at both sales were valued upon their personal merits in connection with their breeding."

We look upon the above prices, for the class of cattle sold, as evidence of an awakening among Short Horn breeders to facts that have long been plain as daylight from dark to all who were not carried away with the rage for following after the fashion of line breeding in certain tribes. It is not till farmers and breeders have laid aside their prejudices and based the value of cattle "upon their personal merits in connection with their breeding," that true success in breeding cattle of the most profitable kind of whatever breed, can be attained by even the most skillful breeders.

American Silk Industry.

To encourage our sisters, who think they see something in silk if men do not, we mention the report which was lately telegraphed from New York, that Worth, the famous man-milliner of Paris, departed from his rule of never making up materials brought to him, and accepted some American black silk taken to Paris by Kate Field, and fashioned into an elaborate costume for her. It is further stated that French silk has become so inferior in quality, and American silk so superior, that several Parisian ladies have resolved to send to America this season for black silks, dropping the idea of their finding again any real good and durable article in the Parisian market.

In view of this recognition abroad, it will be interesting to mention that the census of 1880 will show a marvelous growth in our silk industry. The New York *Tribune* calls it "a romance of American enterprise and industry," applying the term especially to the growth of Patterson, New Jersey, where the silk business has taken deepest root, the population of the place having increased from 21,000 in 1860 to 32,000 in 1880. This wonderful growth during a period of 20 years has been mainly due to the remarkable development of a single industry—that of silk weaving. There are now 77 silk mills in Patterson, some running only half a dozen looms, others rivaling in size the great cotton factories of Lowell and Manchester. Altogether, the silk business and its immediate dependencies include 102 firms, employing 12,593 hands, who receive wages amounting to over \$4,000,000 a year. The capital employed is \$9,955,000, and the value of the annual product is over \$12,000,000. Almost every sort of silken fiber is made, from plain black dress goods to ribbons of the richest classes and most varied patterns. Many of the best and most ingenious labor-saving machines used in the trade are American inventions, and many of the most tasteful patterns are of American design. The only advantage the French have is in their cheap labor, and this is off-set partly by our tariff and partly by our improved machinery. The most skillful French workmen are attracted by wages almost double what they can earn at home, and they have imparted their dexterity

and knowledge to many native born operatives. Beginning with the simple process of twisting and dying sewing silk, the industry has widened until it now embraces the richest flowered and damask dress goods. Some of the heaviest manufacturers of to-day began with a loom or two in their own houses. It is not impossible for a skillful, industrious workman to commence business with a single loom, and in a few years become the head of a large concern.

News in Brief.

NAPA grapes are being shipped to Chicago. The Pondas of South Africa have rebelled. The steamers plying on Feather river have been doing an immense business the past three months.

The public debt was reduced over \$7,000,000 in October.

The miners at Columbiana, Ala., have struck for higher wages.

There was a shock of earthquake on Sunday night in Newcastle, Ont.

During the month of October the police of this city made 2,103 arrests.

FIVE HUNDRED of Sitting Bull's band have surrendered to General Miles.

MOUNT VESUVIUS continues in active eruption, and streams of lava are flowing down the western sides.

A LIFE BOAT capsized recently in Harbor Wells, Norfolk county, England, and 11 of the crew were drowned.

THE Princess Olga, youngest daughter of the King of Greece, died at Athens this week, after a few days' illness.

THE Porte is sending troops and ammunition to the Greek frontier. Unless the Turks retire to a new frontier, war is certain.

THE bark *County of Richmond* of New York foundered on Oct. 14th, off Brazil. Her Captain and most of her crew were drowned.

ULYSSES S. GRANT, second son of Gen. Grant, was married this week to Miss Fannie Chaffee, only child of ex-Senator Chaffee, of Colorado.

ONE HUNDRED and EIGHTY-SIX British and foreign wrecks were reported last week. Of these, 161 vessels were lost on the British coast.

ANOTHER terrific hurricane, accompanied by a blinding storm, has passed over Denmark. The railways are blocked and a score of wrecks are reported.

SEVEN THOUSAND Montenegrins are preparing to collect at a camp near Antivari by Sunday night. An attack on Dulcigno is considered possible.

THREE car-loads of lumber were shipped from Sacramento market to Arizona last Friday—one to Tucson, one to Benson, and the other to Maricopa.

FIGHTING continues along the Russian lines in the Turkoman Steppes. Gen. Skobelloff proposes to declare a state of siege in the Trans-Caspian region.

THE Department of State is advised by our Ministers to Chile and Peru, that the conference between the Powers, under the good offices of the United States, closed without results.

SHEIK ABDALLAH has sent a communication to American missionaries in Krumiah requesting them to hoist the American flag above the Mission building, in order that it may be recognized and respected when the city is attacked by the Kurds.

ON Sunday last, the Los Angeles train when within five miles of the city, broke a wheel and dived seven cars, but fortunately injured nobody. The engine was not thrown from the track. The passengers were badly shaken, but escaped with only a fright.

THE mate and one of the crew of the bark *County of Richmond*, from New York, were taken from a raft, after six days' sail on it, near Leghorn, by an Australian bark. Their vessel foundered in a hurricane on Oct. 14th, and all the rest of the crew were drowned.

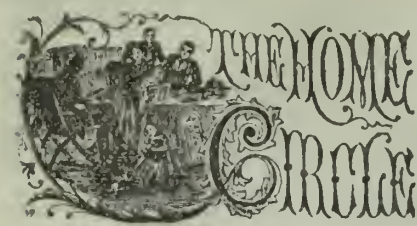
THE Peruvian Guano Co., of New York, have received this telegram from Chile, October 28th: "All the negotiations for peace between Chile and Peru were fruitless. Peru refuses to cede Tarapaca. Preparations are being hurried for a Chilean expedition against Lima."

A SAN ANTONIO telegram received from Gen. Grierson says that a band of about 30 Apaches, a remnant of the Victorio party, has crossed Rio Grande to Texas, and killed a corporal and two private soldiers. The Indians were pursued by Baldwin's company and driven back to the mountains of Mexico.

THE Chicago *Tribune* recapitulates the results of the great storm on the lakes on Oct. 16th. Over half a million dollars' worth of damage has been done to vessels and cargoes, and 92 persons have perished; 17 vessels were totally wrecked, and involving a loss of \$153,000, and 66 vessels were damaged.

GOVERNOR PERKINS has presented to the California Rifle Association a handsome gold medal to be shot for annually at the fall tournament of the Association, under such terms as may best promote skill in the use of the rifle and stimulate an interest in rifle practice. The trophy will be known as "Governor Perkins' Medal."

PARNELL, speaking at the meeting in Limerick on Sunday, said that Parliament would not reduce rents, but when farmers had reduced them, Parliament would interfere and render the continuation of the agitation useless. It was necessary to adopt a platform which would profit laborers as well as farmers. They had got rid of the proprietors in France, Prussia and Belgium; why not in Ireland? He advised the people to offer a just rent to the proprietors, as then the question may be settled this winter.



The Turning Leaf.

The elm is turning yellow,
The woodbine rich with stain;
The frost has fringed the maple
With crimson fire again.
I hear the crisp corn rustle that's gathered into sheaves,
And my heart stands still a moment to think of what it leaves.

I pick the honeyed clover
That blossoms at my feet;
Ah me! long years are over
Since first I found its sweet.
I hear the crisp corn rustle that's gathered into sheaves,
And my heart stands still a moment to think of what it leaves.

The sadness and the sweetness
I ponder o'er and o'er;
Nor sighing nor the gladness
Is as it was before.

I hear the crisp corn rustle that's gathered into sheaves,
And my heart stands still a moment to think of all it leaves.

Thanksgiving Day.

Thursday, November 25th, has been designated by the President as Thanksgiving Day, as the following will show:

Proclamation.

At no period in their history since the United States became a nation has this people had so abundant and so universal reasons for joy and gratitude for the favor of Almighty God or been subject to so profound an obligation to give thanks for His loving kindness, and humbly to implore His continued care and protection; health, wealth and prosperity throughout all our borders, peace, honor and friendship with all the world, firm and faithful adherence by the great body of our population to the principles of liberty and justice which have made our greatness as a nation, and to the wise institutions and strong frame of government and society which will perpetuate it. For all these let the thanks of a happy and united people, as with one voice, ascend with devout homage to the giver of all good. I therefore recommend that on Tuesday, the 25th day of November next, the people meet in their respective places of worship to make acknowledgement to Almighty God for His bounties and His protection, and to offer to Him prayer for their continuance. In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington, this first day of November, in the year of our Lord one thousand eight hundred and eighty, and of the independence of the United States, the one hundred and fifth.

R. B. HAYES.

WILLIAM M. EVARTS, Secretary of State.

A Woman in the Case.

"Tell the truth," said John Haviland, as he threw aside the evening paper, and faced the little group in the parlor, "I am fast growing out of patience with the text—'A woman at the bottom of it.' It would seem strange in this world, made up as far as we are aware, of nothing but two sexes, if a woman would not occasionally be found at the bottom of anything good. It is the injustice of the thing that makes me angry. Now there are a hundred of us poor fellows who owe all we are, all we have, and all we hope to become in this world or the next, to the unselfish love of woman."

The gentleman's face was flushed, and he spoke very warmly and feelingly, so much so, that his wife, rocking her baby to sleep in the farther corner of the room, inquired:

"But why should you care, John? It has always been so, and always will be so. We don't think much about it now, because we have been taught to expect it."

"But you should care, and you should fight for each other more than you do. There is one chapter in my life's history that I have always kept locked up in my heart, but to-night I feel as if it were my duty to open it for your inspection; and I do it for the love of women—for the love of woman made me all I am worthy to be, the husband of a good woman."

"Why John!" said Mrs. Haviland, softly approaching—babe still held tight to her bosom—"you absolutely frighten me."

"Let's have the story," said the rest of the group, certain that some thing good might be anticipated; and John commenced, at first a little timid, but gaining confidence as he proceeded.

"When I first came to New York, at the age of 12, to seek my fortune, I can call myself a precocious chap without danger of being accused of an unusual degree of self-appreciation. I was quick to learn everything, the bad as well as the good. My employer used profane language. I picked up the oaths that he dropped with a naturalness that surprised even myself. The boys in the office all ebowed tobacco. This was a little the hardest job I ever attempted, but after two weeks of nausea and indescribable stomach wrenchings, I came off victorious, and could get away with my paper a-day with the best of them."

"True, every word of it," said the speaker.

"One afternoon I was sent with a note from my employer to a house in the upper part of the city. I hadn't anything to read, but I had plenty of tobacco, and with that I proposed to entertain myself during the two or three hours I must spend in the passage. For some distance I did not notice anyone beside me, but by and by a lady said very softly and pleasantly: 'Would you please little boy be more careful. I am going to a party this afternoon, and I hate to have my dress soiled.'

"I looked into her face. It was the sweetest face I ever saw. Pale, earnest and loving; to my boyish heart it was the face of an angel."

"What in the world did you say?" interrupted Mrs. Haviland, her bright eyes filling with tears, as she saw how the memory of this beautiful woman affected her husband.

"Say! There was very little I could say. I think all I did for some time was to look."

"I managed to dispose of the tobacco, however, and wipe my mouth very carefully, all of which I felt certain she saw and mentally commented upon."

"Have you a mother, little boy?" she asked in the same low tone.

"No ma'am," I answered, and I felt my throat filling up, and I knew I must swallow mighty fast to keep from sobbing."

"You have a father, then, I suppose?" she kept on.

"No, ma'am; no father."

"Brothers and sisters?"

"Neither, ma'am."

"Then the little boy is alone in the world."

"All alone, ma'am."

"How long has your mother been dead?" and the dear woman looked away from my face, and waited till I could speak.

"Two years," I answered.

"And you loved her?" came next.

"Dear!," was all I could say.

"She was silent for a moment, and then she said so sweetly, 'Oh! I shall never forget it.'"

"And what do you think your dear mother would say—how do you think she would feel—to know that her little boy was guilty of such a disgusting habit as this?" pointing to my cheek, where the tell-tale quid had vainly tried to stand its ground.

"I must leave now," she continued, "but here is my card, and if you come to me most any evening, I shall be glad to see you, and perhaps we can be of service to each other."

"She gave me her little gloved hand, and to my dying day I shall never forget the sensation of that moment. I could not bear to part with her. Without her I felt that I could do nothing; with her, I could grow to a man's estate—a man in the truest sense of the word. From that moment tobacco never passed my lips."

"As soon as I could summon courage I called upon the lady. Well do I remember how my heart beat as I waited in the elegant parlor for her to come down, and how awkward I felt as I followed my guide to her private sitting-room. She got at every point of my life, and before I had her good-by it was arranged that I should spend two evenings of each week at her house, and study on the occasion just what she thought best."

"No lover looked forward to meetings with the mistress of his heart any more ardently than I did to those meetings with my friend."

"I grew careful of my personal appearance, careful of my conversation, strove in every way to be worthy of the noble friendship. Two years passed in this delightful manner—two years passed that made me. My friend not only attended to my studies, striving all the while to sow the right kind of spiritual seed, but she procured me a business situation with a particular friend of hers, where I remain to this day. Nobody but God knows what I owe this woman. During the last three months of those two years I noticed that she grew constantly pale and thin; she never was betrayed into speaking of herself. Sometimes when I would ask her if she felt worse than usual, she would reply:

"Oh, no, I am a little tired—that is all."

"One evening she kept me by her sofa much longer than was her custom, while she arranged lessons and laid out work enough it seemed to me for months."

"Why so much to-night?" I inquired, conscious that my heart ached, and vaguely suspecting the cause.

"Because, dear," she answered, "I do not want you to come for the next week, and I am anxious that you should have sufficient work to anticipate as well as to keep you busy. I think I can trust you to be a good boy, John."

"I think you can, ma'am," I answered, almost sobbing.

"If I should see your mother, my dear boy, before long, what shall I say to her for you?"

"Then I knew all, and my grief knew no bounds. It is no use to go on. She died two days after; and when I hear folks saying, 'There's a woman at the bottom of it,' I feel like telling the whole world what a woman did for me."

A WORD TO FATHERS.—Love is capricious, and the pretty, well-dressed girl of 21, for whom you, the father, have kept a handsome house and grounds, so that some worthy young gentleman of good means may be attracted toward her for the background of apparent wealth, is no better in the market of marriage than the girl who is not surrounded so. In fact, if you wish that your girl should be married off your hands, she will be more attractive, and less for sale, if she appears as herself in all her own maidenly adornments of prettiness, taste, education, without the help of your house and grounds. If she prides herself upon what you appear to lend her only during that period when her lover is coming to your fine house and grounds for her she may become a hypocrite; while if you bring no lover to her through any aid of yours, and permit her to love some one who has not stepped within your gate, she may marry happily and live, not in your house, but the cottage which she planned without seeing you.

The Songs of Burns.

At the unveiling of the statue of Robert Burns, in Central park, New York, last month, George William Curtis delivered a scholarly and eloquent address, of which the following extract conveys an adequate idea:

The power thus to depict national life and character, and thus to kindle an imperishable patriotism, cannot be limited by any nationality or country. In setting words to Scotch melodies, Burns turns to music the emotions common to humanity, and so he passes from the exclusive love of Scotland into the reverence of the world. Burns died at the same age with Raphael and Mozart, who was his contemporary, died only four years before him. Raphael and Mozart are the two men of lyrical genius in kindred arts who impress us as most exquisitely refined by careful cultivation; and although Burns was of all great poets the most unschooled, he belongs in poetry with Raphael in painting and Mozart in music, and there is no fourth. An indescribable richness and flower-like quality, a melodious grace and completeness and delicacy, belong to them all. Looking upon a beautiful human Madonna of Raphael, we seem to hear the rippling cadence of Mozart and the tender and true song of Burns. They are all voices of the whole world speaking in the accent of a native land. Here are Italy and Germany and Scotland, distinct, individual, perfectly recognizable, but the sun that reveals and illuminates their separate charm, that is not Italian or German or Scotch; it is the sun of universal nature. This is the singer whom this statue commemorates, the singer of songs immortal as love, pure as the dew of the morning and sweet as its breath; songs with which the lover wooes his bride and the mother soothes her child; and the heart of a people heats with patriotic exultation; songs that cheer human endeavor, and console human sorrow and exalt human life. We cannot find out the secret of their power. Until we know why the rose is sweet, or the dewdrop pure, or the rainbow beautiful, we cannot know why the poet is the best benefactor of humanity. Whether because he reveals us to ourselves, or because he touches the soul with the fervor of divine aspiration; whether because in a world of sordid and restless anxiety, he fills us with serene joy, or puts into rhythmic and permanent form the best thoughts and hopes of man—who shall say? But none the less is the heart's instinctive loyalty to the poet the proof of its consciousness that he does all these things, that he is the harmonizer, strengthener and consoler. How the faith of Christendom has been stayed for centuries upon the mighty words of the old Hebrew bards and prophets, and how the vast and inexpressible mystery of divine love and power and purpose has been best breathed in parable and poem. If we were forced to surrender every expression of human genius but one, surely we should retain poetry; and if we were called to lose from the vast accumulation of literature all but a score of books, among that choice and perfect remainder would be that songs of Burns.

ON READING.—Dr. McCosh says: "The book to read is not the one that thinks for you, but one which makes you think." It is plain, then, that a "course of reading" may be a great good or a great evil, according to its use. The late Bishop Alonzo Potter, one of the most judicious of literary helpers, offered to readers this sound piece of advice: "Do not be so enslaved by any system or course of study, as to think it may not be altered." However conscious one may be of his own deficiencies, and however he may feel the need of outside aid, he should never permit his own independence and self-respect to be obliterated. "He who reads incessantly," says Milton,

"And to his reading brings not
A spirit and judgment equal or superior,
Uncertain and unsettled still remains,
Deep versed in books, but shallow in himself."

The general agreement of intelligent people as to the merit of an author or the worth of a book, is, of course, to be accepted until one finds some valid reason for reversing it. But nothing is to be gained by pretending to like what one really dislikes, or to enjoy what one does not find profitable, or even intelligible. If a reader is not honest and sincere in this matter, there is small hope for him. The lowest taste may be cultivated and improved, and radically changed, but pretense and artificiality can never grow into any thing better. They must be wholly rooted out at the start. If you dislike Shakespeare's "Hamlet," and greatly enjoy a trashy story, say so with sincerity and sorrow, if occasion requires, and hope and work for a reversal of your taste. "It's guid to be honest and true," says Burns, and nowhere is honesty more needed than here.

FINE LINEN.—According to the *Building News* a piece of linen has been found at Memphis containing 540 picks to the inch, and it is recorded that one of the Pharaohs sent to the Lydian king, Croesus, a corselet made of linen and wrought with gold, each fine thread of which was composed of 360 smaller threads twisted together! The ancient Egyptians wove a fabric called the "linen of justice," or "justification." So beautiful and valuable was it that it was esteemed the most acceptable offering to the "Restorer of Life." A few hand looms can be seen at work in the Eastern bazaars of Cairo, the cloth woven in which rivals in texture, color and design the finest glass screens of Munich.

True Womanhood.

Writers and speakers have at great length written and discussed concerning the beauty, wit and intellect of woman—ignoring the more noble and enduring trait—her sympathy for suffering in all its forms. They describe to us the wonderful mental gifts of Madame De Stael, the "bird of ill omen" in the eye of Napoleon; the administrative abilities of the mother of Francis I. claim the historian's attention; that famous Dutch lady, who was consulted in affairs of state by William III. and his council, occupies considerable space in Macaulay's history. It was heartless Elizabeth to whom Spenser dedicated his "Fairy Queen." Not enough attention has been paid to the distinguishing characteristics of true womanhood. If I were to search for evidences of true Christianity, I should look for them in the lives of such women as Elizabeth Fry, who, like Howard, went about doing good; Florence Nightingale, the ministering angel, fitting among the sick and wounded in the Crimea; Grace Darling, saving the mariners, and in the lives of those women, who, during the revolutionary war and the great rebellion, made the establishment and maintenance of the government a realized fact. The soldier in the field did not love his country any better than did the ladies in the sanitary commission or in their labors of love at home.

This disposition to sympathize is common to all true women. Every one is a philanthropist. The son who sinks below the recognition of worldly esteem, finds that his mother's heart is still true to him. The wife of the traitor Arnold, when the world held him in abhorrence, still clung to him as the ivy clings to the oak. What if he had burned down New London, deliver his hoatmen into captivity, and scourge the country which had honored him, was not he the father of her child—her husband? As true to country as she was, she was truer to him. She left the comforts of home to go with a man who had forfeited the respect of the world. Every son who loves his mother, and every husband who loves his wife, cannot believe that the poet went too far or was sentimental when he said:

"Half human—half divine—is woman,"
S. A., Jr., in *Western Rural*.

Dress Mad.

Behold her at 11! Her limbs unfettered by the long skirts of conventionality, she runs, she romps, she slides on the ice ponds, she rolls hoop, she climbs fences, she leaps, she kicks, she runs races and is as fleet of foot as the boys. Her appetite is good, her cheeks rosy, and her movements unconsciously graceful. Behold her again at 20. No more does she run and jump or roll hoop, run races or slide on the ice. It is not "proper" now or ladylike, and she couldn't if she would, for she is fettered with long skirts, tight shoes and tighter stays. Her movements have no longer the freedom and unconscious grace of childhood, for now when she walks abroad she walks to be looked at, which now in her estimation is the main object of walking. She is already in delicate health and has a doctor who prescribes expensive advices and prescriptions for her, and ascribes her complaint to anything, and everything but the real cause; that is, simply the fettering of her body with fashionable clothes. Physically she is now a prisoner. At 11 she was free. The doctor advises travel, but he doesn't advise her to take off and keep off her fashionable fetters. She wouldn't do it if he did, and he wouldn't advise her if he knew it would bring relief, for she would no longer believe in a doctor who would make her dress like a "guy," and being dressed like a "guy" is dressing different from the style prescribed by a Paris modiste. Diana never could hunt in a trailing skirt, narrow, tight, high-heeled gaiters and a pinched, corseted waist; but Diana with a belted tunic and unfettered limbs would be bounced off Broadway by the nearest policeman. Dressing for health is one thing and dressing for fashion quite another. A man couldn't endure the pinching and incumbrances peculiar to feminine attire an hour, and a pretty spectacle he'd make rushing about in it during business hours. Yet the weaker sex wear double the incumbrances of the so-called stronger. To "dress" at all after the style uses up half a woman's time and two-thirds of her strength.

—*New York Graphic*.

A SONOMA GIRL.—Sonoma county can safely challenge the Union to produce prettier, more courageous or better girls than are to be found within her borders. Miss Mary Steirs, daughter of Gottlieb Steirs, lives in the mountains about 10 miles from this place. She is a pleasant, modest, retiring, rosy-cheeked bit of femininity, 21 years of age, with an eye of an eagle and nerves of steel. Her life among the mountains has been somewhat lonesome, and naturally, she acquired accomplishments unknown to the city ladies. She is an expert huntress and can handle a rifle as deftly as the best marksman. On the 11th ult., she shot a large deer, another on the 14th, a third on the 16th and a fourth on the 17th, all within a week. The deer were shot by moonlight and while feeding in Mr. Steirs' vineyard. We claim the championship for Mary Steirs.—*Sonoma Index*.

"WHAT do you know of the character of this man?" Was asked of a witness at a court the other day. "What do I know of his character? I know it to be unbleachable, your Honor," he replied, with much emphasis.

Chaff.

"WHEN I was a boy," said a very prosy, long-winded orator to his friend, "I used to talk in my sleep." "And now," said his friend, "you sleep in your talk." But somehow that didn't seem to be just exactly the point this orator was going to make.

A DUTCH REEL.—Dance mit der gal mit a ret nose, down mit der outside, shwing der gal of der outside in, all got left und der right, shwing old Han's daughter, balance to der front, tanz of your partner, gone down der mittel, und gif your gal a rest.

"FELLER spoke disrespectful of my sister; said he'd bet she was cross-eyed, and I sailed in." "Is your sister cross-eyed?" inquired the reporter. "Hain't got no sister," was the reply. "It was the principle of the thing what I got licked for."

A YANKEE, who had never paid more than 25 cents to see an exhibition, went to a New York theater one night to see the "Forty Thieves." The ticket-seller charged him 75 cents for a ticket. Passing the pasteboard hawk, he quietly remarked: "Keep it, mister; I don't want to see the other 30," and out he walked.

"BROTHERS, in pacin' off our var'us ways to our var'us homes, let us remember that de biggest windmill doan' pump de moas' water. De man who walks right 'long, takin' de mud wid de good roads, 'ceptin' de weather as it come, an' thankfully chawin' away on husks when he can't get corn, will get dar just as soon as anybody, an' feel jist as much at home when de ho'n blow.

CHOW PHYA Bhanuwong-se Maha Kosa Tib-oddi ti Phraklan, the New Siamese Ambassador has arrived in England. His cognomen was brought over in a caisson, the same as the Egyptian obelisk, to prevent it from being broken in several pieces, or having a few corners knocked off. It arrived safely, but it cost \$700 to get it out of the vessel's hold and set it up on shore.—*Norristown Herald*.

A MERCHANT desirous of collecting a large outstanding debt, went to an agent and told him he would give him half the bill as commission for his collection. The agent agreed. Months elapsed. One day the merchant met the agent. "By the way, Mr. —, have you collected that bill yet?" "Not quite," said the agent, moving down the street; "I got my half two months ago, but your half I can't collect to save me."

One Baby's Outfit.

Accounts are published of the wardrobe of a new baby born to an Italian marquis and his American wife. There is a cradle of willow, with canopy, decorated with draperies, medallions, points of Valenciennes lace, put on in perfect masses and looped here and there with bows of baby-blue satin ribbon. It is lined with quilted satin, the same shade of ribbon, and covered with lace put on in folds.

The sheets for every-day service are made with plain centers, tucked borders, let in bands of rich embroidery and edged with ruffle of needle work. The pillow-cases match the sheets.

Another set is of lawn, with half squares arranged to turn over, of medallions, in Valenciennes inserting and embroidery, and is edged with white lace. The cost of four sets is \$500, while sheets for the bed of the mother are valued at \$75 each.

The blankets are exquisitely fine and soft and are bound with baby-blue ribbon, one pair being finished at each corner with large rosettes of blue ribbon and the other pair with neat bows.

The eider-down quilt, or outer covering, is of pale-blue satin, with embroidered monogram, S. S. M., under the coronet. The borders are silk-stitched and the spread is finished with quillings of double-box pleatings of the wide baby-blue ribbon.

Young mothers can easily imagine the dainty beauty of the tiny silken socks, the exquisitely embroidered lawn skirts garnished with the finest of fine laces, the richness of the flannel skirts with silken embroidery and the handsome tucked, trimmed and lace-finished petticoats, but it is difficult to conceive of anything so lovely as the robes of real lace, arranged in diamonds, medallion, squares and all manner of conceits, with applique of embroidery in roses and other flowers, each figure in the Valenciennes lace being punched or upraised until it looks like round point.

There are three dozen dresses in the wardrobe, many of them of lawn, mull and fine laces; others are in thicker fabrics, richly trimmed with embroidery and edgings, with numberless fine tucks, pretty yokes and embroidered sashes and belts.

A CANDID OPINION.—"In my opinion at this age in life (45 years, and having been a reader of the best journals since I was 16), the RURAL PRESS is second to none in supplying its readers with proper general food for the minds of intelligent, thoughtful persons."—JAMES A. SMITH, Nevada Co., Cal.

VERMIN IN BIRDS.—A lady "who loves birds" writes us that to rid canary birds of vermin, put 10 to 15 drops of carbolic acid into about a quart of warm water, and bathe the bird quickly therein. Scald every portion of the cage and perches and wash with the acid and water.

Young Folks' Column.

Stick to Your Bush.

Mr. Morgan was a rich, and also a good man. The people of the town respected him, sent him to Parliament, and seldom undertook anything without asking his advice. If a schoolhouse was to be built, the plan had to be talked over with him. Widow P—asked him what she should plant in her field, Farmer S—always got his advice in buying cattle, and Mrs. R—consulted him about bringing up her boys.

When asked how he was so successful, Mr. Morgan said: "I will tell you how it was. One day, when I was a lad, a party of boys and girls were going to a distant pasture to pick whortleberries. I wanted to go with them, but was fearful that my father would not let me. When I told him what was going on, and he at once gave me permission to go with them, I could hardly contain myself for joy, and rushed into the kitchen and got a big basket, and asked mother for a luncheon. I had the basket on my arm, and was just going out of the gate, when my father called me back. He took hold of my hand, and said, in a very gentle voice: 'Joseph, what are you going for, to pick berries or to play?' 'To pick berries,' I replied. 'Then, Joseph, I want to tell you one thing. It is this: When you find a pretty good bush, do not leave it to find a better one. The other boys and girls will run about, picking a little here and a little there, wasting a great deal of time, and not getting many berries. If you do as they do, you will come home with an empty basket. If you want berries, stick to your hush.'

"I went with the party, and we had a capital time. But it was just as my father said. No sooner had one found a good bush than he called all the rest, and they left their several places and ran off to the new-found treasure. Not content more than a minute or two in one place, they rambled over the whole pasture, got very tired, and at night had but very few berries. My father's words kept running in my ears, and I 'stuck to my bush.' When I had done with one I found another, and finished that; then I took another. When night came, I had a large basketful of nice berries, more than all the others put together, and was not half so tired as they were. I went home happy. But when I entered I found my father had been taken ill. He looked at my basket full of ripe, black berries, and said, 'Well done, Joseph. Was it not just as I told you? Always stick to your hush.'

"He died a few days after, and I had to make my way in the world as best I could. But my father's words sunk deep into my mind, and I never forgot the experience of the whortleberry party—I 'stuck to my bush.' When I had a fair place, and was doing tolerably well, I did not leave it and spend weeks and months in finding one a little better. When other young men said, 'Come with us, and we will make a fortune in a few weeks,' I shook my head and 'stuck to my bush.' Presently my employers offered to take me into business with them. I stayed with the old house until the principals died, and then I had everything I wanted. The habit of sticking to my business led people to trust me, and gave me a character. I owe all I have and am to this motto—'Stick to your bush.'

An Interesting Game.

Games of amusement that induce thought, and serve to quicken the mental faculties, should be most patronized during the long evenings. It is quite possible for youth to amuse themselves while also deriving much profit. The game of "Verbarium" will secure these results.

A number of persons are assembled—the more the merrier—and a word chosen as the verbarium, which each writes at the head of his sheet. The object of the game is to draw out the vast number of words which lie folded up, as it were, in the verbarium, and this is accomplished amid much excitement and amusement, in the following manner: Let us suppose, for instance, that the word chosen is "treason." One of the company is appointed time-keeper; and the signal being given, each writes as rapidly as possible all the words beginning with "T" which can be spelled with the letters of the verbarium.

At the end of the two minutes the time-keeper calls "time!" and the eager pencils are obliged to stop. The company then read, in order, the words they have written. As each word is read, those who have not written it call out "no," and those who have it, cross it out from their lists, and place opposite a number of credits equal to the number of defaulters. If three persons, for instance, fail to have the word "tea," the rest have three credits. Two minutes are then devoted to words beginning with "R," and so on until the whole verbarium is exhausted, when each player counts the aggregate number of credits, and the one who has the largest number is declared the winner.

The possibilities of fun in this game do not all appear from a dry description like the foregoing. The lamentations of those who, in their zealous pursuits of complicated anagrams, have overlooked the simplest combinations, the shouts of laughter that attend the defeat of an attempt to impose triumphantly a word that "isn't in it," the appeals to the dictionary to settle disputed questions, and hundred other lively little incidents of the game, render it the most popular with old and young that has ever been introduced into the parlor. To illustrate

the extensive range of language which this simple amusement covers, it is only necessary to say that not less than 100 words may be derived in this way from "treason," which is, after all, not a good verbarium.

GOOD HEALTH.

Coffee Drinking.

How strong should coffee be taken? is an inquiry of much practical importance. How much should be taken at a meal? is scarcely of less moment. Coffee, like any other beverage, may wholly ruin the health; the very use of it tends to this ruin as certainly as does the use of wine, cider, beer or any other unnatural stimulating drink. There is only one safe plan of using coffee, and that is, never, under any circumstances, except of extraordinary character, exceed in quantity, frequency or strength; take only one cup at the regular meal, and of given, unvarying strength. In this way it may be used every day for a lifetime, not only without injury but with greater advantage than an equal amount of cold water, and for the same reason that nothing cold should be drank at a regular meal, except persons in vigorous health.

One pound of the bean should make 60 cups of the very best coffee. If a man takes coffee for breakfast only, one pound should last him two months, or six pounds a year.

One pound of coffee should be made to last a family of 10 persons, young and old, one week. Put about two ounces of ground coffee in a quart of water, or rather divide the pound into seven portions, one for each breakfast in the week, and make a quart of coffee out of it, which will be 64 tablespoonfuls. Give the youngest two tablespoonfuls and the oldest a dozen; the remainder of the one cup being filled up with boiled milk. This will give a cup of coffee sufficiently strong for all healthful purposes, for the respective ages; and for various reasons, pecuniary as well as physical, some such systematic plan as this should be adopted in every family in the land. How to make a good cup of coffee? is a third question. It is perhaps as good and as easy a plan as any to buy the coffee in the grain, pick out those that are imperfect, wash it, parch as much as will last a day or two, with your eye upon it all the time until it is of a rich brown, with no approach of black about it. Grind enough for the day's use; grind it fine, for the greater the surface exposed to the hot water the more of the essence you will have; pour the boiling water on the coffee, close it up, boil it 10 minutes, let it stand to clear 10 minutes, then use.

There are additional devices for hushandling the aroma, but as people who are so very particular about every thing they eat being done to the nicest shade, are but a shade above the brutes, and generally die 20 years before their time of inanition, of chronic diarrhea, it is not thought important to initiate the readers of this journal any further into the mysteries of coffee-making and drinking.—*Journal of Health*.

EFFECT OF PERFUMERY ON HEALTH.—An Italian professor has made some very agreeable researches, resulting in the discovery that vegetable perfumes exercise a positively healthful influence on the atmosphere, converting its oxygen into ozone and thus increasing its oxidizing influence. The essences found to develop the largest quantity of ozone are those of the cherry, laurel, clover, lavender, mint, juniper, fennel and bergamot; those that give it in smaller quantities are anise, nutmeg and thyme. The flowers of the narcissus, hyacinth, mignonne, heliotrope and lily of the valley develop ozone in closed vessels. Flowers destitute of perfume do not develop it, and those which have slight perfume develop it in small quantities. Reasoning from these facts, the professor recommends the cultivation of flowers in marshy districts, and in all places infested with animal emanations, on account of the powerful oxidizing influences of ozone. The inhabitants of such regions should, he says, surround their houses with beds of the most odorous flowers.—*The Mechanic*.

SUDDEN DEATH.—The chances of escaping sudden death are nearly two to one in favor of women. Death always begins at the head, the heart or the lungs; therefore,

1. Keep the head cool by taking the world easy.
2. Keep the lungs breathing deeply and fully about 17 times a minute, by cultivating alacrity in all the bodily movements.
3. Keep the heart heating about 68 times a minute, that is, let the pulse beat four times while the lungs breathe once, by eating temperately, sleeping fully and soundly, exercising moderately and avoiding all temporary excitements, mental or liquid.

THE TREATMENT OF RATTLESNAKE BITE.—A professional snake catcher of Holyoke, Mass., treats rattlesnake bites as follows: He first ties a cord tightly around the member bitten, so as to cut off the flow of the blood toward the heart. The bleeding wound is then sucked out thoroughly to withdraw as much of the poisoned blood as possible, after which strong spirits of ammonia is applied. After a while the string is loosened a little to allow the remaining poison, if any, to be so slowly absorbed into the system that no serious results are likely to follow.

DOMESTIC ECONOMY.

Pickles.

Stuffed peppers. Chop a large cabbage finely; add one large spoonful grated horseradish-root, and one ounce of white mustard-seed. Mix all this well. Cut pieces out of the stem ends of large green peppers, large as a silver dollar; fill with the stuffing, and sew the piece in again with cotton thread. Then take vinegar enough to cover, spice with cloves, mace, and allspice, whole. Boil, and when nearly cold pour over the peppers. No salt is to be used. Mangoes are stuffed and pickled in the same manner.

Sweet pickles—peaches, pears, apples, or cantaloupes (muskmelons): To every seven pounds of fruit allow three and one-half pounds of sugar and one pint of cider-vinegar, two ounces whole cloves, two of stick cinnamon. Peaches, pears, and apples should be pared only, not divided. Then in each stick two whole cloves. The cinnamon should be boiled in the vinegar. Put the prepared fruit into a stone jar and pour the vinegar, scalding hot, over it. Repeat this for three mornings. These sweet pickles will be found delicious and will keep any length of time. The melon should be cut in strips as if to serve fresh on the table, and should not be too ripe. Simmer them 30 minutes slowly in the prepared vinegar, and they will need no further attention except to keep closely covered, and they will keep good for a year.

Pickle Nasturtiums: Soak for three days in strong salt and water; then strain, and pour boiling vinegar over them, omitting the spice. Note.—Vinegar should never be allowed to boil over one minute; it loses strength thereby. To pickle onions: Peel and boil in milk and water for 10 minutes; strain, and pour over scalding spiced vinegar. Only the "silver-skin" onion should be used. To pickle mushrooms: Stew in salt and water till tender, then pour boiling spiced vinegar over them, and cork tightly while hot.—*Floral Cabinet*.

PAINTED LADIES.—Remove the eyes and stalks from some nice round-looking apples that will cook well, and peel them very evenly to preserve their shape. Place them in a shallow stew-pan large enough to hold them in one layer. Dissolve loaf sugar in sufficient water to completely cover the apples, allowing four ounces of sugar to each pint of water; add a few cloves and a little lemon peel and stick cinnamon. Cover the stew-pan, and simmer the apples very gently, or they will break before being cooked thoroughly. When done, and they are cool enough, lift them carefully to a glass dish, and with a small brush tint them delicately on side with a little liquid cochineal or melted red currant jelly; strain the syrup, return it to the stew-pan, and boil it rapidly until reduced to one-third of a pint. When cold stir to it a wine-glass of sherry and the juice of half a lemon, and pour it round, but not over the apples. The wine may be omitted.

MINCED MUTTON WITH POACHED EGGS.—Mince the mutton small, taking out all skin and sinew; put in a stew-pan a small piece of butter, with one or two onions, some parsley and a sprig of tarragon, all chopped fine, and let them fry well in the butter; then add sufficient stock for the quantity of meat; pepper and salt to taste; a little browning if needed for the color, and a tablespoonful or more of flour mixed in a little stock of water; stir constantly, and when the sauce is smooth and well boiled, add the minced mutton and warm it through, but do not let it boil, or it will be hard; pour it upon a dish, and serve it with some nicely poached eggs on the top.

CRAB APPLE OR GRAPE PICKLES.—I take one quart vinegar and put a tablespoonful cinnamon and cloves into it, let boil 5 or 10 minutes; in the meantime, while the vinegar is boiling, I look over my crab apples and weigh out 7 lbs. of apples and 3 lbs. of sugar (coffee C.), add the sugar, and when it boils again drop in the apples; they will cook in a short time and will be ready for the table as soon as cool. I pickled grapes with this same recipe, and they are very nice indeed. Leave them on their stems.

TO FRY LAMB STEAKS.—Dip each piece into well-beaten egg, cover with bread crumbs or corn meal, and fry in butter or new lard. Mashed potatoes and boiled rice are a necessary accompaniment. It is very nice to thicken the gravy with flour and butter, adding a little lemon juice, and pour it hot upon the steaks, and place the rice in spoonfuls around the dish to garnish it.

BEEFSTEAK OMELETTE.—Three lbs. of raw steak and one slice salt pork chopped fine; then soda crackers rolled, one egg, half a cup of milk, small piece of butter, two teaspoonfuls of salt, one teaspoonful of sage, half teaspoonful of pepper; mix with the hands; pack in a tin and bake one hour and a half; when cold slice thin.

CINNAMON COOKIES.—One egg, one cupful of sugar, three-quarters of a cupful of sour cream, three-quarters of a teaspoonful of saleratus, and a little salt, stir very stiff, and drop in small bits on the molding board, on which is spread a few spoonfuls of ground cinnamon; roll the cakes separately in this powder, lay on a well buttered tin and bake.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$1; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line 25 .80 \$2.00 \$ 5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 30.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, November 6, 1880.

TABLE OF CONTENTS.

EDITORIALS.—The Scenery of the Columbia River; The Prevalence of the Phylloxera; An African "Grape" Vine; Do They Want Fresh Meat in Asia; The Queen Buys an American Machine, 289. Improvement in Short Horn Values; American Silk Industry, 293. The Week; Wheat Abroad; A Southern Coast Harbor; Horticultural Society Meeting; Increase of American Production, 298. The Remedy for the Phylloxera, No. 2, 297.

ILLUSTRATIONS.—La Tourelle Falls on the Columbia River, 289. Curve Representing the Diffusion of Bisulphide of Carbon as Determined by French Experiments, 297.

CORRESPONDENCE.—Tulare County Notes; Los Angeles Fair—At the Park; The Los Angeles Horticultural Fair, No. 2, 290.

POULTRY YARD.—Notes on Management; Fattening Fowls, 291.

THE APIARY.—Beekeepers Meeting at Los Angeles Fair, 291.

THE STABLE.—Horse-Growing in Montana, 291.

METEOROLOGICAL.—Change of Climate in the Sierras—The Cause, 291.

PATRONS OF HUSBANDRY.—The Grange; Meeting of the National Grange, 292.

AGRICULTURAL NOTES from the various counties of California and Nevada, 292-93.

NEWS IN BRIEF on page 293 and other pages.

MISCELLANEOUS.—Prize Horses at Lake County Fair; Premiums at Los Angeles County Fair; Live Stock Awards at Sixth District Fair, 293.

HOME CIRCLE.—The Turning Leaf (Poetry); A Woman in the Case; A Word to Fathers; The Songs of Burns; On Reading; Fine Linen; True Womanhood; Dress Mad; A Sonoma Girl, 294; Chaff; One Baby's Outfit, 295.

YOUNG FOLKS' COLUMN.—Stick to Your Bush; An Interesting Game, 295.

GOOD HEALTH.—Coffee Drinking; Effect of Perfumery on Health; Sudden Death; The Treatment of Rattlesnake Bites, 295.

DOMESTIC ECONOMY.—Pickles; Minced Mutton with Poached Eggs; Crab Apple or Grape Pickles; To Fry Lamb Steaks; Beefsteak Omelette; Cinnamon Cookies, 295.

Business Announcements.

Agricultural Implements—Baker & Hamilton, S. F.
Ranch For Sale—M. J. O'Byrne, Merced, Cal.
Webster's Unabridged Dictionary—G. & C. Merriam.
Blue Gum Trees—Isaac Collins, Haywards, Cal.

The Week.

The all-important and overshadowing event of the week has been the presidential election, and it is highly probable that everybody, including the candidates, is heartily glad the hotly contested campaign is over. As we write (Wednesday afternoon), the smoke of the battle has not yet blown off sufficiently to see the result in our own State close at hand, much less for the whole nation. However, it is a comfort to feel that the people really govern the country, and it will run on smoothly as a whole, without much reference to the individual politicians who happen to have the management at any one time.

Clear, blue skies, warm, sunny days, still, cool nights, though pleasant to experience, give no promise of rain. The sailing, apparently loaded clouds, appear in this latitude occasionally, but have so far passed on without unburdening themselves of any aqueous treasures. Although most of the grain has been hauled under shelter for fear of rain, still there are large quantities at railroad sidings, in fields, near roads, and at other points, awaiting transportation. Vessels are loading and carrying off our surplus grain at several other points than San Francisco and Oakland. There are half a dozen at Port Costa, in Carquinez straits, two at Benicia, several at Vallejo, and this week one large ship left Wilmington harbor, Los Angeles county, for England, with a load of grain.

We hope before long to see surer indications of a winter which shall leave no one cause to complain of scarcity of rain. The vineyard men are now all busy getting in their grapes and making their wine. The wine product of the State this year is expected to be exceptionally large.

Pinus and other needle-leaved trees, and especially those containing resinous matter, absorb and exhale more water than other species.

Wheat Abroad.

Last week we noted the change in opinion abroad concerning the supply of wheat from this country and the need for it abroad. Instead of thinking as they did a few weeks ago that the United States had so much wheat that it could be bought for a song, foreign authorities are now beginning to measure their own necessities and wonder whether, after all, we have enough for them. This week's London exchanges bring farther information to support this view, and to encourage those who are holding wheat in the hope of better values. Whether better prices will indeed come or not none can tell, but the indications favoring them are worth noting.

In the first place Russia, one of the leading supply countries, is unfortunate this year. It is announced from St. Petersburg that most discouraging reports are arriving from many of the interior provinces of the empire concerning the cereal harvest. According to the *Messenger de Tver* not only is the general failure of the rye crop deeply deplored in that government, but it asserts that the most fortunate of the growers are those who have secured as much of their crop to provide for actual consumption up to the commencement of next month, many not having even reaped sufficient to sow the land. In the province of Wladimir the situation is described as just the same. The *Norovye Vremya* contains distressing accounts of the privations of the rural population, who are migrating in large numbers into the neighboring districts in the hope of finding the means of subsistence. At Taganrog it is reported that all granaries have been emptied to supply food for the people in the interior. The general situation of the country is in every respect exceedingly deplorable, and nothing seems to be expected from the agricultural committees, which are deprived of all means of prompt action, and are therefore powerless to ameliorate a position which is only to be confronted and coped with adequate resources.

The London *Farmer* of Oct. 16th, says that "accounts from abroad favor holders," and after alluding to the Russian famine says: "Thus an exporting source in most years is now compelled to buy from other countries. These facts, and the recognized deficiency of the English wheat yield in the northeast, have, in combination, affected value and prompted demand."

The fact that so great a proportion of this year's wheat cargoes have gone to the continent is exciting the British, and as one English writer says: "The Gaul has been wiser in his generation than the 'unready Saxon,' and made contracts with America, when the game was practically in the hands of consumers. Thus we see the Continental clearances from Atlantic ports are nearly double those to this country, a large proportion of the former being destined for French ports. In week ending 2d inst., U. K. gets 172,000 qrs., and the continent, 300,000 qrs." The "visible supply" of wheat on Oct. 10th, was about 3,000,000 bushels less than at this date last year, and the quantity afloat for the U. K., 540,000 qrs. less than a year ago. All these items unite to elevate the British idea of the market value of wheat.

A Southern Coast Harbor.

Between 30 and 40 years ago, when the commercial interests of California were entirely confined to the shipment of hides, there were four harbors which were used by the hide droghers, and these were the only practicable places of any moment where vessels could load. They were San Francisco, Monterey, San Pedro and San Diego. Those who have read Dana's well known "Two Years Before the Mast" can recall the difficulties experienced in loading the hides, especially at San Pedro, or Wilmington, as it is now called, the sea port of Los Angeles. Both San Diego and San Francisco were natural harbors, secure in any wind; but at San Pedro the vessel had to anchor in an open roadstead, a mile or more from shore, and exposed in the winter to the furious southeasters and south-westerly which prevail in the winter months on this coast. The old *Pilgrim*, like many another vessel, had a narrow escape from laying her bones on Deadman's island, and they all had to have good ground tackle to ride out a blow in that roadstead. These same harbors are still the principal ones in California. Monterey is visited mainly by steamers, and while good enough in winter, is poor in summer. It is, however, practically a roadstead.

But the dangers and difficulties of the San Pedro anchorage are of the past, for this week we read that the British ship *Eskdale* sailed a day or so ago with 2,000 tons of wheat for Liverpool; and that the British brig *Orient*, which brought coal to Wilmington from England, has begun to load with wheat for Europe. Both discharged and loaded their cargoes inside the harbor at Wilmington.

This result has been entirely due to the government works at San Pedro, where nearly half a million dollars has been spent in building breakwaters to form the harbor. Before the artificial harbor was formed, all the vessels were loaded and discharged by means of lighters, and were, in the winter season, always in danger lying in the open roadstead. A breakwater some 6,700 ft. long extends

from Rattlesnake island to Deadman's island. This wall has been made partly of wood and partly of stone. On the inner side and parallel with it is another wall, intended to direct the current. Between these walls the shallow pontoons, reef and bar have been dredged, so that our vessels can carry 15 to 20 ft. of water for about a mile from the entrance. Small vessels go all the way up. In spring tides 12 to 13 ft. of water may be carried all the way up to the wharves.

The improvement of this harbor was accomplished under the supervision of Col. Geo. H. Mendell, of the United States Corps of Engineers. The work was skillfully and economically carried out, and has accomplished more than was expected of it. As an engineering work, it has been an ensured success, and it has exercised a very marked influence on the commercial interests of the southern country. A good harbor has been made where before was an open roadstead. Cost of lighterage has been done away with, and, as has been stated, vessels now load grain there for foreign ports.

This is a result which we are glad to note. The people of the section need not send their grain all the way to San Francisco first and then ship it to Europe. It goes to Europe direct now. We should be well pleased to see other shipping points along the coast where products could be shipped, but unfortunately California is rather barren of good harbors.

Horticultural Society Meeting.

The October meeting of the State Horticultural Society held in this city on Friday, the 29th, was the annual meeting. There was a good attendance and much interest manifested.

There were shown handsome specimens of the "Hoover" apple by Leonard Coates, of Yountville, and a collection of 35 varieties of almonds, mainly seedlings of his own growing, by A. T. Hatch, of Cordelia. At another time we shall have something to say about Mr. Hatch's beliefs and experience in the growing of almonds.

The following were elected regular members: Isaac Collius, of Haywards, and H. J. Rudisell, of Riverside.

The report of the committee appointed two months ago concerning the best sized packages for plums and prunes, and the best varieties thereof for planting, reported by Mr. James Shinn as follows:

Your committee, appointed to consider and report upon the proper size of boxes for dried plums and prunes, and also to name a list of varieties of plums and prunes to be recommended for planting, beg leave to report that they have given to both subjects much attention and careful thought. Your committee hesitate to recommend any specific size for packages, because they find, upon inquiry, that the different factories and packing establishments, which handle nearly all the dried fruit made in the State, have each their own views, and each considers his own practice best. There is no uniformity in sizes of packages, or in the grading of the fruit into uniformity as respects quality. Every step in this investigation and inquiry but deepened our sense of the importance of this subject. The interests of fruit growers, of fruit driers and of consumers all lie in one direction—uniformity of grades and sizes of packages. But this desirable reform cannot be brought about without the earnest co-operation of all parties, and especially of the large establishments engaged in drying and packing plums and prunes for distant markets. Your committee do not, therefore, see the way open to recommend any definite sizes of boxes for plums and prunes.

Upon the other branch of the subject committed to us, we have agreed to recommend the growth of but few varieties of plums or of prunes, if the object of the grower is to market the fruit. For small orchards or gardens, of course, a much greater variety may be desirable. But for extensive planting, we think it wise to depend upon comparatively few, selecting with reference to the end aimed at, whether the fruit is to be canned, or whether dried plums, or whether strictly prunes.

For Prunes, Dried Whole.—Petite Prune d'Agen, or French prune, is much superior to all others, although the Fellenberg and the German, or Rhine prune, are much used; and these last, when properly handled, make a fair article.

For Purposes of Canning.—All the white or yellow varieties, if of good size, may be profitably used. The preference must be given to the White Magnum Bonum or Yellow Egg, the Coe's Golden Drop, the Washington, and some canning factories speak highly of the Prince's Yellow Gage and one or two others. We find no disposition to use any of the red or purple varieties for canning.

For drying split we recommend the foregoing list of yellow plums, with the addition of Columbia, Victoria, and perhaps Pond's Seedling.

For Shipping in an Undried State.—The Hungarian prune, Ichworth's Imperatrice, and perhaps Duane's purple and Quackenbush.

For family orchards a very good selection may be made from the foregoing lists, and, if desired, a few others may be added, as Bradshaw, Royale Blative, True Green Gage and English Damson.

Your committee remark, in conclusion, that they are aware that there may be difference of opinion as to the relative value of varieties of plums for specific uses, yet they feel confident that the lists which they have suggested will prove at least as good as any that can now be made.

The report was accepted, and an interesting discussion ensued.

Mr. Hatch thought the society might select a box for members to abide by if they desire—a guide to growers who put up their own fruit, irrespective of large packers, etc.

Mr. Shinn said yes, but the amount by home packers is small. The committee thought of 10 lbs. for dried plums and prunes if pressed, and 20 lbs. if not pressed.

Mr. Hatch said he learned at a meeting of the society, that the Natoma Co. used 20 and 40 lb. cases. He adopted these sizes, and sold his dried plums for 1½ cts. in 20-lb. boxes, and 16 cts. in 40-lb. boxes.

Mr. Trumbull favored a society box, to fix the right size and adopt it. This would give a character to California fruit. Even if well dried, a uniform package must be adopted. Every-

thing depends on system, and this would encourage growers to pack their own fruit.

Dr. Strentzel favored boxes of 10, 15, 20 lbs., etc.; using the decimal system with a unit of 10 lbs.

Prof. Hilgard remarked that a 10-lb. box would be bought by consumers, but many times a 20-lb. box would spoil before eaten.

Mr. Webster thought it expedient for the society to recommend a package. We must get a start. He would favor 10, 20 and 40-lb. boxes.

Mr. Shinn remarked that it is not the box so much as the grade and quality. One man's small boxes might be good, another's poor.

Mr. Hatch said that every man's brand must stand for itself.

Mr. Verrue urged uniformity of quality; the same bottom as top.

Webster.—Nice things in small packages, the tendency will be in the end to put best in small compass.

Shinn.—Correct idea.

Mr. Webster moved that the society adopt 10, 20 and 40-lb. boxes.

Hatch.—Shall we specify size and shape?

Mr. Webster thought this had better be left with growers.

Mr. Webster's motion was adopted by the society.

R. J. Trumbull reported for the committee appointed to collect statistics to show the successful fruits in the different parts of the State. A circular has been drafted, embodying questions to growers, to which we shall allude at length at another time.

The election of officers for the coming year elicited much interest, and there was some close voting on some of the candidates. The following were chosen: President, E. W. Hilgard; Vice-President, J. V. Webster; Secretary, E. J. Wickson; Treasurer, G. P. Rixford; Directors, J. Strentzel, B. B. Redding, A. T. Hatch, W. H. Jessup and W. B. West.

The Secretary reported 89 members elected during the year, 59 of whom had attended and paid their initiation fee. He was instructed to correspond with those who had not found time to attend.

The Treasurer, Mr. Rixford, reported \$239.75 receipts and \$115 cash on hand. His accounts were audited by a committee, consisting of Messrs. Ewer and Smith, and found correct.

Votes of thanks were tendered Messrs. Learned, of Stockton, W. W. Smith, of Vacaville, and A. T. Hatch, of Cordelia, for their donation of their premiums taken on fruit at the fair.

Mr. Redding, in suggesting a subject for the next meeting, called attention to the danger attending the importation of new and very injurious insects into the State along with the new fruits and new grasses and ornamental trees. It was a source of tremendous injury, and ought to be investigated by the University, or ordered by the Legislature, and better the latter, as the former needed all its funds, and the benefit to be derived would accrue to the whole State. The character, spread and antidote for the new insects he proposed as the subject for the next meeting, and requested Dr. Behr to take it. Mr. Jessup approved Mr. Redding's proposition.

Mr. Dwinelle suggested that in order that the public might understand the financial importance of the subject, definite statements of loss by insects he obtained as far as possible from growers. Mr. Blowers, for instance, could point to his vineyard and show \$2,000 dead loss during the year from the grasshopper and vine-hopper.

Messrs. Behr, Jessup and Dwinelle were appointed to present the subject.

The Secretary was instructed to inquire concerning another hall for the use of the society. Notice was given of a proposed change in the hour of meeting to 12 o'clock. The society then adjourned.

Increase of American Production.

The following table, showing the great increase in production in the United States during the last 20 years, has been compiled by the Hon. J. Hay, Assistant Secretary of State for the United States:

TWENTY YEARS' INCREASE IN PRODUCTION IN THE UNITED STATES.			
	1860.	1880.	Increase per cent.
Population.....	31,443,321..	49,500,000..	55
Wheat produced, bbls..	173,104,924..	440,000,000..	164.2
Wheat exported, " ..	4,165,163..	175,000,000..	4,111.8
Maize produced, " ..	839,792,740..	1,450,000,000..	72.9
Maize exported, " ..	3,314,305..	100,000,000..	2,917.3
Wool produced, lbs. ..	60,264,912..	232,600,000..	285.8
Cotton produced, lbs. ..	4,828,770..	5,675,000..	17.6
Petroleum - - bbls. ..	500,000..	19,741,601..	3,843.8
Iron produced, tons ..	919,770..	3,070,875..	234.1
Rails produced, " ..	205,038..	1,113,273..	442.9
Hogs, packed ..	2,350,822..	6,950,451..	195.7
Butter exported, lbs. ..	7,040,914..	38,248,016..	400.6
Cheese exported, lbs. ..	15,515,799..	141,054,474..	813.6
Merchandise imports, \$30,282,455..		670,000,000..	99.3
Merchandise exports, ..	316,242,423..	835,000,000..	164.2
Gold & silver prod'd..	40,150,000..	79,711,990..	72.9
Gold & silver exp'd..	57,906,104..		
Gold & silver imp'd..		75,713,531..	

THE pork packing of Chicago for the year ending Saturday night was 5,300,000. It is ciphered out that this would make an unbroken line of hogs from Portland, Maine, to Portland, Oregon.

AN unusual amount of oil is being shipped over the railroad from Alameda to Alameda Point, and it is secretly intimated that a 100-barrel well has been struck.

The Remedy for the Phylloxera.—No. 2.

(Written for the RURAL PRESS by J. H. WHEELER.)

Having given in article No. 1 (in RURAL PRESS of Oct. 23d) the position which the bisulphide of carbon occupies as an insecticide; having alluded to the manner in which it has superseded all other remedies for the phylloxera, and also to the manner in which M. Marion opens the *Rapport du Comité Regionale*, I will now proceed to examine the first part of the report, consisting of an exposition of the experimental work of the *Comité* in 1877.

Chapter I. gives a biographical sketch of this insect. In order to operate on the phylloxera, its changes must be known. The result of the *Comité*, in following its metamorphoses, corresponds closely to that given by Prof. Hilgard, of the University of California; it is, briefly, as follows: The insects are to be found safely encoined on the roots of the vines during the months of December, January, February and March. These months make up the period of their hibernation. If the climate be exceedingly cold they hibernate in the egg; but in countries like France and California, the tendency is to winter without change of form. The insect then continues during this period in a torpor, from which they awake during the first part of April. Then begins their parthenogenesis; if the weather be cold they do not produce their eggs until the middle of the month. The new generation of insects are attached to the roots, and continue to reproduce without sexual inter-

climatic changes of California will render it necessary to apply it about the last of December, or in January—but here arises the difficulty of plowing—it cannot be put into the ground after the soil has been agitated or worked.

Chapter II. treats of experiments to determine the diffusion of the bisulphide of carbon in the soil. For, understanding this, suppose 5 or 20 grams of liquid bisulphide be placed in the soil by the proper instrument. It immediately begins to diffuse; if the soil be warm and loose, the diffusion is rapid, if cold and compact, less rapid. Now we want to know how far the vapor penetrates the soil from the point of insertion; how long, after insertion, it is before the liquid is all evaporated, and also its toxic strength at different distances from the point of injection, and at different times afterwards. To determine this an apparatus is constructed, consisting of an aspirator attached to a tube with bores in its lower end; this tube being inserted into the ground, the aspirator is set to drawing in the atmosphere which surrounds the tube underground, this atmosphere being drawn through a strong solution of potassium in alcohol. If there be any of the gas of bisulphide of carbon in this atmosphere which is drawn from underground, it forms with the solution of potassium the xanthate of potassium (thus $CS_2 + (C_2H_5)_2KO = (C_2H_5)_2KCOS_2$). This xanthate of potassium, on being neutralized with acetic acid, gives, with a drop of the sulphate of copper, a bright yellow precipitate, thus forming the xanthate of copper. Now, by the density of this precipitate, the strength of the toxic atmosphere can be approximately determined from the point at which the tube is inserted.

The results of two of these experiments I

times of year. In a compact clay soil it was found that in March the vapor continued sufficiently effective for seven and one-half days, and from that on its presence was scarcely noticeable more than 25 c. m. from the point of injection. In a loose soil at the same time the vapor continued effective only six and one-half days. In the month of April, the same two soils were tried again and the results gave six and one-half days in the compact soil, and five and one-half days in the loose soil.

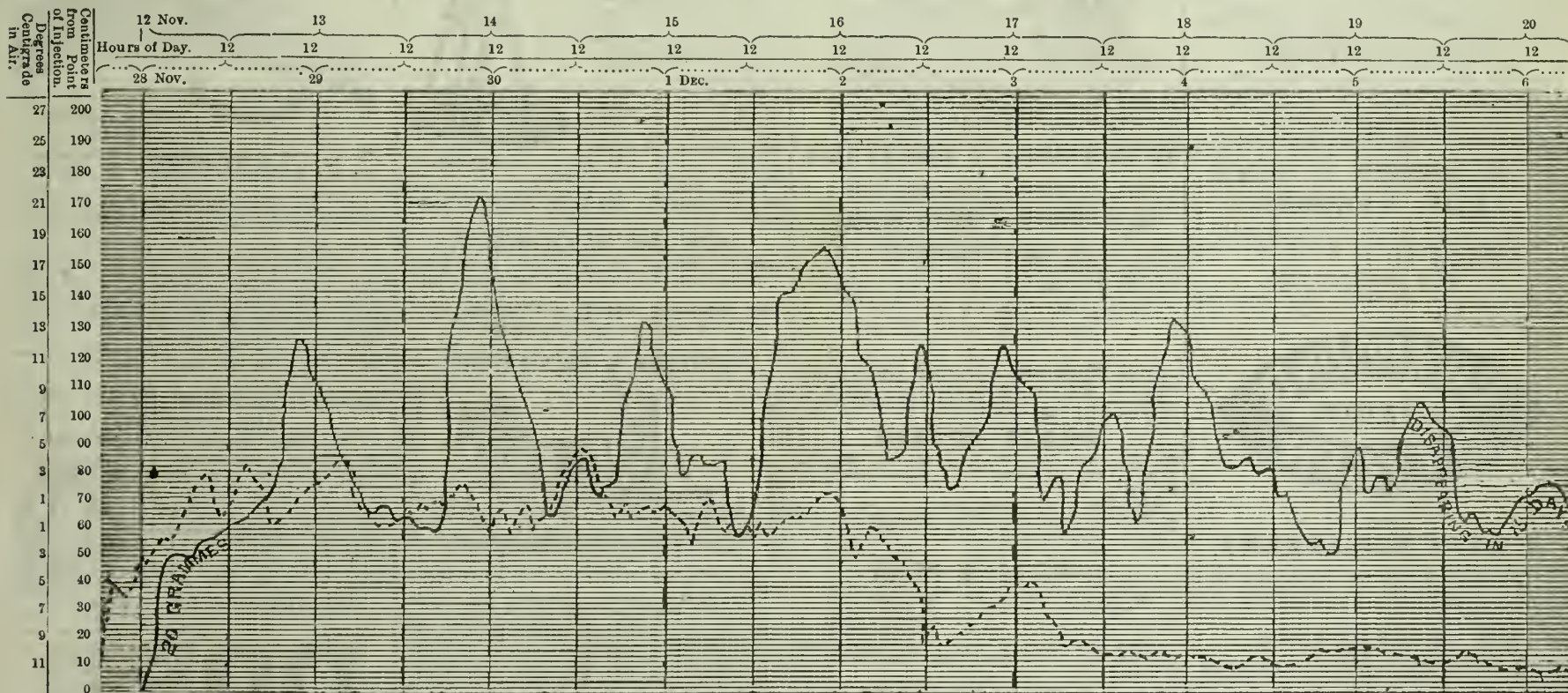
The humidity of the soil is another important element, excessive moisture retarding the diffusion and giving it longer time to operate. It is seen by the curve that the energy of the vapor is not directly proportional to the amount injected nor is the distance it traverses; in this case the proportion in quantity injected being that of one-fourth and the distance or energy of the vapor nearly one-half, and from this we are able to economize, and also to determine, when there are to be two successive applications, how soon the one must follow the other, which as we have stated, is an interval of six days in winter and four days in summer.

Thus far we have spoken only of the horizontal diffusion of the vapors. In these experiments the liquid was inserted about 40 c. m. or nearly 16 inches; below the surface the passage of the vapor is downward, and laterally into the ground. The rate of diffusion with all gases is inversely proportional as to the square of their density. Now the density of bisulphide vapor being very great, its diffusion is comparatively slow; in fact, it is because of its superior specific gravity that it is so valuable for this purpose. It is on this account that it is so successfully applied to the killing of squirrels, for

proceed as follows: A large number of wire cloth nets are made cylindrical in shape, and 12½ inches in length. Into these are carefully placed roots taken from the vine, placing a number of lengths (on which a uniform amount of phylloxera are attached) into each. A large number of the nets being thus prepared, they are, after each has been attached to a wire, to which is fastened a numbered tag, placed under ground at a depth of about two ft., and being planted at measured distances from each other, we have to all intents and purposes a vineyard badly phylloxered. It gives, when the earth is carefully placed about the nets, the normal condition of the insect, and yet perfectly under our control. A few days are allowed to elapse before applying the reagents, in order to make the conditions perfectly natural; then the bisulphide is injected at different distances from the nets, and in different quantities—not to a single net, but to a field of from 100 to 150 nets is each experiment applied.

One trial may be with these constructive vines six ft. apart; another with them four ft. apart, and so on, thus obtaining results which may apply to the different vineyards. After a proper interval succeeding the application of the insecticide, the nets are removed and examined, and the per cent. killed determined—the numbering and classifying by tags before being placed in the ground conducing to great accuracy.

In this chapter, after the presentation of the above scheme for determining the mortality of the insects under experiment, there follows a report of the results obtained. These cannot be given here, but a few facts may be added, illustrating the general results, as follows:



CURVE REPRESENTING THE DIFFUSION OF BISULPHIDE OF CARBON AS DETERMINED BY FRENCH EXPERIMENTS.

course until about the 20th of July, after which, little stumpy wings appear, and with them they fly forth to the leaves. Until September they continue to swarm above ground, and have even been found above ground as late as the 14th of Oct. The winged insects, which appear about the 20th of July, inhabit the leaves, and by their sting raise a gall which grows up and surrounds them; each insect in the meantime lays from 100 to 200 eggs, and then dies in the gall. From these eggs a wingless lice are brought forth, which feed on the leaf and reproduce without sexual intercourse. Here for the first time appear the males and females, and during the following period their union is active. Now the female lays a single egg from which, in September, the mother root-louse is produced. Again descending to the roots of the vine, the cycle is repeated similarly the next year. If the vine be one not suitable to the above-ground life of the insect, it may continue for eight or ten generations to reproduce under ground. Its metamorphosis is also influenced by the weather, occasionally skipping some intermediate stage of its successive development to conform to its environments.

The changes which the phylloxera undergo in California are probably similar to those which they undergo in France; but we see that some particular stage may be left out, and still the following phases be the same. We do not seem to have the winged variety as numerous as in France; but of this we are certain, that they do infest the roots, and that they hibernate without the egg. This renders them available to the winter application of the bisulphide, which might allow them to survive if they were to hibernate in the egg. The State Commission will tell us how closely the California phylloxera follows in its habits that of France and other countries, after they determine the same by experiment. Professor Hilgard thinks we shall need to apply the bisulphide later in the year than it is applied in France. That the

have given in the chart which appears on this page. The dotted line gives the diffusion of 5 grams of bisulphide obtained in November and December, 1877; and the continuous line the diffusion of 20 grams, obtained in November, 1877. Distances measured on the horizontal lines indicate the length of time after the injection, and distances measured on vertical lines indicate the distances from the point of injection to which the vapor has penetrated the ground. Thus, if we desire to know how far the vapor from 20 grams has penetrated the soil later after two days or 48 hours, we look under the number 12, indicating midday of the 14th of November, and find by measuring on the scale to the left of the chart marked centimeters, the height to which the line passes at this point. Thus, we have in centimeters the distance desired, which in this case is 170 c. m. or 5 ft. 6.76 inches.

This happens to be its greatest diffusion for 20 grams, but likewise the diffusion can easily be determined for any other time. The state of the atmosphere is also marked by the scale on the extreme left of the chart. To reduce these figures to Fahrenheit degrees, the scale used in this country, multiply by 9-5 and add 32. By this chart we are able to ascertain the distances which the vapors traverse, and also just how long it continues to act—the 5 grams acting 8 days and the 20 grams 15 days. We have, then, the substance under our control, and are certain of so much. The curves, it will be seen, oscillate with the temperature, at midday being highest and increasing with the temperature. The chart from which this was taken exhibits the barometrical pressure at the different periods and also the conformity of the diffusion to the temperature, which I am unable to give here. With the temperature it follows with exactness, but with the barometrical line it varies with great irregularity.

Many other curves were formed by varying the amount, the nature of the soil and the

the vapor flows down a hole much as water would do, so it penetrates all the interstices in the soil and passes downward and outward; a small portion passes upward, but the intensity of this decreased as we approach the surface and, unless the amount be very large there is no perceptible loss by passing off from the surface. Many other chemical vapors might be found which would kill the phylloxera, but few, indeed, would serve the purpose of such economy as does the bisulphide of carbon in sinking immediately to the desired spot.

The most favorable depth seems to be about 16 inches, for if nearer the surface there might be an appreciable loss by evaporation, and if deeper the injecting would require other than hand labor. This is a convenient depth, and has been adopted by all experimenters as the best adapted to serve the end desired.

Now I believe we have the vapor under our control, and in determining its toxic effect on the insect, we may proceed intelligently. We know already that it becomes practicable, that it can be made to reach the infested parts, and we know its diffusion. We also know it to be a poisonous vapor, that it kills vermin and insects generally, and even animals, and from this we might infer that it would deal death to the phylloxera; but we are not here proceeding inferentially, but require actual, positive proof of this fact, which we will now proceed to examine in the next chapter, entitled "Determination of the energy of the bisulphide of carbon as an insecticide." The great object here is to get at the normal condition of the phylloxera, that the results of the experiments may extend accurately to the work on a large scale, which the experiments are designed to assist. The plan adopted, therefore, is not to take the insect from the ground and bottle him up in an unnatural condition, nor yet to treat it on the vine as first found, for in this case we should be unable to determine accurately the percentage killed or allowed to survive, but to

On the 18th of October, 1877, 100 nets planted in a gravelly soil, 1 meter (39.27 inches) apart. Treated with bisulphide on the 22nd of October at rate of 16 grams (0.352 lbs.) per tube, or 16 grams per square inch. Each 16 grams was divided and supplied 2 holes on opposite sides of the nets, thus, in the middle, between every 2 vines 8 grams was injected. Temperature of the soil, 19° C., or 67.1° Fah.

The result of this was, out of 244 rootlets thus encased, buried and experimented on, only 30, on the 31st of October, nine days after the application of the bisulphide, had any of the phylloxera yet alive on them. From the proportion, then, of 244 : 30, we have, by the simple rule of three, the percentage not exterminated, viz: 12.32, the remaining percentage, we designate the coefficient of the insecticide.

Repeating this treatment after six days effected a complete extermination. A great number of conditions, varying from the above in soil, time of year, distances apart of the nets, etc., were experimented upon, and the following were the most important conclusions arrived at: The work is more satisfactory, and the vapor acts with greater efficiency in a compact soil than in a loose one; a moist condition is more favorable than a dry one; the soil should not be moved or cultivated until at least six days have elapsed after the final application; the quantity of bisulphide should be slightly increased on the margin of the vineyard, or else the application extended to some distance beyond the margin of the plat, as the diffusion is here more rapid, because of there being no tension of neighboring injections to oppose, thus rendering diffusion too rapid. These results can be relied upon as falling within the true estimate of the energy of the vapor, for the roots in their natural ramification approach nearer to the point of injection, and many being lower down than the nets were placed, receive a more marked effect of the vapors, whose toxic strength increases with the depth when reaching no lower than the roots of the vine penetrate.

[CONTINUED ON PAGE 300.]

H. H. H. Horse Medicine.

Stockton, February 4, 1880, H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

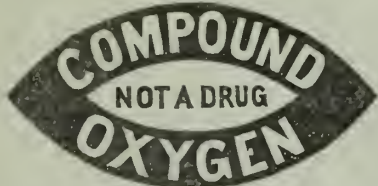
The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

AND

EARPHONES

For Deaf People. Trial before purchase if desired. Ask terms.



Windmills! HORSE POWERS!

TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.

F. W. KROGH & CO
(Successors to W. I. TUSTIN.)

PATENT

CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental. To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

126 PERCHERONS

IMPORTED

WITHIN TWELVE MONTHS;



78 HEAD ARRIVED AUGUST 15th,

FOR THE FARM OF THE

Great Percheron Horse Breeder,

M. W. DUNHAM,

Wayne, DuPage County, - - - Illinois.

(35 Miles West of Chicago, on the Galena Division Chicago & Northwestern Railroad.)

The 78 HEAD which arrived from France, August 15th, is BY FAR the largest number ever imported at one time, and added to the number already on hand, they make the greatest and finest collection of

DRAFT HORSES

Ever owned by one man. Nothing like it in Magnitude and Completeness can be found elsewhere in the world.

Over 300 of the Choicest Specimens of the Percheron Race, and among the number nearly all the Prize Winners of the Great shows of France during that time, have been added to this

OAKLAWN STUD

By Importations direct from France since 1872.

Stock of all Ages for Sale.

Come and see for yourselves. 100 Page Catalogue with 41 illustrations of Stallions and Mares, sent free on application.

N. B.—All Imported and Pure Native Bred animals recorded in Percheron-Norman Stud Book.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT

SHRINK, SWELL,

WARP, or

BATTLE in the Wind

ALSO, THE

BUCKEYE

FORCE

PUMP

Never Freezes in Winter Time.

Send for our Circulars and Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crankshaft with double bearings for the crank to work in, all turned and run in babbitted boxes.

Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order new, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S

AMERICAN CHIEF



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by

THOS. POWELL, Stockton, Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

New Music Books!

CHOIRS Will Remember Our New American Anthem Book (\$1.25), by JOHNSON, TENNEY and ABBEY; an excellent collection of easy anthems. Also: one thousand or more of separate Anthems, Glee, Etc., costing about 6 to 10 cents each. A great convenience for occasional singing.

NEW CANTATAS.—Christmas, (\$1.); Fall of Jerusalem, (\$1.); Joseph's Bondage, (\$1.25); and many others for winter practice of Choirs and Societies. Send for lists!

THE BEST INSTRUCTION BOOKS

For Piano, Organ, Reed Organ, Guitar, Violin, Cornet, and all Wind, String and Reed Instruments. Send for our lists. 500 such books are published.

Organists need "Harmonic School" for the Organ, (\$3.) by Clarke; also, "Clarke's Short Voluntaries," (\$1.50). "Battiste's 50 Pieces," (\$2.50); or "Organist's Reliance," by Tayer, 10 Nos., each, \$1.25, complete, \$6.

Johnson's New Method for Harmony, (\$1.) is easiest.

Winner's New Schools, (ea. 75 cts. For all instruments. Capital cheap instructors.

Clarke's Reed Organ Melodies, (\$2.) are splendid.

Take The Musical Record, (\$2 per year.)

Welcome Chorus for High Schools, \$1.

Song Books for Common Schools, 50 cts.

Any book mailed for the Retail price mentioned above. Liberal reduction for quantities.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

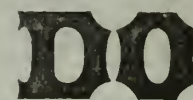
Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price cannot be excelled, if equalled, on the Pacific Coast. Also, importers of Gun material, Breech-loading Implements, Ammunition, Fencing Folia, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks, Card's Rotating Glass Ball Traps and Glass Balls.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader. Horse Forks for Headings or Hay. Folding Derricks. Hooley Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address

BYRON JACKSON, Prop'r.



NOT FAIL to send for our Price List for 1880. There is any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 257 & 259 Wabash Ave., Chicago, Ill.

M. COOKE R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

GILES H. GRAY.

JAMES M. HAYEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO. Sole Agents, 430 California Street, S. F.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive

Farms at fair rate of interest. Money also advanced on

Wheats. Apply to

A. SCHULLER,

209 Sansome St., S. F.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family: heifers being by the Imported Bull Sheriff, a Seraphina Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Gablan Herd. The foundation of the Gablan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxford, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magpie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired.

I. A. HEALD, Proprietor.

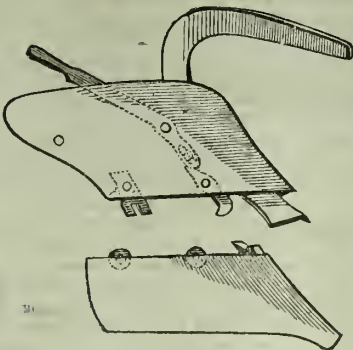
514 Commercial Street, above Sansome, San Francisco.

A. AITKEN. F. N. FISH.

AITKEN & FISH, Premium Pioneer Marble Works,

617 K St., Bet' Sixth & Seventh, - SACRAMENTO, CAL.

PATREY'S Plow Share Fastener.



(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted. Yours truly, M. T. EMMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows. J. W. GAHNS.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds. J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY, 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins. Most respectfully, B. B. GLASCOCK.

70,000 SOLD YEARLY.

The growing popularity and usefulness of CABINET or PARLOR ORGANS is shown by the fact that SEVENTY THOUSAND are sold yearly in the United States. The best are the

MASON & HAMLIN ORGANS

Which have been awarded Highest Distinctions for Demonstrated Superiority at every one of the GREAT WORLD'S Industrial Exhibitions for thirteen years, without one single exception.

NEW STYLES

Are ready for the season with important improvements FOR LARGE CHURCHES, splendid organs, with great power and variety, at \$370, \$480, \$390, and less prices; FOR SMALLER CHURCHES, SCHOOLS, &c., \$84 to \$200 and upwards. SUPERB DRAWING ROOM STYLES at \$200 to \$510, and upwards; A GREAT VARIETY OF SMALLER ORGANS of equal excellence, though less capacity, or in plain cases at \$51 to \$200 and upwards. Also, furnished for Monthly or Quarterly payments, \$5 and upwards. These organs are certainly unrivaled in excellence, while the prices are not much higher than those of very inferior instruments.

Before purchasing any organ send for latest ILLUSTRATED CATALOGUE (32 pp. 4 to), containing full descriptions and prices, including new styles, and much useful information for the purchase of any organ, which will be sent free and post-paid. MASON & HAMLIN ORGAN CO., 154 Tremont Street, Boston; 46 East 14th Street, New York; 149 Wabash Avenue, Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.) Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address, TAYNTON & DERRICKSON, Clayton, Contra Costa County, Cal

GUNS

Lowest prices ever known on

Breech-Loaders, Rifles, and Revolvers,

OUR \$15 SHOT-GUN

at greatly reduced price. Send stamp for our New Illustrated Catalogue (P) P. POWELL & SON, 238 Main Street, CINCINNATI, O.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
O. J. CRESSEY.....Stanislaus Co
SENeca EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

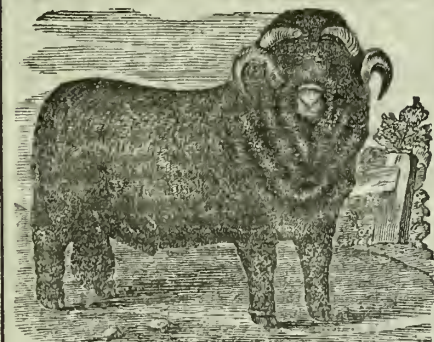
GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

SWEEPSTAKE SHEEP.



FOR SALE.

The entire flock of Thoroughbred French Merino Sheep, known as The Blacow Flock, consisting of 100 head of Yearling Rams, 100 head of Ewe Lambs and Yearling Ewes, 200 head of Breeding Ewes. Are all in good thriving order. Have been carefully bred, are much improved in form, constitution and quality of fleece. For further particulars apply to MRS. R. BLACOW, or Shepherd, Centerville, Alameda Co., Cal., near Niles Station.



Price List—1880-1881.

NOW READY.

UNLIMITED RANGE 116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans. BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00. Pamphlet on Cure of Fowls, Disesses, Cures, etc., adapted especially to the Pacific Coast, price 15 cents. Please send stamp for Price List to

M. EYRE, Napa Cal.

LASH'S

ADJUSTABLE FRUIT GATHERER.

Cheap, Simple and most durable. It will pay for itself in one day. Right to manufacture in counties for sale, or State right. Also, sole agent for Pacific Coast of HECOR FORCE PUMP, with patent stone cylinders, making them acid proof. The best pump yet invented.

T. M. LASH, 601 N St., Sacramento, Cal.

"NEW"

HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular

ISAAC B. MILLINGTON & CO., Chester, Pa.

HOPE FOR THE DEAF

Garmore's Artificial Ear Drums

RESTORE THE HEARING and perform the work of the Natural Drum. Remain in position without aid, and are not observable. All Conferences and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address

S. W. Corner 5th & Race Sts., Cincinnati, O.

California Inventors

Should consult DEWLY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1830. Their long experience as Journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruits, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,

Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 15 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser.

N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,

Santa Cruz, Cal

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

The Remedy for the Phylloxera.—No. 2.

(CONTINUED FROM PAGE 297.)

It is by the above-mentioned experiments, also, that it was determined, as stated in my first article, that if a single application is relied upon, it must be 55 grams per square meter—such figures as 40 grams and 37 grams can never be relied upon; that if extended to two applications, however, a total of 28 to 32 grams per square meter, or 15 or 16 grams per square meter, injected each time, the second, after an interval of six days in winter, and four days in summer, is sufficient, each of these 16 grams being placed in 2 holes of 8 grams each. In connection with these experiments with the bisulphide of carbon, a number of trials were made with the mixtures of bisulphide, with heavy and green oils of anthracene, such as have been introduced for insecticides. In all these cases it has appeared that a slight additional amount of bisulphide was required to effect the results obtained by the bisulphide alone, besides the amount of oil or other substance with which it was mixed, the oil increasing the diffusion at first and retarding it afterward. It was proved also that the oil possessed no virtue in itself, and served only as an additional expense.

There remains yet the chapter on the effect of the bisulphide on the vine itself, then a few results of experiments on a large scale and experiences of French viniculturists not on this committee; this will be followed by directions for handling of bisulphide, estimates of expense of using it and cost at which it will be furnished from the manufactory on this coast.

The Eclipse Incubator at the Los Angeles Fair.

EDITORS PRESS:—The Eclipse incubator was exhibited in the pavilion during the entire week of the fair here, and attracted much attention. It hatched out 89% of the eggs, notwithstanding that the incubator was moved several miles in a spring wagon the day the hatching commenced, and that the drawers were opened hundreds of times during the week. The Southern California Horticultural Society awarded the Eclipse a silver medal, and the Sixth District Agricultural Association gave it their diploma.

W. NILES,
General Supt. Sixth Dist. Ag'l. Assoc.

Los Angeles, Oct. 26, 1880.

Of the exhibit of the Eclipse incubator the Los Angeles Evening Express, of Oct. 20th, says: "One of the most interesting exhibitions in the pavilion is that afforded by the Eclipse incubator and the artificial mother. Here the hatching process in its various stages is shown. Two dozen or more chicks come out each day, and may be seen as they begin to break the shell and so on until they walk out free and independent birds. They are kept a few hours in the hatching drawer until thoroughly dry and ready to begin eating, when they are given to the 'mother'—a wren house for them to cuddle in. Children and grown people are alike interested in the show."

HALL'S VEGETABLE SICILIAN HAIR RENEWER is a scientific combination of some of the most powerful restorative agents in the vegetable kingdom. It restores gray hair to its original color. It makes the scalp white and clean. It cures dandruff and humors, and falling out of the hair. It furnishes the nutritive principle by which the hair is nourished and supported. It makes the hair moist, soft and glossy, and is unsurpassed as a hair dressing. It is the most economical preparation ever offered to the public, as its effects remain a long time, making only an occasional application necessary. It is recommended and used by eminent medical men, and officially endorsed by the State Assayer of Massachusetts. The popularity of Hall's Hair Renewer has increased with the test of many years, both in this country and in foreign lands, and it is now known and used in all the civilized countries of the world.

FOR SALE BY ALL DEALERS.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

The Californian.

THIS RISING MONTHLY OF THE DAY. YEARLY SUBSCRIPTION \$4. Single number 35 cents. AGENTS WANTED in every town and village of the United States to canvass for this popular magazine. The most liberal commissions will be paid to responsible parties. This is a chance to make money at your own home. Address

THE CALIFORNIA PUBLISHING CO.

(P. O. Box 2319) 202 Sansome St. S. F.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sealions is increased and there is a better chance to study their actions. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect Free Bus.

THE YOSEMITE is strictly first class and the leading hotel at Stockton. Prices moderate. JAS. CAVEN, Prop.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Nov. 3, 1880.

We have no special features to record concerning the Produce trade of the week. The election has interfered with trade matters very materially, but now that this is over, affairs will jog on again the same as before.

The Foreign Review.

LONDON, Nov. 1.—The Mark Lane Express, reviewing the British Grain trade for the past week, says: Heavy rains during the week hindered Wheat sowing on clay soils, and floods in some districts caused great damage. On well-drained soil sowing made good progress. Threshing has been restricted by the weather. The percentage of samples in bad condition has increased, and they are, if anything, more difficult to sell. The deliveries of English Wheat and the entire importation of Breadstuffs into London show an important decline. Nevertheless, trade was decided by the weather. Prices were maintained solely by the comparative smallness of the present extraneous supply, stocks being barely sufficient to meet the present need. Millers, however, continue confidently to expect lower rates. Trade in foreign Wheat on spot has been slow. The inquiry was restricted for all descriptions except Australian and the finest qualities of English. Foreign Flour is in short supply and readily salable at Monday's rates. English Barley is steady, except inferior descriptions, which at some provincial markets were 1s to 1s lower. Foreign was quiet. Oats, both English and foreign, under the influence of short supply, caused by the closing of Russian ports, have advanced 6d since Monday. Maize, despite the increased visible supply in the United States and on passage, was steady. In consequence of the scarcity on spot, cargoes were firmer. There were few Wheat cargoes off coast and only 1 at a port of call, but in consequence of the increased visible supply in the United States and abroad, buyers operate steadily and very cautiously. Barley cargoes declined. Sales of English Wheat during the week 45,076 quarters at 43s 7d, against 39,967 quarters at 50s 4d the corresponding period last year. Imports into the United Kingdom, for the week ending Oct. 23d, were 715,010 cwt. Wheat, and 182,603 cwt. Flour.

Eastern Grain and Provision Markets.

NEW YORK, Nov. 1.—The markets generally are dull. Wheat opened 1/4c higher, with speculative demand for Winter. CHICAGO, Oct. 30.—The week's business in Grain has not been very exciting, although there has been a fair daily fluctuation and a smart advance in Wheat, with a stiff close. Prices do not break under the increasing receipts and stronger freights, owing chiefly to the strong European demand for Grain. Provisions were very weak during the first half of the week, but suddenly fired up and closed strong and almost excited at the extreme end of the week's trading. This was caused by the rapid depletion of stocks in store and by the poor quality and diminishing quantity of the Hogs received here. The European demand is the most potent factor, however, in the advance. Sales for the week for November: Wheat, 99 1/2c @ 1.02 1/2c; Corn, 30 1/4c @ 30c; Oats, 23 1/2c @ 24c; Pork, 91.97 1/2 @ 12.20; Lard, 81.62 1/2 @ 82.05. Closing cash prices were: Wheat, 81.01 1/2 @ 81.01 1/2; Corn, 30 1/4 @ 30 1/4; Oats, 23 1/2 @ 23 1/2; Rye, 82c; Barley, 80 @ 90c; Pork, 91 1/2; Lard, 81.05 @ 81.07 1/2.

Eastern Wool Markets.

NEW YORK, Oct. 30.—Wool is more active and firmer. The movement has been, officially, of a general character, covering purchases by both manufacturers and dealers. Sales include 570,000 lbs of Spring California a. 25 @ 26c, part for shipment to Eastern dealers.

BOZEMAN, Oct. 29.—The Wool market is quite excited, manufacturers being free purchasers, with more or less speculative inquiry. There has been a general slight advance in prices, more particularly in washed fleeces, which are a half-cent per lb higher, and the tendency of prices is upward. Among the sales were 1,000,000 lbs of washed fleeces, and stocks are rapidly disappearing; 1,600,000 lbs of unwashed fleeces, including California, Oregon, Texas, Territory and Western, 425,000 lbs of delaine and combing, and 400,000 lbs of super and X pulled and qualities. Business has been far ahead of any previous week this year, amounting in the aggregate to about 4,000,000 lbs of all kinds. Manufacturers are evidently short of stock, and were forced to purchase, especially as it is evident that prices are as slow now as they are likely to be for some time to come. Ohio and Pennsylvania fleeces have been sold at 45 @ 47c for X, XX and XXX, and above are now held at 46 @ 48c. Michigan fleeces from 40 @ 42c are now held at 42 @ 43c, and medium and No. 1 fleeces at 43 @ 49c, as to quality. Combing and delaine fleeces are in demand, and leading mills are purchasing all available lots at 41 @ 45c for fine delaine, and 50 @ 52c for desirable combing. California Wool has ranged from 20 @ 37c as to quality, and best Humboldt is now held at 20c. Pulled Wools have been sold mostly from 40 @ 45c for super up to 43 @ 50c for choice. One feature of the market was the demand for unwashed and medium fleeces, which were sold to some extent at 32 @ 36c. There has been, in fact, a sweeping movement for all grades and qualities, and prices are likely to go higher at an early day. Some Australian has been sold at 45 @ 46c, and good Montevideo at 35 @ 37c.

PHILADELPHIA, Oct. 29.—Wool is active and firmer, with slight tendency upward. Oregon fine, 27 @ 30c; medium, 32 @ 33c; coarse, 30c; New Mexican and Colorado fine, 16 @ 20c; medium, 24 @ 25c; coarse carpet Wool, 20 @ 21c; pulled extra merino, 36 @ 45c; super and lambs', 36 @ 40c.

BAGS.—We have no special change to note in the Bag market. It has been quiet and steady. Standard Grain remain at 8 1/2 @ 9c.

BARLEY.—Barley remains quiet, with no change in quotations, the demand being rather light. We note sales of 800 sks very good Bay at 77 1/2c; and 1,300 sks good Feed, 75c.

BEANS.—No change of importance to note. Figures remain the same as last week.

CORN.—Demand is quite light. Quotations show a shade of depression if anything.

DAIRY PRODUCE.—Not much change in prices. A slight advance in pickle roll is indicated in the latest quotations, but it is trifling. The market keeps remarkably even.

EGGS.—Salt Lake and Eastern have advanced with a firmer market. Salt Lake have gone to 32 1/2 @ 33c; and Eastern 27 1/2 @ 30c.

FEED.—No new quotations to refer to, except the change in Straw, which has gone from 35 @ 40c to 40 @ 50c by the bale. Otherwise prices remain the same.

FRUIT.—The bottom prices appear to have been reached in Grapes last week. This week quotations show a material advance in nearly all varieties. Figs also have gone from 30 @ 40c to 50 @ 75c @ box. Pears have shaded upwards; Raspberries have dropped; and Strawberries have gone up \$2 a chest.

HOPS.—Hops continue dull, both here and in the Eastern States. Quotations remain the same.

OATS.—Sales are light and the market remains stagnant. Quotations are unchanged.

ONIONS.—Prices have risen a little. We note sales of 50 sks at \$2.17 1/2, and 100 and 90 sks at \$2.12 1/2; Yellows are \$2 @ 2.25; Reds, \$1.25; small, for pickling, \$1 @ 1.25.

POTATOES.—Market has shaded off a little if anything. Fluctuations are light although the market is active.

POULTRY AND GAME.—In Domestic Poultry there is no change, except in Turkeys, which have dropped back a little. In Game an advance is apparent in the Wild Ducks and the Geese. Quail have fallen to 75c and \$1 12 1/2c per dozen in view of the abundant supplies. They were being cried in the streets by hawkers this week at \$1 per dozen. It takes good shots to make money at these prices shooting quail. The holding off of the rain keeps up the prices in duck, as they are not very abundant yet.

VEGETABLES.—Carrots, Cabbages, Stringbeans and a few other articles have shaded off. Increase in price is noted in Cucumbers, Squashes and Tomatoes.

WHEAT.—The market is satisfactory, business being brisk and prices steady. Shippers are buying pretty freely at full prices. Sales were reported of 200 sks choice Milling, \$1.51 1/2; 100 tons and 500, 400 and 200 sks No. 1, \$1.50; 300 tons do, \$1.40 1/2 to \$1.50; 140 tons and 1,300 sks do, \$1.43 1/2; 80 and 70 tons do and 500 sks do, \$1.47 1/2; 600 and 60 tons and 1,200, 900 and 300 sks No. 2, \$1.45; 80 tons do, \$1.43 1/2; 170 tons do, \$1.42 1/2; 120 tons fair Shipping, \$1.41 1/2; 100 tons and 1,500 and 1,000 sks do, \$1.40; 100 tons poor do, \$1.37 1/2; 150 tons dark Coast and 20 tons poor Shipping, \$1.30; 200 sks dark Coast, \$1.23 1/2; 300 sks superfine, \$1.17 1/2, and 80 tons badly pinched, \$1.05.

WOOL.—Choice grades are in fair demand, but inferior lots find slow sale.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Nov. 3, 1880.

APPLES, basket, 40 @ 75
do, box, 50 @ 1 25
Apricots, bx, 200 @ 1 00
Bananas, bunch, 200 @ 4 00
Blackberries, chst, 10 @ 10 00
Cherry Plums, bx, 100 @ 1 00
Citrons, Cal, 100 @ 7 00
Cocoanuts, 100, 700 @ 8 00
Crab Apples, bx, 50 @ 60
Cranberries, bbl, 110 @ 12 00
Figs, black, bx, 50 @ 75
Grapes, 25 @ 60
Cauliflower, 25 @ 40
Muscat, 40 @ 50
Rosa Peru, bx, 30 @ 40
Bk Hamburg, 30 @ 40
Tokay, 40 @ 60
Limes, Mex., 25 @ 30
do, Cal, box, 1 75 @ 2 25
do, large, box, 5 @ 7 00
Lemons, Cal, bx, 300 @ 3 50
Sicily, box, 800 @ 9 00
Australian, 500 @ 6 00
Nectarines, box, 25 @ 30
Oranges, Cal, bx, 3 75 @ 4 75
do, Tahiti, 10 @ 60
do, Mexican, 10 @ 25
Peaches, bx & bsk, 1 25 @ 2 00
Pears, box, 75 @ 1 25
do, Bartlett, 2 75 @ 3 25
do, Seckel, 1 25 @ 2 00
Pineapples, doz, 8 00 @ 9 00
Plums, bx, 50 @ 1 25
Prunes, German, 75 @ 1 00
Quinces, bx, 75 @ 1 01
Raspberries, chst, 10 @ 10 00
Strawberries, chst, 10 @ 12 00
Sugar Cane, bbl, 10 @ 2 50

Pigs, pressed, 7 @ 8
do, loose, 4 @ 6
Peaches, 10 @ 10
do, pared, 18 @ 19
Pears, sliced, 9 @ 10
do, peeled, 9 @ 11
Plums, 5 @ 6
Pitted, 14 @ 17
Prunes, 15 @ 16
Raisins, Cal, bx, 2 @ 2 25
do, Halves, 2 @ 2 50
do, Quarters, 2 @ 2 75
Eighths, 3 @ 3 00
Lard, 10 @ 2 00
do, Halves, 2 25 @ 2 50
do, Quarters, 2 50 @ 2 75
do, Eighths, 2 75 @ 3 00
Zante Currants, 8 @ 10
VEGETABLES, 8 @ 10
Asparagus, bx, 1 @ 1 00
Beets, ch, 1 @ 1 00
Beans, String, 2 @ 2 1/2
do, Lima, 3 @ 3 1/2
Cabbage, 100 lbs, 40 @ 50
Cauliflower, crt, 1 @ 1 50
Carrots, sk, 30 @ 40
Cauliflower, doz, 50 @ 50
Chile Peppers, sk, 50 @ 75
do, Bell, 1 @ 1 00
Cucumbers, box, 60 @ 75
Egg Plants, bx, 50 @ 75
Garlic, New, lb, 3 @ 3 1/2
Green Corn, doz, 8 @ 12 1/2
Green Peas, lb, 3 @ 3 1/2
Lettuces, doz, 10 @ 10
Mushrooms, lb, 1 @ 1 00
Parsnips, lb, 1 @ 1 00
Horseradish, 1 @ 10
Rhubarb, bx, 1 @ 10
Squash, Marrow, 700 @ 10 00
fat, th, 700 @ 10 00
Summer box, 60 @ 75
Tomato, box, 60 @ 35
Turnips, ch, 50 @ 50
White, 75 @ 1 00
Watermelons, 800 @ 8 00
100, 800 @ 8 00

BAGS AND BAGGING.

(JOBBER PRICES.)

WEDNESDAY M., Nov. 3, 1880.

Eng Standard Wheat, 9 @ 9 1/2
California Manufacture, 40 inch, 34 @ 9 1/2
Hand Sewed, 22x36, 9 @ 9 1/2
22x40, 12 @ 12 1/2
23x40, 12 @ 12 1/2
24x40, 13 @ 13 1/2
Machine Sewed, 22x36, 9 @ 9 1/2
Flour Sacks, halves, 9 @ 9 1/2
Quarters, 5 @ 5 1/2
Eighths, 3 @ 3 1/2
Hessian, 60 inch, 12 @ 12 1/2

Commission Merchants.

HOPS!

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
210 Davis Street, San Francisco.
CASH ADVANCES MADE ON CONSIGNMENTS



Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

DAVIS & SUTTON,
No. 75 Warren Street, New York.
Commission Merchants in Cal. Produce

REPRESENTS—Traders' National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.

DALTON & GRAY,
Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson,

SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SHOEBERT & BEALE,
Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, FELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

—AND—

DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanut, Almonds, Dates, Etc.
505 & 507 Sansome St. (Ninth Building), S. F.
Canning Factory and Packing House of all kinds of Green and Dried Fruits,
Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.
Branch House in Honolulu, H. I.

PAGE, MOORE & CO.,

WOOL and GRAIN

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

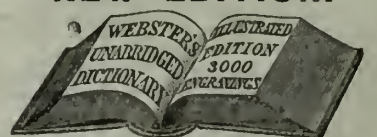
EUGENE AVY,

SHEEP and WOOL Commission Merchant,

320 Sansome Street, San Francisco.

Advances made on Consignments.

NEW EDITION.



Published by G. & C. MERRIAM, Springfield, Mass.

Latest—Largest—Best.

Contains over 118,000 Words.

1928 Pages, 3000 Engravings,

4600 NEW WORDS and Meanings,

Biographical Dictionary of Over 9700 Names.

\$1,000.

One Hundred and Sixty Acres or more of Rich Oarden Land. Title Perfect. Canal Ditch on it. Easily Irrigable. Choice Fruit Trees.

PLAIN FOUR-ROOMED HOUSE.

And other Improvements. Some Wheat, Tools, etc. One-half hour's ride from Town. School one mile.

RAIL AND WATER SHIPPING.

Locality healthy. Fifteen (\$15) Dollars per acre. One-half wheat land. Timber close by. Sold at easy terms. Apply at this office or M. J. O'BYRNE, Merced, Cal.

70,000 BLUE GUM TREES,

And Cypress in Boxes for Forest Culture.

Well grown Fruit Tree of the most approved market kind, raised without irrigation. Also, a small stock of the latest Eastern Fruits, such as Souvenir du Congrès and Japan Pears, Olive Chey, Etc. Prices on application. Patrons solicited.

ISAAC COLLINS,

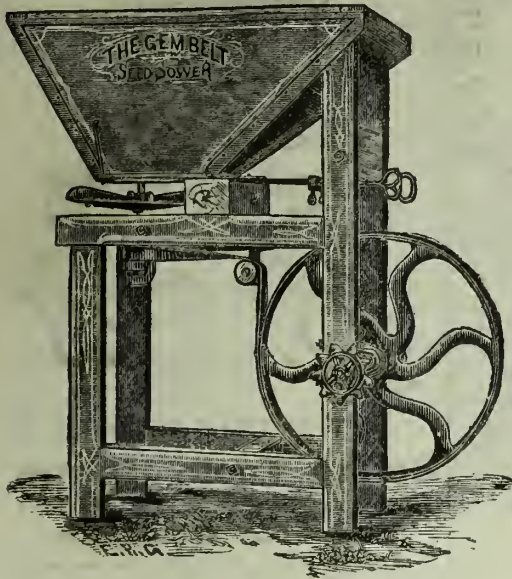
Haywards, Alameda Co., Cal.

Adams' Patent Pillow Sham Holder

Prices reduced. Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. G. W. WAGGONER, 408 Tenth St., Oakland, Cal., Gen. Ag't for Pacific Coast.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

Improved Cem Seed Sower to Run With Belt.



NO. 2 GEM BELT SOWER, \$35.00.

ADVANTAGES OF THE GEM BELT.

The Gem Belt has two valves that supply the Distributor with Grain—one for each side of the wagon; therefore one may be closed when sowing by a fence, ditch, or land that is not to be sown.
The Distributor of the Gem whirls around horizontally, and throws the seed with great force to the right or left, but does not throw it up or down.
The Gem does not throw the seed up into the air, to be blown about by the wind, but throws it sharply to the right or left.
The Distributor of the Gem Belt Sower is run by a quarter-turn belt, as shown in the engraving, instead of gearing.
The advantages gained on the chain are, smoothness of movement, noiselessness while running, durability of the fast running parts, and the evenness with which it sows the grain.
The Gem sows blue-stoned grain perfectly. The Gem sows about sixty feet wide.

Directions for Using the Gem Seed Sower.

Bolt the cast-iron rim wheel on the inside of the hind wheel of an ORDINARY SIZED wagon; put the chain on the rim wheel and over the small chain pulley on the Sower, and then bolt the machine to the bottom of the wagon, the disk facing outward; fill the Hopper with grain, and all is ready.
You will notice there are Two Slides covering two openings; if you open the RIGHT HAND one (facing the hind end of the wagon), the grain will be sown on the LEFT SIDE, AND BEHIND THE WAGON, AND VICE VERSA. No grain need be wasted at any time by being thrown where not wanted. Grain should be clean and free from straw, etc.
It is impossible to give directions as to how much the opening should be opened to sow a certain quantity per acre. This depends on the weight and cleanliness of the seed and the speed of the team. If the machine is attached to a wheel SMALLER than four feet six inches or five feet, and the team walks FAST, it will sow too THIN BEHIND. We find many attach the Machine to Header Wagons; this is objectionable, as they pull hard over plowed ground, and to sow even, the horses are compelled to walk slower.

Price of No. 1 Gem, to run with chain and bevel gear, weight, 132 pounds.....\$30.00
Price of No. 2 Gem, to run with belt gear, weight, 154 pounds.....\$35.00
Price of No. 3 Gem, (only made to order), to run with all gears, weight, 165 pounds.....\$40.00
The Gem Seed Sower can only be obtained from us, as we are the sole manufacturers.

Cahoon Seed Sowers, \$15.00 Cash at our Factory in San Leandro.

Ahead of Them All, the Gale Chilled Plows.

Combines all the excellencies of any Plow in use. It obviates all the objections made to any other Plow, and will scour in soil where all steel Plows and other Plows hitherto proved a failure. The Mold Boards and the wearing parts of these Plows are made of Chilled Iron, as repeated tests have demonstrated, to the satisfaction of all that its great strength and susceptibility to a fine polish gives it a great advantage over all other materials in any kind of soil.

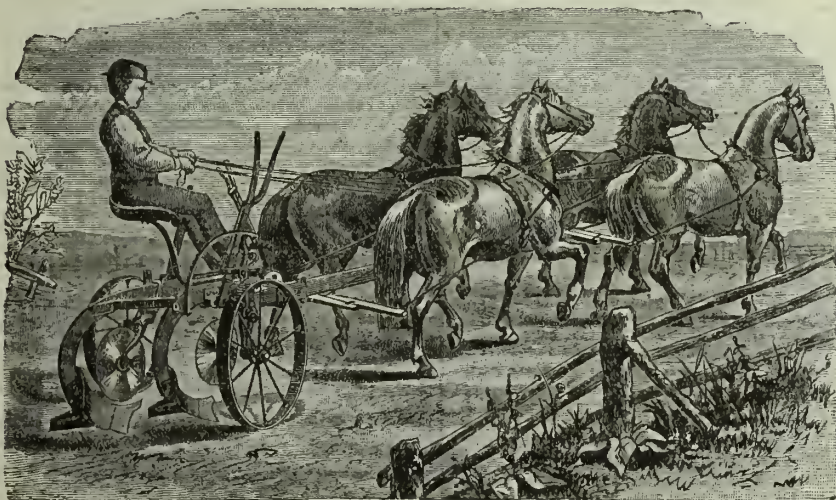
PRICES OF GALE'S CHILLED PLOW.

The No. 15 is a Right-handed Wood Beam Plow, and is for three horses. The Plow was made especially for heavy work, and in splendid shape turns a furrow 8 inches in depth, and 17 inches wide. Price, \$17 50
The No. 17 is a Right-hand Wood Beam Plow, one-horse Plow, turns a furrow 5 inches deep and 12 inches wide. Price, \$14 50
This Plow is commended to nurserymen and for small farms and garden purposes.
The No. 18 is a Right-hand Wood Beam Plow, and is for two or three horses. It has never disappointed its many admirers. It turns a furrow 7 inches deep by 15 inches wide. We feel safe in asserting that no Plow in the United States has had so popular and extensive a run, and is as favorably known as a "General Purpose Plow." Price, \$15 50
The No. 22 is a Right-hand Wood Beam two or three horse Plow. It is one size larger than the No. 18, is double braced, is the choice Plow for loose and gravelly soil. Price, \$16 50
"A 2" is a light two horse Right-hand Plow, turns a furrow six and a half inches deep by 14 inches wide. Price, \$18 00
"A 4" is a two or three horse Right-hand Plow, and will cut a furrow eight inches deep by 17 inches in width. Price, \$20 00
EXTRAS—Patent Jointer, \$3.50. Coulter or Sod Knife, \$2.50. Wheels complete for Wood Beam, \$1.75. Wheels complete for Iron Beam, \$1.75.

SEND FOR DESCRIPTIVE CIRCULARS.

BAKER & HAMILTON, San Francisco, Cal.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

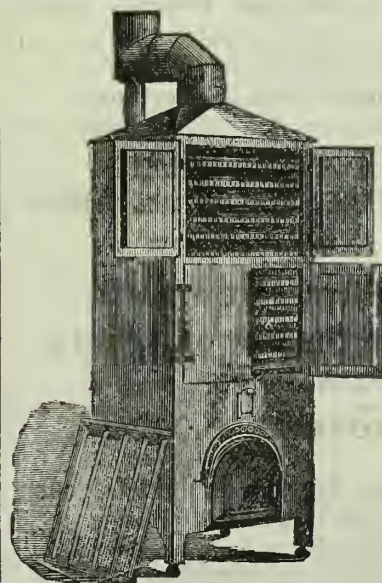
We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.
SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,
No 327 Market Street, - - San Francisco.



OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50, is wanted. A cook-stove attachment is suggested.—*Bulletin*, July 26, 1880.

ZIMMERMAN

Improved Galvanized Iron, Portable Combined FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-will of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

AWARDED A SILVER MEDAL

BY THE MECHANICS' INSTITUTE, San Francisco, Sept. 1880.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,

General Agents for Pacific Coast,

Nos. 323 and 325 Market St., San Francisco, Cal.

LOCAL AGENTS WANTED.

Baling
Fencing
Telegraph
Telephone
Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the
Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order

Wilz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The smallest twig up to branches two inches in diameter cut with ease. State, County or individual rights for sale. Agents wanted. Address

JOHN WILZ,
Santa Cruz, Cal.

REMOVAL.

H. N. COOK,

Manufacturer of LEATHER BELTING & HOSE.
Has removed from 415 Market Street, to 405 Market Street, corner of Fremont.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

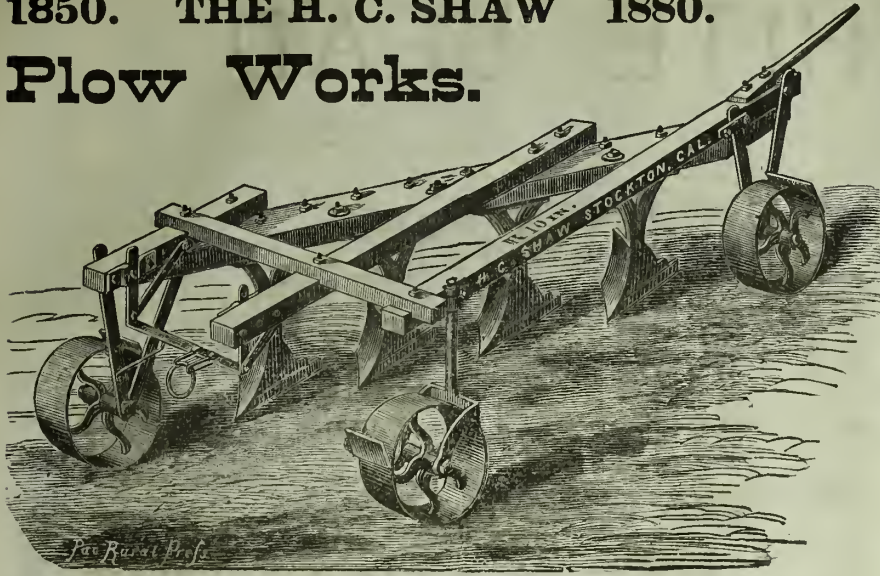
SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

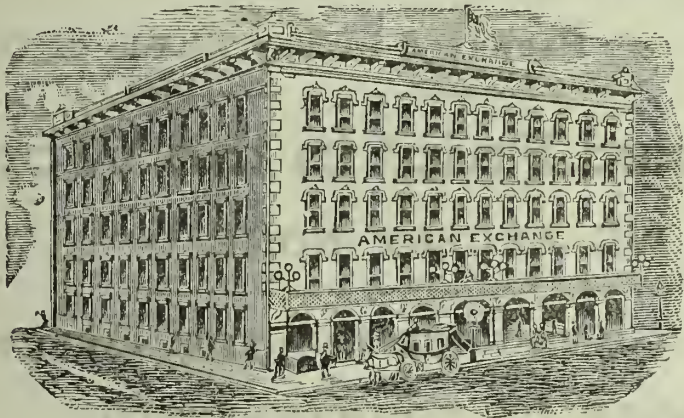
Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

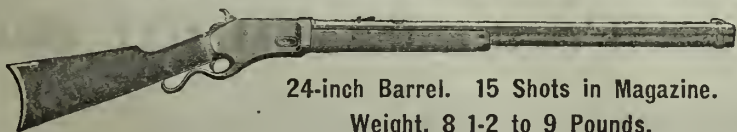
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUMMIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

LAND Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apian, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, postpaid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.
ALPHEUS BULL, Vice-President.GEO. D. DORNIN, Secretary.
W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

THE NEW MODEL

PARKER SHOT GUN.



Shooting Qualities

UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL.

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

PIONEER WHITE LEAD.

Home Manufacture!

Superior in COLOR, BODY, FINENESS and DURABILITY to any Imported Brands.

FRESH AND EASILY WORKED—NO SKINS OR OLD DRIED LEAD.

PURITY GUARANTEED.

Patronize Home Industry, Secure the Best Quality at the Lowest Price.

WORKS—239 & 231 FREMONT STREET, and 228 to 238 BEALE STREET, San Francisco.

WHITTIER, FULLER & CO., Manufacturers.



PACIFIC RUBBER PAINT.

Applicable to all Kinds of Work.

Prepared in any Shade or Color.

Best Mixed Paint in the World.

WE EXCEPT NONE.

READY FOR USE—JUST THE THING FOR FARMERS.

BEWARE OF COUNTERFEITS.

See that Our Trade Mark is on Each Package. Take no Other.

Send for Sample Card and Circulars.

Works—228 & 230 Beale st. Office S. W. cor. Pine & Front Sts.

WHITTIER, FULLER & CO., Manufacturers.

COAL OILS. COAL OILS. COAL OILS.

“Star,” 150 Degrees Fire Test.

THE HIGHEST GRADE OF COAL OIL IN THE MARKET. PERFECTLY SAFE AND MANUFACTURED EXPRESSLY FOR FAMILY USE.

“I X L” 150 Degrees Fire Test.—THE NEXT BEST BRAND.

ASK YOUR STORE KEEPER FOR THEM,

And Secure the Best and Safest Light.

WHITTIER, FULLER & CO., - - - - - SOLE IMPORTERS

SAN FRANCISCO. SACRAMENTO and OAKLAND.





The Early Culture of Cinchona Trees.

As the possibility of introducing cinchona culture in this State is a subject of much interest to those who are studying the adaptation of our conditions for growths which succeed elsewhere, we have thought it timely to give a few points of information from the latest published treatise upon the growth of the cinchona as an industry. This treatise is found in "Spon's Encyclopedia of the Industrial Arts, Manufactures and Commercial Products," a valuable work which is now being issued simultaneously in London and New York, by E. and F. N. Spon, well known publishers of scientific and industrial books. The article on cinchona occupies nine of the large and closely-printed pages of the volume, and seems to us a very complete account of the culture of the tree, the preparation of its products and their commercial importance. As the cinchona in this State is but just entering the experimental state, and as the success or failure in its growth is not yet demonstrated, we have thought it most appropriate to select points relating to early culture, to the end that experimenters who have either the seed or the young plants may be aided thereby.

The trees prefer a rich soil, and thrive better on newly cleared forest land than on grass land; but the crown barks do fairly well in poor ground. While a free and friable surface soil is beneficial, an open subsoil is absolutely necessary. The least stagnation of water at the roots is fatal to all species; perfect drainage must, therefore, be secured by a sloping situation, and other conditions.

The seeds germinate best at 65° to 70° F., tolerating a maximum of 80° F., and a minimum of 55° F. During the cold season, they are sown under glass; but during hot weather and rains, in open beds, sheltered by thatched roofs, about 5 ft. above the soil in front, and 2 ft. behind. The best soil is rich, mellow vegetable mold, alone, or mixed with clean, sharp sand. This is sifted, and spread in layers 2 to 3 inches deep and 5 ft. wide, on beds of cleared ground, of any convenient length, running east and west, with the open side toward the north. To prevent water lodging in them, they must slope to one side, a condition best attained by forming terraces on a hillside, and providing a path and a drain to each. Before sowing, the soil is rendered uniformly firm (but not hard) and smooth, by working it through the hand and gently pressing it down. The seeds are then placed loosely in bags, and immersed in cold water, undergoing 12 hours' soaking if fresh, but only 6 if they have been kept for some time. When taken out, they are gently stirred with dry sand, to separate them, and are thickly scattered on the beds, and lightly covered with a sprinkling of dry sand, intended only to steady them and get them into contact with the soil, and not to cover them; the beds may then be very gently pressed with a smooth board. Water is applied in the morning, and, if necessary, during the day, but not at late evening; deluging must be avoided, while a uniform moisture is maintained; the temperature of the water should approach that of the air. Additional shade and shelter have sometimes to be provided. Under glass, extra careful shading is necessary; and, after watering, especial care must be taken that the leaves become quite dry, before closing the frames. Every precaution will have to be taken against damping off; in very wet weather, the plants are sometimes infested by a fungus, whose ravages may be checked by gently stirring the soil. Germination takes place in 2 to 6 weeks.

When the seedlings have 2 to 3 pairs of leaves, they are put out into nursery beds, resembling the seed beds, but having a thicker layer of soil. They are best removed by inserting a small stick beneath them, and loosening the soil, so that they may be lifted out by the leaves, without the least injury to the rootlets. Holes 1½ inches apart, in lines 2 inches apart, deep enough to receive the outstretched roots of the

plants, are made by means of a stick; into these, the seedlings are carefully placed, and the earth is filled in and pressed round, so as to thoroughly occupy the hole. Sometimes the seedlings are placed first in shallow boxes, which can be put under glass if necessary. When 4 inches high, the plants are re-transplanted, at distances of about 4 inches each way; and when they have reached 9 to 12 inches, they are placed in their permanent situations. The seedlings may be hardened before the final transplanting by removing the thatch for about a fortnight, commencing only in dull, cloudy weather. From the sowing to the final transplantation, some 8 to 12 months are required, during which the soil must be kept uniformly moist without being wet.

Propagation by Cuttings.—Cuttings planted in the open air and partially shaded will form roots in 3 to 5 months, and this is perhaps the easiest, cheapest and safest plan of propagation, especially for inexperienced cultivators. It is, however, very slow; and when a rapid increase

in the pots, and transported on wooden trays; holes are prepared for them at distances of 2½ inches apart, and the plants and pots together are placed in the holes, and filled round with earth up to the level of the stem, as shown in Fig. 3. This done, the plants are at once shaded with rough slabs of wood, arranged as shown in Fig. 4; and when they have grown above the wood, they are protected from chafing by a grass rope twisted round the top.

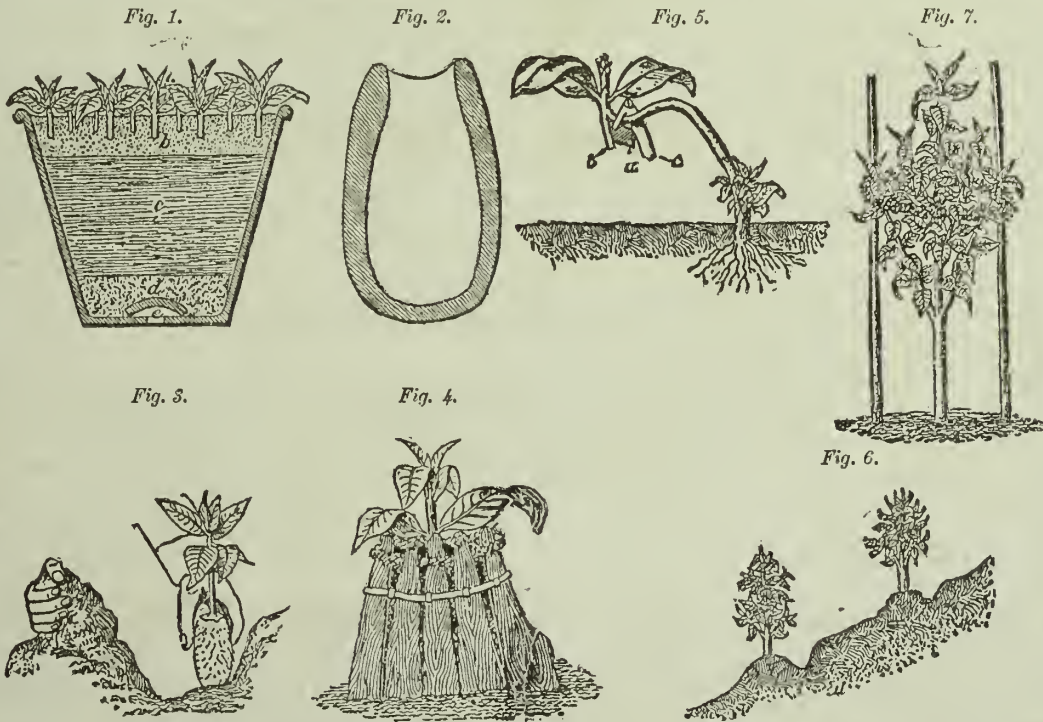
Layering.—A method by which a far greater number, and more rapid succession of cuttings may be got from a plant is that known as "layering," illustrated in Fig. 5. The operation consists in bending the branches of the plants into the soil, and cutting them half through at the bend. The object of this is to cause roots to spring from the cut portion of the branch, which is placed in the soil for that purpose. The juice of the plant escapes so rapidly from the cut as to induce decay, unless at once absorbed; this end is attained by placing a piece of thoroughly dried brick, *a*, in the slit formed by detaching

ready for putting out are deluged with water over night, so that the soil may be cohesive. On a day when the earth is moist, and the weather cloudy and damp (but not in heavy rain), the plants are taken up with abundance of soil around their roots, and are placed in the filled holes as quickly as possible; a space quite deep enough to receive the largest root without doubling is made by one hand, while the plant is inserted in the ground by the other; the soil is then filled in around, and thoroughly pressed down as the operation proceeds. The position of the plants in relation to the surface of the ground is indicated in Fig. 6; it is essential that they should stand on elevations, drained from above by a ditch, so as to prevent the possibility of earth being washed down and covering the bark—a circumstance that is sure to be attended by fermentation, followed by a fungus that destroys the bark and kills the tree. In the early days, the plants were put out much too wide apart; it is evident that no species will ever attain great size in India, and close planting has

the advantage of affording shade to the roots, and reducing the growth of weeds, which are otherwise a source of much expense. Should the trees crowd one another, they can be thinned out, and thus yield an early crop of bark.

Shading and Staking.—In some localities, protection from the sun may be necessary. For this purpose, natural forest trees are quite inadmissible; the requisite shade is readily afforded by erecting, on the sunny side of each plant, a rough bamboo framework, thatched with grass or ferns, or by sticking leafy branches in the ground, etc. Where much staking would be required, cinchona cultivation had better not be attempted, because great expense would be entailed, and small success achieved. Some support, however, is occasionally demanded, when the method illustrated in Fig. 7 may be resorted to. The danger to be avoided is the chafing caused by the swaying of the plant; a soft material, such as grass rope, is therefore employed, and care is taken that it shall embrace the branches, without ever coming into contact with the bark of the stem. Staking is commenced when the plants are 1 to 1½ ft. high. A superficial hoeing just around each tree is beneficial, whether weeds are present or not; but deep hoeing would destroy the roots of the cinchona plants. Pruning must be restricted to the removal of such branches as would naturally fall in course of time, or such as project to the injury of neighboring trees.

THE BAMBOO.—Our senior publisher, who recently made a pleasant visit to Sonoma county, informs us that he was interested to see upon the grounds of S. T. Coulter, near Santa Rosa, a young growth of bamboo. As we have said before, we are very glad to see this valuable Asiatic plant being put to the test of California conditions. It is now growing to a limited extent in several parts of the State, and has reached a practical phase in Los Angeles county, where, as we stated last year, it has been used for water pipes, being cut in suitable lengths and bored out for this purpose. There is hardly any limit to the uses to which the bamboo is put in some parts of Asia, where it flourishes. It furnishes material for hundreds of things, from the tender shoot which is boiled for dinner to the hard, matured canes which are made into the habitation. It is counted as one of the most valuable of plants by dwellers in the Orient. We are told that when Mr. Coulter went to ask a Japanese gentleman who is residing in Sonoma county what plant could be named to Commissioner Le Duc as desirable for him to introduce from Japan for growth in this country, the Japanese named the bamboo as altogether the most desirable. This accords exactly with our own knowledge of the subject, and we trust there will be an importation of bamboo plants for distribution.



PROPAGATION AND CULTURE OF THE CINCHONA ILLUSTRATED.

of plants is required, a propagating house must be used. In either case, the cuttings are selected from wood of the current year's growth, preference being given to young shoots springing from the lower part of the stem; they are removed in pieces about 3 to 5 inches long, just below the point where a pair of leaves grow. Young unexpanded leaves, if any, are left on the cutting; but larger ones are pinched off at the base. The cuttings as prepared are placed in 4-inch pots (Fig. 1); the cuttings, *a*, are set in a layer of pounded brick dust, *b*, under which is the ordinary potting mold, *c*, resting upon a stratum of moss, *d*, and a potsherd, *e*, to facilitate drainage. These pots rest in a bed of damp sand in the propagating house, exposed to a bottom heat of about 75° F. The atmosphere of the house is kept moist by means of a very fine syringe, but the cuttings must never be watered. When the cuttings have become rooted in the propagating cases the pots are bodily removed to other cases, where the plants are hardened off; when sufficiently hardy, they are taken up, and placed singly in pots about 3½ inches deep and 2 inches in diameter, formed of a mixture of cow dung and sand, as shown in Fig. 2. Before use, these pots are dried in the sun, which renders them as strong as an ordinary pot; when buried, they become sufficiently soft to be penetrated by the roots, but remain sufficiently cohesive to bear handling. They are made by hand at the rate of 400 to 500 a day, and cost but 1% of the price of an ordinary flower pot.

When the plants are to be put out in their permanent positions, they are removed bodily

the tongue, *b*. The latter is then kept down, if necessary, by means of the peg, *c*. When it would be inconvenient to bring the branch down to the soil, the latter may be raised in boxes. The best season for layering is during the rains. When well rooted, say, in 3 to 4 months, the layers are separated from the parent plant, and removed to glazed frames, where they are placed about 6 inches apart in good soil. Here they become established as "stock plants," and yield a constant succession of cuttings. In taking these, whole shoots must not be removed, but a few buds must be left to provide new shoots. Cuttings from stock plants are treated in the same way as any others.

Propagation by Buds.—A method of propagation which gives a large number of plants from a limited supply of wood is occasionally practiced; it consists in removing the buds with leaves attached, and placing them in pots plunged into damp sand, and treating them generally the same as cuttings. Roots are formed in 3 to 6 weeks, success depending entirely upon supplying sufficient moisture, without overdoing it.

Planting.—When a site has been chosen, the natural vegetation is completely removed. In very exposed situations, occasional strips of forest may be left as a break-wind; but they must be sufficiently far from the plants not to incommode them by their roots, or by falling over them. Sometimes trenching or deep hoeing has been performed previous to planting; but besides being expensive, they are objectionable on steep ground, as favoring wash. Occasionally the size of the holes is increased to 2 ft. each way. The beds of hardened plants



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eps.

Santa Barbara Fair.

EDITORS PRESS:—All hail Santa Barbara county. Our Horticultural Society held a fair and astonished ourselves, astonished all beholders. We can be pardoned for being a little enthusiastic. We always knew that we could accomplish wonders in the agricultural and horticultural line, but we have surpassed ourselves; we have done more and better than we had thought possible. We have granted no prizes; we have had no rivalry, consequently no bitterness, no dissatisfaction, and yet we have had a wonderful display of fruit, grain, vegetables, manufactured articles from all parts of the county. Until these were brought together and compared we had had no adequate idea how varied, extensive and excellent they were. There were scores on scores of plates of apples of innumerable varieties, sizes and colors, all looking well; there were piles of luscious and great pears, of two pounds weight each; there were small stacks of delicious looking grapes of various kinds; there were tempting looking fruits of almost all shades and characters, proving conclusively that, for quality and size, and variety of fruits, Santa Barbara county can scarcely be excelled. The orange and the lemon, and the lime, show equal excellence with the apple, the peach and the pear. The exhibition of corn and barley, and sorgho and Odessa wheat, 56 bushels per acre, show that we can export grain as well as fruit. The show of vegetables of enormous size, squashes weighing over 200 lbs., carrots two ft. and a half around, melons of wonderful size, would satisfy anyone that none need suffer for lack of vegetables. Pampas plumes three ft. and a half long, and flowers of all shapes and sizes and descriptions satisfy the taste for the beautiful. The citizens are happy in the coming future, and the farmers' baskets, barns and granaries laugh with overflowing fullness. Grasshoppers and chinch bugs, and blight, and drouth have left us in peace, and the grain fields and the orchards are full. The railroads east and west will soon form a connection, and the rush of travel upon the southern route will fill southern California with immigrants, enterprise and prosperity. Real estate is already on the rise, and the hearts of the land agents grow warm. Let us all rejoice. Let us give thanks and sing. Let us shout peons of gladness. Let us all remember the Author of All Good, and at this most auspicious time let all return devout thanks to the Father of All Mercies. It will be good for us. Let us pray that all may be endowed with humility that we may not again run the race of the past and again suffer the effects of extravagance and consequent hard times. We are now happy and prosperous; let us continue so; and above all let us not forget the poor and the unfortunate, for we know not how soon their lot may be ours.

Santa Barbara County, Nov., 1880.

S. P. SNOW.

From Another Correspondent.

EDITORS PRESS:—This new departure in the way of county fairs has proved a most delightful surprise to all of us. It was simply a social gathering of the Pomona family, and it was understood that during the progress of the festivities a marriage would take place, in which Ceres and Pomona themselves, sister goddesses though they be, would be the contracting parties. All this occurred in due time, and now these two patron saints of ours will walk hand in hand in these lovely garden homes. Pomona will not feel her rights invaded if from her sunny orchard slopes she sees broad acres of grain and flax, and stately waving corn spread over the valley beneath. And she will feed the tired wayfarer resting beneath her vine and fig tree with the finest of the "corn, and oil, and wine," with which her storehouses are running over. The year in this sunny land of ours has been "crowned with goodness." The fatness of the olive, the fineness of the wheat, the fruit-laden vineyards, the bending orchards, the forests of corn swaying in the breeze, make the full glory of the year, of which we are glad. So we have sung our harvest home with gladdened hearts, and in the strength of it we shall go many days. Our enthusiasm was a thing to see, over the wonderful array of fruits and grains—in all stages of growth, and conditions and varieties. Glowing piles of carmine and gold were relieved by dusky clusters from Montecito's hill-sides. Tropical bananas meditated over the huge aspiration of a Carolina potato, and wore a satisfied air that said plainly "to be," better than "not to be," a banana. An Acapulco limo looked warningly over to a pile of Sicily lemons and rather acidly remarked, "look well to your laurels, I shall overshadow you yet." A tart reply (*sotto voce*) failed of reaching dull human ears, but doubtless reached the quicker ear of nature.

Pomona's bridal crown of deciduous fruits, all aglow from long seances, with the golden sunlight, kindly served to relieve the paler imprints

of children of the spring and summer time, looking forth from their air-tight windows, rather mournfully saying, "you in your time, we in ours; we shall brighten the eye of hungered ones when your beauty shall have perished." And so amid voices heard and unheard (the former vastly predominating) passed our festival days. Glad surprises met the beholder on every hand. Beautiful combinations of moss and shell, delicate embroideries, lovely panels of wild flowers, effective etchings on linen, perfect carvings, charming backgrounds of rare flowering plants—all these combined to create a scene long to be remembered for its attractiveness and not less for its utility. All feel that we have gathered new heart and life, new hope and courage for the future time.

There were no jealousies to mar the ideal beauty of the days, for there were no premiums, but very careful and discriminating committee work in correcting names and commending the best varieties for culture. There was no horse-racing, no gambling, no more those doubtful characters. It was "our festival, our first harvest home," and for all of it we render thanksgiving.

MRS. N. W. WINTON, Secretary.
Santa Barbara, Cal.

Disease from Drinking Water.

EDITORS PRESS:—In the PRESS of Oct. 30th a correspondent from Bakersfield refers to a previous article (Sept. 4th), in which someone who evidently knew little of what he wrote about, denies that foul and stagnant water can cause disease if taken into the stomach, contending that the lungs alone take up the infection. The article was absurd enough in itself to warn your readers of its fallacies, but other popular articles show that the how and the why of infection from drinking water is not yet so plain as it might be. He says: "Doctors frequently examine water with a microscope and see small animals in it," which they report as producing sickness. Now, these small animals differ in their nature as much as do larger ones. Thus we have snakes which are poisonous, and snakes which are harmless (and as some hold even useful in eating up insects which destroy our food plants). So while it is best to drink water as free as possible from all minute life, yet some few of these microscopic animals cannot live in foul water, and their presence in a water is almost a proof that it is safe for drinking purposes. But this subject is as yet in its A B C, and until it is more fully studied I would prefer to do as your correspondent does and boil all water before drinking it.

That water, or even infected milk, may carry the seeds of disease into the body is too common and too well proved to be unsettled by anybody's belief to the contrary. Doubtless people may and do drink dirty water with seeming impunity for years, but nothing is now more certainly proved by the death returns of our towns than that cholera or other infectious disease has not half the power to kill after a pure water supply has been made compulsory on the inhabitants. More especially has this been seen in England, where the government has looked up old popular pumps and wells, long famous for their bright, pure-looking water, and compelled the introduction of a pure water from a distance. Not only have such measures reduced the mortality in a cholera epidemic from many thousands to a few tens, but the ordinary fall bowel complaints that carry off so many children in many large cities fallen off one-half. Army surgeons again are but too familiar with the dangers of bad water. In our own great war more men died from disease than from fighting.

The common impurities of dirty water weaken the health rather than produce positive disease, but the greatest dangers of such waters are their readiness to receive and multiply infection. Sow some corn on a dry sand and it will never sprout, grow nor multiply its kind, but sow it in a well manured moist earth, and it rapidly and abundantly multiplies itself. So with disease. Probably all diseases—but certainly all of the infectious kinds—have their seeds. Sow them sparingly in pure water, or on a healthy body, and their infective power is slight, but in dirty water or on a weakened body their multiplication is sure. Instances are innumerable in medical literature of the introduction of a single case of typhoid fever into a town supplied by surface wells being speedily followed by quite an epidemic, due to fever-seeds getting into the wells by soakage from the cesspools. The same fever has facts in its history that completely demolishes the idea that infection is received only by the lungs. In most large hospitals this fever is treated in the common sick wards, so little does its infection spread by air. Thousands upon thousands of cases yearly lie in beds but a few feet removed from other beds where rheumatism, drowsy and other common diseases are treated, and yet no case of this fever has ever occurred from such air infection. But let one drop of the excreta of a typhoid-fever patient fall into the milk or other fluid food and infection is almost certain to the person who swallows it. Pure water is not so certain to carry it, but has done it, probably from receiving a large quantity of the poison. Surface water resembles a fluid food more, as it

contains nourishment for the germination of the fever-seeds.

Whilst, however, dirty water weakens our resisting power to disease it is as foolish to look for fever from it, if it contain no fever-seeds, as to expect corn to grow from a huskel of mixed seeds into which no corn had been put. But one common class of diseases seems to follow very much on the use of well water exposed to the drainage of cesspools or surface filth, and that is sore throat. If sore throats are common in your home look to your water supply or to your drains. The water might be good and yet receive infection in the house from drain-air through untrapped or leaky pipes.

A rough test for the purity of a water which may appear clear to the eye and pleasant to the taste, is to half fill a well cleaned bottle with it, cork it loosely and keep it in a warm place (about 80°) for a few days, shaking it occasionally. If immediately after shaking it be uncorked and held to the nose, and no bad smell be detected within a week the water is probably safe. But boiling a water for quarter of an hour, and then allowing it to cool in clean and well-covered vessels, is the safest plan with all drinking waters, for filtration it must be remembered cannot purify disease-infected water.

SANITARIAN, M. D.

HORTICULTURE.

Statistics of Fruit Growing.

In our report of the meeting of the State Horticultural Society in last week's PRESS, allusion was made to the fact that the society was making an effort to draw out reports from fruit growers, with a design of showing how the production of fruit was affected by the location in which it was attempted. In this way the society thinks there may be obtained some material which will aid its members and the public in choosing the fruits most likely to succeed in different parts of the State. The circulars will be sent to all members on the secretary's book, and to such others as may be suggested to him as likely to possess information of value in this direction. The subject matter is herewith presented in the hope that it may attract the attention of fruit growers generally, and that all will communicate their experience upon the subjects named. The circulars have space for the writing of answers in connection with the different questions, and both are to be returned together in return-stamped envelope which is furnished. It is to be hoped that all having experience with fruits will send for circulars, as it is likely that many, especially in regions not generally known for their fruit, may be overlooked. Let all valuable experience in this matter be drawn out.

The Circular.

DEAR SIR:—At the October meeting of the California State Horticultural Society a committee consisting of Messrs. J. V. Webster, R. J. Trumbull and G. P. Rixford were appointed to draft a circular embodying questions concerning the growth of the leading varieties of fruit in this State, the main object being to determine the fruits and varieties thereof which succeed best under the local conditions existing in different parts of the State. It is hoped that fruit growers will give their experience and observation, and the results will be compiled by the Horticultural Society and published for the public benefit. It is expected that this collection of individual experiences will give better data for general judgments of the effects of local conditions upon the growth of fruits than has been had hitherto.

A copy of the collected returns will be sent to every grower who favors the society with his experience. Each one who receives this circular is invited to reply, even though his experience only covers a single fruit. An early return of the circular is requested.—E. J. WICKSON, Secretary, 414 Clay St., S. F.

Questions for Growers.

1. Which varieties of apples do best in your locality—early, fall, winter? What kind of soil?
2. Which varieties of pears do best in your locality—early, fall, winter? Which are your best shipping pears? What soils are your trees on?
3. Which varieties of peaches do best in your locality—early freestone, early cling, late freestone, late cling? Which are freest from "curl"? What soils are your peach trees on?
4. Which plums do best—early, late? On what soils?
5. Which apricots do best?
6. Which nectarines are most thrifty and best?
7. Which cherries are healthiest, best bearers and most profitable?
8. What varieties of prunes do you grow?
9. What currants, and which are preferred?
10. What gooseberries, and which do best?
11. What blackberries, and which do best?
12. What raspberries, and which do best?
13. What strawberries, and which do best?
14. Are almonds grown in your locality? Do they bear regularly and well? Which varieties do best?
15. Do English walnuts bear satisfactory crops?
16. Does the chestnut succeed in your locality?
17. Does the orange succeed in your locality? Which varieties are preferred?
18. Does the lemon succeed, etc? Which varieties are preferred?
19. Does the olive do well in your locality?
20. Do figs succeed? Which are your best varieties?

21. Do you irrigate your trees, if so, how often and when?

Signed.....
P. O. Township..... County.....
Remarks.....

Under this head please add any information in connection with the above which you deem important.

The above is the outline of the circular to be issued, and communications upon the subjects mentioned are requested from all growers.

THE STABLE.

Clipping and Singeing.

It is not long since any shearing of the horse's coat was looked upon as a cruel exposure of the animal by many persons. It is interesting to have a review of the philosophy of clipping for the consideration both of those who approve and those who condemn the practice. We find in the London *Agricultural Gazette* such an article from which we condense the following: Clipping and singeing are now regarded as necessary operations in the economy of the stable; and there are few who have made the management of horses an object of attention who do not recognize important advantages arising out of one or the other of them. In the present artificial state in which horses are kept, and the great exertion and endurance they are called upon to perform, it is desirable that every device calculated to conserve their powers, to minister to their comfort, and protect them from disease should be had recourse to.

The coat of the horse is shed in a natural way twice a year, viz., in the spring and autumn. At these periods, and while the change is being effected, it is invariably noticed that the balance of constitution is upset. The various functions of the body are but indifferently performed, resulting in lassitude, weakness and a want of vigor. This is more especially the case during the autumn change, and while the winter coat is being developed.

It cannot be doubted that the reproduction of the hair of the body is a process that entails a considerable expense of vital power, and consequent weakness. This is everywhere shown by the low irritable condition exhibited by horses at the time it is going on. The profuse perspiration following slight exertion, the irregular and relaxed state of the bowels, and the incipient fever and chilliness, all point to the same conclusions.

Owners of horses hardly credit the operation of moulting with that amount of importance it deserves, and, notwithstanding the very obvious want of stamina that usually attends it, it is seldom thought of sufficient importance, either in regard to food or labor, to necessitate an increase of the one or a diminution of the other. During the reproduction of the winter coat the health of horses will be best considered by easing them in their work, and feeding liberally and with judgment.

Horses with their long winter coats perspire over freely when at work, and become soaked with sweat; when the condition is low and the circulation feeble the drying process is protracted, and frequently requires hours to complete it. In such cases the long-continued evaporation maintains a cold surface, and not only conduces to obstinate skin disorders, but likewise to internal congestions and inflammations of the most important organs.

Horses, when clipped, become altogether changed in character. The appetite improves, their spirits are heightened, the action, before sluggish, becomes free and jaunty, the general tone of the body is improved, and feats of endurance and strength are performed without fatigue. When, and under what circumstances horses should be clipped or singed, are, at this season of the year, interesting questions. The time for removing the coat is too frequently governed by the temperature and character of the weather. Where the month of October is mild and open, many horses are allowed to run in their coats until November, and to completely develop a new jacket before the clipper is used. There are reasons, we think, for questioning the policy of such a practice. If the hair is to be removed, it should be done while the weather is yet mild, before the new coat has become fully developed. The effect of clipping is then less severely felt, and the increasing cold is better tolerated than if the hair be removed later in the season. Some persons who eschew singeing, clip two or three times in the course of the winter, and as long as it is not done closely, there is nothing to be said against it; but where close clipping is adopted a second and a third time, all consequences can be avoided only by the most scrupulous after-care.

To say that all horses should be clipped would be a little absurd, but when the work is quick, and the general health is good, both old and young are equally benefited by the operation, notwithstanding our very mutable climate. When there exists any morbid sensibility of skin and tendency to disease, both clipping and singeing should be avoided, as either may awaken a dormant eczema or some other eruptive malady, and thus lead to considerable inconvenience and trouble.

By a careful system of clothing, judicious feeding and working, and the unsparing use of the whip, the coats of some horses are kept fine and silky at all seasons of the year, and do not, therefore, require to be removed. Other horses

with hair of coarser growth, if in high condition and doing light work, may equally dispense with the clippers. Horses in good condition sweat less and dry much quicker than those in the contrary state. They are, therefore, less liable to chills, colds, rheumatism, and such other ailments as arise out of exposure in wet coats. Within the past 10 years a noticeable change has taken place in the clipping of horses, whereas formerly the whole body used to be stripped indiscriminately without any regard to the purpose for which the horse was required; in certain cases we now see the more judicious system of partial clipping adopted. In the case of horses doing slow work and subjected to exposure, it is sufficient to remove the coat from the belly, breast, arms and thighs, leaving the legs, back and sides untouched. On the other hand, where quick work is required, the whole of the hair should be removed, excepting from the legs.

Mud fever and ulcerated heels are in a large measure contributed to by the removal of the hair from the last-named parts. The legs of horses when clipped require close attention, otherwise the congestive influence of cold and wet are sure to induce one or the other of the diseases referred to. Where horses are allowed to retain their winter coat until late in the season, singeing should take the place of clipping, and the hair should be gradually removed by a repetition of the operation.

Epizooty.

Dr. J. W. Johnson, V. S., in *Ohio Farmer*: This disease has made its reappearance in this country, and in some localities in an epidemic form, which has become malignant and assumed a dangerous character both to the animal and its attendants, all of which can be avoided by the timely use of appropriate remedies. Those who have suffered the loss of their animals gave no heed as to treatment, except nursing, thinking it would not amount to much; but when they saw the blood coming from the nostrils, then they sounded the alarm, but the thief had already stolen the animal. Treatment given from the first will remove all danger in three days, and secure perfect recovery in 10 to 15 days, in 90% of all cases. Apply caustic balsam $\frac{1}{2}$ oz., on the throat of the animal and between the jaws, thoroughly rubbed in for 10 minutes; one application will be sufficient to check the progress of the disease. Internal treatment is indispensable to aid nature to throw off the poison, and eradicate the disease from the system. Ferrum phos. 3d, one oz. to each animal, dissolved in one pint of soft water; give $\frac{1}{2}$ oz. at dose three times a day. In severe cases a dose should be given every three hours until the above quantity has been consumed, which will cause the animal to throw off profusely. Then follow with kali mur. 3d, $\frac{1}{2}$ oz. to one pint of water; mix; give $\frac{1}{2}$ oz. three times a day. If the animal should break out in pustular eruption, cracked heels, scratches, etc., use kali sulph. 3d, instead of kali mur., in the same form, which should always be given after the use of ferrum phos. to complete a cure.

ARBORICULTURE.

The Linden Tree for California.

EDITORS PRESS:—Attention having been recently called in your columns to the linden, lime tree, or bass wood (*Tilia*), as a most valuable one to add to the shade and timber trees of our irrigated lands, some farther account of the tree may interest your readers. It is a graceful tree that does not grow very tall, but so spreads its branches as to shade much ground, and is very symmetrical in shape. The usual height of different species varies from 20 to 50 ft. Not only are its handsome yellow flowers very fragrant, but the honey made from them is ranked with the very finest. This is illustrated by the honey of Lithuania, where a species of this tree grows in large forests.

The Honey Produced from its Flowers Usually sells for twice as much as any other. This quality alone would make it valuable in California in future.

As a shade tree for avenues, it is extensively used in Germany and Holland. The principal street of the great city of Berlin, Prussia, is shaded, near each side-walk, by four handsome rows in all of a species of this tree (*Tilia intermedia*). This grand street, a mile long, from the Brandenburg Thor, or Brandenburg Gate, to the Imperial palace, on the banks of the river Spree, and several hundred ft. wide, is named from this elegant tree, Unter Den Linden, meaning literally Under the Lindens, or, as we would say, Linden St. As far back as among the ancient Romans, it was valued for this purpose. An American species is also a favorite shade tree in Philadelphia. The use to which the different parts of the linden tree have been put in past centuries, reminds us of the many uses for which the reindeer, living and dead, is employed by the Esquimaux Indians. Of its twigs, baskets and cradles are made; of its bark, writing tablets, and in later years ropes and a coarse matting called bast,

Its Light, Soft Wood,

Which is close-grained and smooth, has been extensively used to make, by the turning lathe, dishes and bowls, as well as boxes for druggists. It is excellent material for shoemakers' dressers. Some of the most elegant carving in England, such as in Cambridge College library, Chatsworth castle, and St. Paul's Cathedral, are made from this wood. When charred, it affords the best of coal for powder making. It is a wood that worms do not destroy. It lasts well as a ceiling for rooms. From its sap, sugar can be extracted. From the leaves of the European species, saccharine matter exudes, which is found to be like the manna from Mt. Sinai. In the Western States, Ohio, for instance, its timber is used for rails, and makes most durable ones. With us, however, its chief value will perhaps be as

A Handsome Shade Tree,

For which it is well fitted by its broad, heart-shaped leaves, and its wide-spreading branches. Out of at least nine species well known to botanists, five are natives of the "United Kingdom" and Northern Europe. We have four fine species natives of North America, though they do not generally grow so high as the European kinds. Our four kinds are *T. Americana*, with broad leaves; *T. pubescens*; *T. leptophylla*, with thin leaves; and *T. heterophylla*, with leaves varying in form.

Our Species

Are all handsome trees, and are distinguished readily from foreign species by a peculiar scale on their flower stems, that resembles the winged seed of maples.

Nurserymen and others, who wish to introduce this desirable tree into California, can easily obtain the seed this fall from Ohio and other Western States, or from the Southern States; for the habitat of our four kinds of American lindens extends from the great lakes on the North to the Gulf of Mexico on the South. We hope it will be largely grown in future, among the valuable trees on the irrigated lands of California. J. W. A. W.

Hanford, Cal., Oct. 25th.

RESULT OF TREE PLANTING ON BARREN SANDS. The New York *Tribune* says: The Harvard Arboretum under the excellent direction of Prof. C. S. Sargent, has done much to afford discrimination as to the differing merits of trees for different localities, and much, too, in supplying seeds and plants. It is said that on the bare and barren sands of Cape Cod and Nantucket it was found, many years ago, that the mere dropping and covering of seeds of the pitch pine (*P. rigida*) was a sure operation, and now some thousands of acres are covered with young trees of that variety, of little value compared with some others, yet so easily established that the planting did not cost more than a dollar an acre. The land was not salable; it was rated at \$1 an acre; now it sells at \$15 set with trees; and land planted 30 years ago will cut, it is said, from 15 to 20 cords of wood to the acre, worth \$3 a cord on the stump. As with other things, the more valuable are less easily raised; trials in planting seeds in bare sands, of the more valuable pines, the Austrian, Corsican, Scotch and White were failures—the Scotch giving one plant to 120 seeds, and the White only one to 320. Evidently these must have the extra expense and labor of a sheltered nursery while infants, and must have their own choice as to soil and location. Americans know much of forestry on the destructive side. They must set about studying the conservative course.

THE VINEYARD.

The Remedy for the Phylloxera—No. 3.

I pass now from the determination of the energy of the bisulphide of carbon, which was the last subject considered, to the resistance of the vines to the same. The first experiment made with the bisulphide of carbon destroyed the subterranean colonies of phylloxera, but gave discouraging results with respect to the vine itself. M. Cronet, at Sainte-Foy-de-Lorgnes (Var.), was among the first to apply the bisulphide, pure, with vines 6x2 ft. apart. He injected the substance in the corners of a quadrangle about each vine, placing 5 grams in each of 4 holes 7 inches from the vine. The result is easily guessed—15% of the vines were lost in the operation. The next was M. Gueit, at Solliès-Pont (Var.), who destroyed 23% of his vineyard by improper application of the bisulphide. Others made equally bad attempts, and these unfruitful efforts gave rise to much discouragement respecting this insecticide. This experience goes now to show the necessity of determining by accurate scientific experiments the proper method of applying the bisulphide, and then of conforming exactly to the rules deduced from such experiments. The experiments of the *Comité* to determine its effect on the vines were as follows:

On the 24th of June, 1877, 150 infected vines were treated with the bisulphide at the rate of 25.40 grams per sq. meter. Of this number of vines 72 were already badly reduced in strength, 46 a little better and 32 offering still some appearance of vigor. Three days after the injection of the insecticide, and continuing 7 or 8

days, the leaves of the vines most reduced exhibited a yellow appearance; the most vigorous exhibited no sign of the effect of the vapors. By the 12th of July they regained their natural green color and awoke from the influences of the drug. In this lot there were two classes of vines, one of 4 years of age and the other class 40. Now of the older, many of which were almost entirely gone, a few dropped off entirely, being too far gone to be resuscitated at all. Not so with the young ones, they all revived, proving that young vines will stand the bisulphide better than old ones, and that only those vines completely gone have to fear the ordinary dose employed. In very rare cases, when the vineyard is rendered feeble throughout, the bisulphide must be thoroughly distributed and the dose diminished slightly. It is certain that with the ordinary quantity, the proof is terminated as to the continuance of the vine in from 8 to 10 days. Again, a determination was made on an apparently healthy vineyard, but one which was badly infested with phylloxera. A number of rows of vines for this purpose were divided and apportioned for the receiving of different quantities:

Two rows received	26.70 grams per square meter.
" " "	53.30 " " " "
" " "	80.00 " " " "

The application was made on June 23d, and all on the same day.

Of the first two rows, viz.: those to which were applied 26.70 grams per square meter, only one vine was without grapes. Eight days after the injection this weakest one appeared badly withered—the others not even changing the color of their leaves. After 20 days this withered vine came forth with new shoots and leaves, vigorous and well. Of the second two rows, viz.: those receiving 53.30 grams per square meter, the vines had, before the treatment, an irregular appearance—some strong, others more wasted and destitute of grapes, and still others quite bad. Five days after the injection of the bisulphide a pale tint appeared, showing that the leaves were sensibly affected by the bisulphide. One vine, worse than the rest, was sensibly withered. Five others a little stronger appeared quite yellow. Four days after this there continued a striking difference between the weak and strong vines, the strong vines not being distinguishable from those not treated, and the others continuing to suffer; three of them withered completely. In 30 days more these last branched out with a new growth and returned to health and vigor. The last two rows, viz.: those receiving 80 grams per square meter, were, before the application, irregular as the second two rows. Here the yellow color came on rapidly and continued intense throughout for 17 days. Many of the young branches were completely withered and even some of those on the strong stocks. The vines of medium vigor lost many leaves and the grapes dried up. Five of the poorest were, to all effects, completely gone. Twenty-four days after the yellow color had disappeared from the strong ones; on the others it continued 36 days. One of the five which were apparently dead finally put forth new sprouts and leaves.

This seems to be as far as we need go with these experiments, for it will never become necessary to apply so much as 80 grams in a single dose, and we will now see how it affects the leaves when coming into direct contact with them, as when it is to be applied in summer. The barrel of bisulphide placed in the vineyard has been known to kill those vines so situated as to receive the vapors each time the injector is filled. This, when observed, led to the following experiment: When 10 grams are placed in an open hole beneath the green vine, the single phenomenon which appears, is the withering of the few leaves which are in immediate contact with the orifice—this, in the month of June, when the fumes are most energetic—now, with the orifice closed, as is done in the practical working, the little which comes upward works no injury at all to the vine, being immediately taken off into the open air. The question has arisen: does the carbon bisulphide arrest the functions of the vine only, or does it poison it by absorption? From what precedes, and from experiments directly for this determination, the inevitable conclusion is, that though the vapors be very abundant, they only suspend the absorbing function of the vine, and do not act as poison. This chapter, which ends the experimental work on a small scale, is closed with the following, as translated from the French:

"As a result, we have found that the subterranean diffusion of the vapors of carbon bisulphide are as energetic and effective as we could wish, and, furthermore, the vine is shown to be little susceptible of the influence of the vapor. Finally our experimental determination of the coefficient of the insecticide indicates that the doses or amounts of the re-agent recommended by the *Comité* must in every case, if they are properly applied, bring about the desired mortality of the terrible root grub or phylloxera. It is seen that successive treatments, methodically carried out, with the bisulphide will produce the required results."

To complete the examination of the first part it becomes necessary to note the results of experiments on a large scale. The space here given does not permit of all the details of those experiments, and I will, therefore, confine myself to the most important facts, and must be excused for stating them in a brief manner:

Cap-Pinede, 'a Marseille.—Here was a vineyard which had been badly infested since 1870, consisting of five acres of 60-year old vines. The roots of the vines were mostly withered and dried up. In the winter of 1876, the chlorate of potassium had been unsuccessfully applied, and the following winter found it about to be abandoned. The bisulphide was tried,

being applied in strict conformity with the rules previously deduced. The results are expressed as follows:

"We have the right and feel in duty bound to say that, from our experience at Cap-Pinede, we have attained the desired result. Those who have since visited the vineyard are struck with its appearance, and surprised to find that the treatment has been so effectual that there is not a single phylloxera on the vines, nor does so much as any trace of them appear. This result has been obtained only by careful attention, which is necessary to render the remedy effectual."

Le Canet, near Marseilles.—A large vineyard about to be abandoned; was subjected to the proposed treatment. A small portion was left untouched, to better note the effect of the remedy. On the 12th of March treatment was begun. The whole quantity of bisulphide used was 30 grams per square meter, with an interval of six days between the first and second injection. An additional dose was applied subsequently, but this was proved afterward to be entirely unnecessary. On examination after the first application it appeared that most of the phylloxera were dead, and scarcely a single one was to be found on the roots. After the second dose it was absolutely impossible to find a single one on the vines even with the very closest search.

At Saint Menet similar results were obtained; likewise at Le Crissaud, near La Renne, the results of which last are particularly valuable as demonstrating the superiority of the pure bisulphide over its mixture with oils, etc. A vineyard of 3,000 vines, all badly phylloxered, was divided in four sections, and denominated respectively A, B, C, D. Treatment was had on the 4th of July, 1878, as follows: A received 18 grams per square meter in a single dose; same amount applied to B, but in two doses, with an interval between of eight days; D was treated with a mixture of equal parts of green oil of anthracene and bisulphide, .18 grams per square meter in all; and to C the common oil of anthracene and bisulphide in equal parts was applied at the rate of 72 grams per square meter. In A some of the most feeble vines drooped a little at first, but soon recovered again. On the 4th of August there were found many parasites in D, scarcely any in C, and some in A. In B the phylloxera were all gone on Dec. 20th. When the leaves had disappeared from the vines, these same applications were repeated. The results were: On D were found some; on C about two-sixths of the vines still possessed the phylloxera. In A six vines out of the whole were found to possess the bug still living; on B all had disappeared. A vineyard made up of vines from all parts of France was treated according to directions, and five days after the second injection not one insect was to be found.

This completes the experiments of the company, and now follows the experiences of the viticulturists in carrying out the directions of the *Comité*. I intended to give some of these, but as they are very long, and as their results conform so exactly with those already had, I will pass them over, only remarking that wherever the directions were conformed to strictly, the results were as complete as could be wished. These results would be greatly interesting to and would accrue to the advantage of those who, being able to read French, can study them closely; and I should advise those who are able to avail themselves of all the contents of this latter part of the report, which, to all effects, beautifully proves the complete practicability of the results already given.

Throughout this work I have confined myself strictly to the results of the *Comité*, and where I could, I have given their experiences in detail. These being clear, definite, accurate and authentic, we may, as far as investigation has yet gone in California, namely, that of proving the complete identification of the insect with that of France, deduce conclusions, each one to satisfy himself, and I feel convinced that the majority of those sufficiently interested in this subject to become the reader of these articles, will arrive at the logical conclusion which Prof. Marion has enunciated, viz: That we are in possession of an efficacious method which has resisted a practical proof, that which is proof only and alone.

What will be the Cost of the Bisulphide?

Now that we have concluded as to the efficacy of the bisulphide, the next question which arises is: What will be the cost? The materials from which the substance is made are sulphur and carbon in some available form; the main principle of their combination is simple, but owing to the poisonous nature of its vapors and to the easy volatility of the liquid, together with its ready explosibility, there arises considerable expense incident to the condensing, storing and transportation. It is at red and transported in heavy iron barrels, the expense of which becomes considerable. In consequence of this it is evidently impracticable to import the bisulphide—it must be made here. From Eastern manufacturing chemists, the least it can be delivered on board the cars there is, counting the cost of the barrel, which is two cents per lb., 11 cents per lb. Add to this the freight cost and we are precluded from its use unless manufactured here. With the advantage of returning the cask or iron churn, the bisulphide can be manufactured here and furnished to the vinegrowers of this State at eight cents per lb., to be transported at the cost of the consumer. The means adopted here in selling the bisulphide will be identical with those in France, viz.: On ordering a lot a deposit will be made as security for the barrel which, on its return in good condition, will be refunded to the purchaser. This,

[CONTINUED ON PAGE 314.]

PATRONS OF HUSBANDRY.

A Notable Grange Assemblage.

There was held late in October at Rolls, Missouri, a union Grange meeting, which was so interesting and novel in its character that we are sure some items of it, which we condense from the account in the *Grange Bulletin*, will be of interest to our readers.

Rolla is 113 miles southwest from St. Louis; is a pleasant little city, and has 2,100 inhabitants. It is situated high up on the table-lands of the Ozark mountains, being some 500 ft. above the level of St. Louis.

The grounds occupied were about 20 acres in extent, and known as College Hill, from the fact that the School of Mines, one of the branches of the State University, and a fine building, is here located. Just back of the camp are the remains of Fort Ditty, an extensive earthwork, and occupied at one time during the late war by 40,000 men. The most prominent feature of the camp was the grand stand, 80 ft. in length and 10 wide, beautifully decorated with evergreens, flags, banners, and sheaves of grain, with seats for speakers, invited guests, etc., space for the band on one side, and the organ with choir on the other. The seating capacity in front of the stand was for 2,500 people. The arrangements for feeding the multitude were also on a large scale, and were partly comprised in one building, 210 ft. in length, by a breadth of 28 ft., having 7 kitchen attachments, each 14 by 16 ft. The main building was divided into 7 dining-halls, and controlled by the 7 Granges of Phelps county, each hall being 28 by 30 ft. in size. The entire building dined about 700 at one time. The Granges occupied the building and furnished the meals, and good ones at that, for 20 cents each. Directly in front of the restaurant is a row of 5 tents, 2 used for the sale of checks, to purchase provisions or anything needed on the grounds, 1 for police, 1 for bands, and 1 for Secretary; other tents were for Executive Committee, commissary, forage, etc. Then on each side of the central square were 3 rows of tents, 475 wall tents being provided, and beyond was the corral for teams. The entire arrangements were most complete, order and system prevailing on every side, and reflected great credit upon the earnest workers who had the matter in charge. It was a complete success, and only the beginning of what will year by year grow larger.

An opening address was delivered by H. Eschbaugh, W. M. of Missouri State Grange, in which among other things he said: We realize the fact that we are citizens of the same commonwealth, members of a united whole for a common good, engaged, however, in different enterprises and vocations, but more or less dependent upon each other. Our varied interests are so closely interwoven for the general good of mankind, that it should place us in the most friendly relations one with another.

But more is dependent upon agriculture for general prosperity and happiness than upon any other interest, and the farmers of America are realizing the great importance of the agricultural interest, and inasmuch as the general welfare of the people depends largely upon agricultural prosperity, they are desirous of making this, the great interest of our land more permanently prosperous, which enables them to realize reasonable profits to themselves and contribute still more liberally to the peace, happiness and prosperity of the whole people. This gathering of farmers from every section of our great State, and even from other States, is not to antagonize or interfere with any legitimate interest or enterprise, for all others have their importance and merit, and we must cheerfully accord to them their just rights and legitimate privileges, claiming only for ourselves impartial, equal rights and privileges with others, an equitable distribution of governmental blessings and burdens to all alike upon the fundamental principles of exact justice to all interests.

This is the most appropriate place that could have been selected for an Encampment of the Patrons of Husbandry, the first gathering of the kind ever held in the land. Our work is education and elevation, peace and prosperity. Here stand your collegial buildings as a token of your usefulness. Here you educate and elevate the rising generation to greater usefulness in the world.

There is the well-remembered "Fort Ditty," where not many years ago the ground was broken, entrenchments made, fortifications erected, and made almost impenetrable as a military post, and occupied by 40,000 soldiers of war, whose weapons were the sword and bayonet, their mission, blood and death. Their work was one of carnage, that carried with it ruin and mourning.

To-day we have encamped upon the same ground a large army of different soldiers, whose weapons are justice and equity, and whose mission is one of mercy, peace and good will to man. What a contrast between that army and these brothers and sisters who are banded together by the strong tie of fraternal relations, working together for the improvement, elevation, and the general welfare of a common humanity. May the weapons of this army to-day be prospered and their mission blessed with success, while the swords are beaten into pruning hooks and the bayonets into plow shares for the future tilling of the soil.

We hope to have no future use for swords and bayonets, for our Order tolerates no favoritism or specialism, no sectional animosities or strife. Our principles are broad and national in character, we are neither of the North or South, East or West. We labor together for the general good as one people and government to be controlled by the people, and managed upon the fundamental principles of equal and exact justice, so that the affairs of government may redound to the general welfare and happiness of all people in every section of our common country.

For the first evening a torchlight procession had been arranged, and it was a most complete success, and said to be the largest and best ever seen in Rolla. It was a sight long to be remembered, the long lines of sisters and brothers, all in regalia, carrying torches and banners, with flags, music and fire-works marching through the principal streets of Rolla, received with cheers all along the route; For be it understood that the most cordial good feeling was maintained on all sides by the citizens all through the encampment; all seemed determined to make the stay of the Patrons a success. We give the mottoes upon some of the banners carried in the procession:

"Just distribution of burdens and blessings of government to mankind."

"Truth and honesty make clean hands and pure hearts for true Patrons."

"Our motto: Live and let live. The greatest good to the greatest number."

"Union is strength. Division is weakness."

"We cheerfully grant just rights and privileges to all men, and claim no more for ourselves."

"The Grange organization is the only institution that can bring relief to the farmers, and elevate them to a higher social standing."

"Our mission: To elevate humanity, and to make mankind better and happier."

"Selfish strife and contention destroy peace and prosperity."

"United we advance. Divided we retrograde. Praise to him who unites. Woe to him who divides."

"No selfishness, but a fraternal feeling to all mankind."

"Agriculture the element that produces the prosperity and wealth of the nation."

"Our work to advance our country's interest and our country's good."

"The Patrons of Missouri send greeting to the Patrons of sister States."

"Education the basis of our organization—the strength of our civilization."

"Co-operation the essential element of success."

"No North, South, East or West, but one people and one government."

"Rolla Encampment, Patrons of Husbandry, October, 1880."

The procession marched to the grand stand, and speaking was kept up until a late hour, besides on this and one other evening the students of the School of Mines gave an exhibition of views thrown on a large screen outside the college building by electric light. They also had a dramatic entertainment, free to all, on two evenings. The speaking at the stand was kept up by various speakers, interspersed by music and singing, morning, afternoon and evening for five days, and it is certain that Grange principles were thoroughly expounded from all the different standpoints. Other subjects were discussed besides those directly belonging to our Order. The camp was a beautiful sight during these night meetings, not only was it lighted by torches set at regular intervals, but by fires, and a full moon.

Grange Work.

Last week's *Patron* had a good article on this subject, from which we take several paragraphs. Now that the election is over, and the grain crops garnered, it is about time for us to look around and see what has become of the Grange. The future outlook of the country is good; in fact, never was better. The State never had such a harvest; her granaries are full to overflowing, and, although the market price of our products rules comparatively low, nevertheless their aggregate value has never been equaled. Hence, we have much cause to rejoice at the prospect of a general prosperity for our beloved State.

That the cause of the Grange prospers where and whenever the people are financially prosperous, is unquestioned. This is fairly illustrated by the ruin which overtook the Granges in the southern portion of the State during the three or four indifferent crop years which preceded this. This year's crop, with its new outlets through Arizona and New Mexico, at fair rates of compensation, is beginning to stimulate a desire to revive the Order in many places where there have been no signs of life for years. In the central, northern and eastern portions of the State we have always had live Granges, with a present indication to a more healthy growth and increased usefulness.

November and December have usually been our best Grange working months. We hope this year will not be an exception to the rule. Grange officers are to be elected, and then there are hundreds of worthy farmers who are disposed to join the Order if the subject is properly represented to them. There is also a large number of worthy persons, once belonging to the Order, who are waiting for a favorable opportunity, either to join other Granges or revive their own.

MAGNIFYING GLASSES 2,500 YEARS OLD.—In the writings of Confucius, the great Chinese philosopher, the following passage occurs: "As we use a glass to examine the forms of things, so must we study antiquity, in order to understand the present." This sentence points most unmistakably to the use of magnifying glasses long before the time of the writer, who died 478 years before our Era.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

FARMING IMPROVEMENTS.—Oroville *Mercury*, Nov. 5: All over this part of the county we notice the farmers busy at work improving their places; some building houses, some barns and others substantial fences. It begins to look as though the farmers had made up their minds to stop here the remainder of their lives, and are intending to have everything about them comfortable and neat.

EXPERIENCE WITH AN INCUBATOR.—EDITORS PRESS: I exhibited one of my Eclipse incubators at the Northern District fair held at Chico. The hatch was most wonderful, everything considered. I put the eggs into the incubator at my place here, and ran it up to within two days of when some of the eggs should hatch, then took the eggs out, and packing them in boxes, carried machine and eggs to Chico, a distance of 18 miles over a very rough road. Out of the 200 eggs I put in the machine there hatched 130 smart, healthy chicks during the fair. I then gave the balance of the eggs to a gentleman, who put them under hens and they hatched the day after the fair closed. The society awarded the Eclipse their diploma.—B. F. ALLEN, Pentz, Butte Co.

COLUSA.

CAN OUR ORCHARDS BE SAVED.—Colusa *Sun*, Nov. 6: The fact has been fully developed that the codling moth is much worse here than in any of the Eastern States. In fact, many of our most experienced orchardists are of the opinion that the growth of apples and pears must be given up entirely unless some prompt measures can be taken for the destruction of the pest. Some of the largest orchards in the State have been totally destroyed, and the outlook is so very unfavorable as to afford no inducement for planting new ones. What is to be done about it? It is entirely in the province of the Legislature to make and enforce such regulations as will insure the destruction of the pest. It has been demonstrated that the moth can be effectually destroyed if there could be concert of action among the orchardists. Without Legislative enactment it is useless to expect this. What the next Legislature should do then is to appoint a General Orchard Inspector, some such man as Mr. Cooke, of Sacramento, who seems to have given the subject more attention than any one else, and then have an inspector for each county, and let all orchardists be compelled to take such precaution as directed, on pain of having their trees cut down. It is entirely within the province of Government to stop in the best manner possible all kinds of pests, even to the destruction of private property. The expense entailed on each, we are assured, would be comparatively small. A few old trees with a few dwarfed apples will afford a nest for the propagation of millions of the moth, and no one ought to be allowed to maintain such a pest-breeding establishment. We throw out this as a suggestion to our orchardists, and hope to see the subject further discussed before the meeting of the next Legislature.

FRESNO.

FINE FRUITS.—Republican, Nov. 6: There is on exhibition at the Ogle House a sample of our sun-dried fruits. On the table are specimen boxes of figs, peaches, raisins, nectarines, apricots and apples. The collection makes a magnificent display, and is pronounced by experts to be equal to anything of the kind produced in the State. We heard a man from San Jose say that the dried peaches were the finest he had ever seen, and he had handled fruits for many years. These fruits, grown by Capt. Row on the Central Colony, are but pioneer specimens of the future products of our county.

CLOSED.—The Washington Colony Cheese Factory has been closed temporarily, owing to a scarcity of milk. The factory has been of value to the colonists, giving a convenient market for all the milk produced on the two adjoining colonies. It is to be hoped that when it starts again, the supply of milk will meet the demand, and enable the factory to furnish again its splendid article of cheese to our local dealers. A vote of thanks from the company was tendered Messrs. O. W. and Wendell Easton for their efforts to make the enterprise successful. Many of our people have long since preferred the colony cheese to any other brought to our town, and all join in the hope that the factory will soon reopen.

LAKE.

PEARS.—Lakeport *Bee*: A few days ago we received from J. M. Middleton one-half dozen pears (variety not given) which inventory as follows: Total weight, 13½ lbs.; weight of the largest, 2½ lbs.; circumference of the largest, lengthwise, 18 inches; shortest circumference, 16 inches. They were raised on the ranch of C. C. Rice, near Upper Lake, and are only a fair sample of the entire yield of that variety. Without a precedent these are the most enormous specimens of the pear fruit we have ever seen, and few can understand the satisfaction and pride we take in giving space to their notice.

LOS ANGELES.

LARGE FIG.—Anaheim *Gazette*: Mr. P. Pellegrin can fairly lay claim to having produced from his orchard the largest fig of which mention has yet been made. It is eight and three-quarter-inches in circumference—or three quar-

ters of an inch larger than the one mentioned a week or so ago by our neighbor of the Santa Ana *Herald*. The fig weighed 5½ ounces. The combined weight of eight figs from the same tree was 2½ lbs.

MENDOCINO.

HOPS AND WOOL.—Ukiah *Press*, Nov. 6: The wisdom of our hop growers is demonstrated by the falling market. The receipts since September 1st, in the New York market, have been only half what they were last year, and the exports about one-eighth. England thinks our hops too expensive a luxury at present prices for choice in New York, 20¢@23¢. San Francisco market reports give 16¢@19¢ as the price of very good to choice lots. Nearly all of Mendocino's crop went off at from 19¢ to 21¢, with two or three large producers still holding part of their crop. Wool has sold better here and at Cloverdale than in the city; 24¢ is the best we have known here, and 25½¢ was the extreme at Cloverdale. Buyers have been grading our clip very close, and neighboring ranges do not class together in the market. Two and three cents difference has been made on adjoining clips the same day. Several loads came here from Upper Lake to find a market, and brought 20¢ to 23¢. Only 20 was offered for it by local purchasers at Upper Lake. Several of the buyers left last week, but considerable quantities of wool, some of the finest, has come in since, and the clip is not all in yet.

WHEAT.—This cereal is now steady at \$1.45@1.50. Shipping is engaged to the amount of 63,326 tons, as against 44,000 tons last year at this time, and 5,000 tons of disengaged tonnage in port, as against 10,500 last year. Advances from abroad indicate an improvement in price.

NAPA.

THE VINE-GROWERS AND GRAPE SUGAR.—St. Helena *Star*, Nov. 6: The wine-growers met Saturday, being their regular day, though owing to the wine-making season few were present and little was done. The only action besides the reading and adoption of the minutes was the adoption of the following resolution, which explains itself: Whereas, the vinicultural industry of California, after a long and disheartening struggle of nearly a quarter of a century, has at last acquired a well-merited reputation in the markets of the world, chiefly on account of the acknowledged purity and excellence of its wines and brandies, and whereas, it is to the interest of all parties engaged in viticulture to guard with a jealous care the well-earned reputation we now enjoy, and to prevent by all fair and, if necessary, legal means, the introduction of any foreign substance of whatsoever kind, intended to increase, cheapen and adulterate our honest products, and whereas, we learn with dismay that a large quantity of grape sugar, a substance made of corn or potatoes, has been received in certain wine districts of this State from the East, unquestionably to be used in the manufacture of wine, or brandy, or both, therefore be it resolved by the St. Helena Vinicultural Association that we discontinue and condemn in the strongest terms all practices among wine makers tending to the adulteration of our wines and brandies, believing it to be a death blow at an industry which, if properly fostered and honestly carried on, is destined to assume vast proportions in the near future and materially increase the wealth and prosperity of our favored State.

NAPA VALLEY GRAPES FOR CHICAGO.—Register, Nov. 6: A carload of fine table grapes from vineyards near Napa was attached to the down passenger train last Saturday, and will be taken through to Chicago on the overland passenger train—about five days being required for the trip. The shipper is E. T. Earl. The grapes are shipped in what is called a fruit car, which is so constructed and the fruit so packed as to insure the arrival of the goods in a perfectly fresh and marketable condition. The grapes are put into boxes similar to the small light boxes used for berries, but are larger, holding about four pounds each. A dozen of these boxes are placed in a larger box, and the carload shipped this morning consisted of 424 of these larger boxes, or 20,352 lbs.

NEVADA.

VINE LANDS.—Foothill *Tidings*: To any one familiar with the grape-raising sections of Napa and Sonoma counties, the hills around Grass Valley present boundless possibilities for the future success of this industry in this vicinity. The soil is similar in appearance and formation to that of the most favored portions of the above-mentioned counties, and the climatic conditions are equally as favorable. Hill grapes always command from \$2 to \$5 additional per ton above valley grapes, for the reason that the wines made from them are better, have a finer flavor, and bring a much larger price in market. The grapes raised around here are considered by all who have tasted them to be superior to those raised in the valleys; they are sweeter, larger, contain more juice and have a finer flavor than those grown near the sea level. Wine making as an industry is yet in its infancy in this State, but already people of distant lands are looking toward California for their future supply and it is destined in time to take rank with the foremost in the State. That the foothills of California will one day support a large and thriving population engaged in grape-raising, wine and raisin-making, it is beyond a doubt, and those who first engage in these industries will reap the largest reward. It costs but comparatively little to set out and take care of a vineyard and the returns are so sure that it is a matter of comment among those who have visited the wine-producing sections of the State that the

hills about Grass Valley are not set out in extensive vineyards.

SAN BENITO.

GOATS.—*Enterprise*: John S. Harris shipped last week to Oliver Cattle, of Tulare county, 93 head of full-blood Angora goats. Angoras are beginning to attract the attention of stockmen, and are in active demand at good prices. Mr. H. deserves the success he has achieved in this line of industry.

SAN BERNARDINO.

CULTIVATOR OR PLOW.—*Riverside Press*: There are two of the most thrifty orchards in the Riverside settlement that are not plowed at all. Geo. Crawford three years ago broke up his sandy loam soil and sowed it to barley. He afterward planted it to orchard, including orange, lemon, peach and apricot trees, etc., without further plowing. He has not plowed since but he keeps the surface thoroughly cultivated summer and winter. His orchard is one of the most thrifty in the settlement. He irrigates but twice or three times a year. Capt. Handy has an orchard just south of Riverside that is pointed to with pride by all our citizens. The trees are healthy and vigorous. He does not plow the land at all but he cultivates thoroughly and frequently. A few days since he irrigated for the second time this season. His soil is clayey loam. Geo. Crawford argues that the roots of a tree fill the ground in a deep soil like his to the depth of eight, ten or twelve ft.; that in plowing the soil is stirred up to a depth of six or eight inches, or possibly ten inches; that in cultivating the soil it is stirred to a depth of four or five inches; that when the soil is plowed the roots cannot come within, say eight inches of the surface, but when the soil is simply cultivated they can come within four inches of the surface, and that if the ground is stirred enough on the surface to keep down the weeds and to keep the surface from baking that is all that is necessary. Cultivating does this thoroughly—plowing can do no more.

SANTA CRUZ.

YIELD OF WHEAT.—M. P. Owen in *Courier*: In a former article I mentioned the immense wheat yield of the county this year. In order to satisfy myself more fully on the subject, I spent two days last week in gathering items from persons of intelligence and veracity, who had taken pains to weigh the wheat and measure the ground from which it was taken, and it is an established fact that a good many fields turned out from 70 to 90 bushels to the acre, and two fields yielded over 100 bushels to the acre, while 50 to 70 is common. I am ready to give the names of the parties, if necessary, who grew the wheat, and of those who threshed it and measured the ground.

SACRAMENTO.

HEAVY FRUIT SHIPMENT.—*Bee*: Mention has been frequently made in these columns of the rapidly increasing importance of Sacramento as a fruit-shipping center to the East, and these assertions are borne out by indisputable figures. To-day M. T. Brewer & Co. forwarded two carloads of grapes to the East—their last shipment for the month. This makes a total of 23 carloads of grapes and other fruits forwarded to New York and Chicago by this firm during October, as against 10 carloads in the same month last year. Owing to the lateness of the season the fruit shipments this year are heavier than were ever known before from Sacramento. The box factories are running to their fullest capacity and the demand continues strong.

SAN JOAQUIN.

FALL WORK.—*Stockton Independent*: The late harvest has thrown the farmers back in their fall work. In some localities threshing is not yet completed, and in others the seed is being put into the ground for next year's crop. On Roberts island threshers will be kept in operation for at least a week to come. On the dry plains the grain has all been sacked, but much of it remains exposed in the field. The streets of this city are daily thronged with teams hauling wheat to the warehouses for storage, and to the water front for shipment. A month, at least, must elapse before all the grain in San Joaquin county is securely housed, and it is feared that much of it will be exposed to early rains. Farmers generally are pushing forward their work with the utmost vigor. Many have yet large quantities of hay to bale and secure from the approaching winter storms. Threshing, baling hay, removing grain from the field, plowing and sowing seed on summer-fallowed lands is a diversification of farm labor probably never before known in the history of husbandry in San Joaquin at this season of the year. Along Cherokee lane, farmers are seeding their summer-fallowed fields, and it is presumed that similar work is going on in other parts of the county and throughout the valley. There has been no period of rest for the farmer between harvest and seed time this year. From the hour the first header was put into operation until the present time, there has been no respite from toil in the fields, and to-day almost every farmer is as busy as he was in the middle of harvest. It has been a prosperous year for the agriculturists, who are evidently more unrelaxing than ever before in their efforts to prepare for the coming year. There is a large area of summer-fallowed land throughout the valley ready for seeding. The prospect is that the area of wheat land will be greatly enlarged. As soon as sufficient rain falls to soften the soil deep enough for the plow, every available team in the entire valley will be employed in turning the soil, a work which is likely to be kept up as late in the spring as the moisture in the land will permit. Some farmers are now engaged in

harrowing the fields reserved as volunteer. The volunteer crop in San Joaquin valley in 1881 promises to be unusually large, that is, a large area will be left in that condition. Farm laborers have had a busy summer, and have a reasonable assurance of an equally busy winter and spring. The harvest and the fall work connecting, as they have done, have afforded a more prolonged season of continuous work for hired men than has ever been experienced in any former year in this section.

SONOMA.

SONOMA VALLEY WINE PRODUCT.—*Index*, Nov. 6: Sonoma valley will stand this season at the head of the wine-producing districts of California. The competition among wine makers not only raised the price of grapes, but stimulated production and caused growers to pay unusual attention to their vineyards, hence our heavy crops. Between 20 and 30 firms in the valley are engaged in wine making, and it is not too much to say that their united product will exceed 850,000 gallons. Much of this wine is of the finer qualities and commands higher prices than that made in other sections, the only good champagne wines coming from this valley. Our estimate, we are assured by competent judges, is under, rather than over the actual product.

REMARKABLE GROWTH OF VINES.—Last season Gen. Vallejo set out 16 grape cuttings in the rear of his residence. The situation is most favorable, being on a hillside, with a sunny exposure and well watered. These vines grew and flourished as never vines grew and flourished before. In less than 12 months they have shot up and now measure from 15 to 20 ft. in length each, and still growing, and every vine is of greater circumference than was the parent stem. The vines have been carefully trained over an arbor, and the General takes just pride in the success of his experiment. It may be that isolated cases exist where a solitary vine or two have attained equal wonderful growth, as above instanced, but where so many vines, planted at the same time, have grown so rapidly, has never before come to our knowledge.

WOOL.—*Healdsburg Flag*: Wool men say that they are happily disappointed in finding that their fall clip is heavier and of longer fleece than was expected, and the wool very clean.

RAISINS.—*Healdsburg Flag*, Nov. 4: Capt. F. B. Tarbett, on the road toward Windsor, has put up 400 lbs. of beautiful raisins. He selected the Muscat of Alexandria, dipped them in hot lye, subjected them to the sun's rays for a while, and then finished them up in a fruit drier. The drier put them in fine condition and destroyed all larvæ that might have been deposited among them while they were exposed in the open air for the benefit of the sun's rays.

MILDEW ON GRAPES.—Grapes have been graded this year by buyers, very much the same as wool is graded, owing to the presence of mildew. But this will probably not be the case again, as it is found that the disease can be controlled with sprays of powdered sulphur, if applied in time. Bluestone will, probably, not do; for Henry Gird tried it this year, thoroughly, without avail.

WEST INDIA VALLEY GRASS.—Sample seeds and roots of this grass were planted by B. G. Lathrop in his garden, which is on up-land, several hundred ft. above the valley, and have done well. The roots are bulbous, and come in abundance, and the grass is luxuriant, and well liked by horses and cattle. It seems to be just the thing for sections where the soil is light, and irrigation impossible.

A PROFITABLE INDUSTRY.—We scarcely need write on the profits of carp culture, which has already been so fully set forth. But it is certainly in order to express surprise that so few are engaged in the industry. Besides John L. Rodgers, of Upper Dry creek, who has been quite successful, we hear only of the pond established recently in the Grant pasture, south-east of Healdsburg. From Chas. Newell, partner of Mr. John D. Grant, in this enterprise, we obtained a few particulars. He is a relative of Maj. Isaac W. Sullivan, who is largely engaged in this industry in the lower part of the county. The Grant pond has a capacity of 9,000 gallons of fresh water per day. In June last 42 breeders (three males to one female) were put in; the 18 females ought to have spawned 1,000 each, and next year arrangements will be made to accommodate 100,000 fish. Northern Sonoma abounds in springs that would render carp ponds possible by the hundreds.

A CONSOLING VIEW OF THE PHYLLOXERA.—*Index*, Nov. 6: So far as regards Sonoma valley, the excitement over the ravages of the phylloxera has wholly died out; indeed, it scarcely causes a passing remark. The investigation into the source, habits and causes of this pest have rid it of its terrors, and vinegrowers now but little dread its appearance, knowing, as they do, their power to destroy it. To the members of the Viticultural Commission great credit is due for their exhaustive research into the origin of the phylloxera and modes adopted in Europe for its eradication, as well as carefully prepared statistics of its ravages in California. * * * Experiments in Sonoma valley show that several varieties of native vines resist all attacks by the phylloxera—that, even when covered by these insects the shoots are strong and thrifty, thus proving them capable of resisting the most vigorous assaults of this new enemy of the vine. The finer varieties of the grape, which produce the most delicate wines, can be perpetuated by budding upon native stocks. Sonoma valley is a great vineyard;

her people have closely examined into the cause of phylloxera; their experiments have been crowned with success, and they are satisfied that they have little to fear in the future from their long-dreaded enemy. They know that the richest soil does not produce the choicest grapes; that no other section of the State produces wines equal to our own; that the grape is the easiest and one of the most profitable crops grown, and that finally they have mastered the phylloxera and little dread its appearance. Favored as they are by nature with a climate unsurpassed in the world, with a generous soil and a market at their doors for every ounce of their products, our people see before them a new era of prosperity, and are already taking advantage of their opportunities. Advance is the order of the day, and the coming season will inaugurate a system of public improvements which will make both our town and valley the most attractive to strangers of any spot on the Pacific coast.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

MAGAZINE FIRE-ARM.—George E. Williams, S. F. Patented Aug. 31, 1880. No. 231,390. The improvements shown in this fire-arm are more especially applicable to that class of guns in which the cartridge is received from the magazine into a carrier-block, and is elevated by this block to a level with the bore of the gun, and is then forced into its chamber in the barrel by a carrier-bolt or breech-pin operated by a lever and suitable connecting-links or arms. This invention consists of a peculiarly slotted plate, formed with the breech-pin bolt, and adapted to reciprocate the bolt by the action of the guard lever. It also consists, in combination with the bolt, of a hinged locking-block, which is connected with the guard-lever by links, and is thrown up by them to allow the bolt to be retracted, and is drawn down so as to lock it firmly when it has been forced forward and the cartridge introduced to its chamber ready for firing.

BREAKING CART.—De Witt C. Putnam, Petaluma, Cal. Patented Sept. 14, 1880. No. 232,207. This invention relates to certain improvements in that class of vehicles known as "breaking carts," in which young colts are broken to harness. Carts of this description are usually provided with very long shafts, and the seat is placed on springs immediately over the axle, or at such a distance back that the driver is not in danger of being kicked by a fractious animal. In this class of vehicles the foot-board is usually secured to the axle while the seat is on springs, and it is therefore uncomfortable to ride upon, since while the body of the occupant may move up and down his feet must remain stationary. The improvements consist in so attaching the foot-board to the vehicle that it shall move in unison with the seat, the same spring which supports the seat serving as a spring for the foot-board.

HOISTING MACHINE BRAKE.—William R. Eckart and Hans C. Behr, S. F. Patented, Aug. 31, 1880. No. 331,766. This invention relates to certain improvements in that class of machinery which is used for hoisting and lowering in mines and other places, but which is more especially adapted for heavy mining work; and it consists in a novel construction and operation of the friction brakes, by which the speed of the descending load is regulated, checked or stopped at will, said brakes being adapted to move on parallel lines, so that all parts of the faces of the brake-shoes will be approached to or retracted from the drum at an equal rate of speed.

PROCESS FOR PRESERVING MEAT IN THE CIRCASS.—Richard Jones, Berkeley, Gloucestershire, England. Patented, Aug. 31, 1880. No. 231,807. This process consists in utilizing the circulatory organs of the blood to equally distribute throughout the body a solution, and by this action to mingle the substances intimately with the blood, so that they permeate the whole body and coagulate with the blood in every part, and thoroughly preserve the meat without giving it a sudden appearance.

BUTTON.—Lesser Leszynsky, S. F. Patented Sept. 7, 1880. No. 232,044. This invention relates to an improvement in buttons and similar devices which are used for connecting portions of clothing or other articles together; and it consists of a stem, having two parts projecting from the button or head, in combination with a rubber or other elastic center, which is held between the button and the goods, and furnishes an elastic, non-wearing surface, which the button-hole surrounds.

PICK.—Corbin Norton, Tuscarora, Nev. Patented Sept. 7, 1880. No. 232,056. This pick is especially useful for miners' purposes where the tools receive hard usage. The improvements consist in forming a head of malleable iron, cast with a socket for the pick-handle, and having a slot through which the pick itself is passed, the pick being secured in place by a key fitting into a central notch. No wedging of the handle is necessary to keep it in place, and neither pick nor handle is apt to get loose from the head.

News in Brief.

TORNADO in Utica, N. Y., on Saturday. HEAVY gales have caused disasters on the great lakes.

THE fast Australian mail was detained 12 hours at Queenstown.

NEARLY 1,000 houses have been erected in Denver during the year.

PRINCE GORTSCHAKOFF is very ill, and it is not likely he will recover.

THE Socialists ejected from Hamburg will come to the United States.

A POWDER magazine in Lacrosse, Wis., was exploded Monday by shots fired into it.

THERE is a great scarcity of bread in Russia, in spite of American importations of wheat.

FROM 200 to 300 miners at Akron, Ohio, have struck, demanding an advance of 10 cents per ton.

THE Porte is making tremendous efforts to be in position to effectually close the Dardanelles at short notice.

THE expelled French monks are receiving a cordial welcome in Spain, where all classes vie in tendering them hospitality.

GEN. BENET, Chief of Ordnance, in his annual report calls attention to the necessity for a new machine shop at the Benicia arsenal.

IT is stated that Gen. Grant prefers the Secretaryship of War to the Illinois Senatorship, and will probably be offered that position.

GREECE is getting ready. The Minister of Finance has asked for an extraordinary credit of 36,000,000 drachmas for the War Ministry.

CHINAMEN, to the number of 562 left this city by the last steamer for China. Lack of employment is the reason given for their departure.

THE Shah of Persia has appealed to Russia for help against the Kurds. The government has consented to give help under certain limitations.

ENGLAND, at the instance of Persia, has requested the Porte to station a guard on the frontier, in order to prevent incursions of Kurds into Persia.

UNDER the California law no more deer can be killed from November 1st until next July. Trout cannot be caught between October 15th and April 1st.

CAPTAIN EADS will soon sail from New Orleans to Mexico with a party of engineers to examine the Isthmus of Tehautepec in order to verify his idea that it is suitable for a ship railway.

MEXICAN papers demand that the United States shall help pay the reward of \$2,000 for Victorio and \$22 for each Apache killed, as well as aid in relieving the want caused by the raid.

It will cost the cotton planters about \$40,000,000 to market their crop this year, of which \$25,000,000 will go into the pockets of colored laborers, many of whom are women and children.

It is reported that Queen Victoria has asked Gladstone to propose to Parliament a grant of £40,000 to enable the Prince of Wales to pay his most pressing debts, and that the Premier has declined.

A RUMOR was widely published in the New York dailies that Chinese labor is being introduced in silk and other mills of Patterson, N. J., and is met with an indignant denial by the manufacturers.

THE New York *Telegram* has the following Washington special: The reported loss of Bennett's Arctic exploring steamer *Jeannette*, with all on board, telegraphed from San Francisco, is doubted here.

THE Board of Trade returns for October show a decrease of £4,881,000 in value of imports into the United Kingdom, and an increase of £978,000 in value of exports, compared with the same month last year.

EDDIE J. Cahill, aged eight years, was accidentally shot and killed by his 11-year-old brother, at San Leandro, Sunday. The latter took up the gun to snap a cap at his brother thinking the gun was empty. It was, however, loaded.

THE French Cabinet discussed on Saturday the declaration to be made at the opening of the chambers. The programme is expected to be a reorganized Ministry, reform of the laws relative to the press, and the right interpretation of the education laws.

DR. TANNER is making arrangements to fast 40 days in London. He says the advocates of alcohol may select six men as near his age and physical condition as possible, who can take wine, beer or any spirituous liquor, during the fast, and he will take water only.

THE stage from Georgetown to Auburn, Placer county, on Monday, was stopped about a mile and a quarter from Auburn station by a masked man armed with a Winchester rifle. He took Wells, Fargo & Co.'s box, containing \$2,150.30 in coin and \$285 in gold dust.

THERE was a terrific wind storm at Montreal on Sunday. A three-story house on St. Mary's street, occupied by a wholesale and retail grocer, was blown down. Damage to stock heavy. The clipper ship *Ravenrag* was blown on her beam ends at the wharf, but was afterward righted.

BEFORE the Tribunal of Conflicts, in Paris on the 5th, Boviell, of counsel for the Jesuits, declared that in view of the expulsion of 11 religious congregations in Paris on that day, he considered all further pleadings useless in a country where the motto of a government is: "Might is right."



The Bride of Tamalpais.

[Written for RURAL PRESS by CHAS. H. PHELPS.]

The haughty crest of Tamalpais
Is be'd communing with the skies;
To kingly splendor was he born,
And ages has the purple worn.
How eagerly the morning light
Springs to caress his utmost height;
It seems the vale that intervenes,
The long, low lands of San Joaquin,
And bounds with passionate unrest,
From erag to peak, from peak to crest.

Through all the livelong summer's day
The mountain lover guards the bay;
The sunrise finds the sentinel,
Severe and stern by San Rafael;
The parting sunset leaves him there
Defying all the powers of air—
For love is true and love is grand,
As deep as sea, as firm as land,
And one may find his truest rest
In guarding her he loves the best.

And all day long his bride, the bay,
Is clad in lovely disarray,
And all day long she sits and croons
Quaint melodies and strange love tunes.

Mountain lover,
Monarch over
All the land and all the sea,
Hearts are aching,
Hearts are breaking,
For the love you give to me.

All my pride is,
That thy bride is
Queen alone within thy breast;
True and tender,
Full of splendor,
Mountain lover—loved the best.

Through all the trees that fringe the shore,
Madrono, oak and sycamore,
Through pine and fir, and tamarack,
The glad breeze bears his answer back.

When the twilight
Mourns the day,
When the starlight
On the bay—
Silver starlight—falls aslant,
On the waters resonant,
Then I bend
To kiss my bride,
Daughter of the peaceful tide.

She is loving,
She is fair,
Ever moving,
Debonair,
Like the starlight on the bay—
Silver starlight on the spray,
When I bend
To kiss my bride,
Daughter of the peaceful tide.

A Tale of Two Kitchens.

[Written for the PRESS by MRS. RANCHER.]

It was not a little kitchen. Indeed the only settled idea in the minds of my old friend Rusticus, and his gracious wife, when they built it, was to have a "great roomy kitchen, large enough to accommodate everybody;" even if "everybody" included a surprise party.

Of course, Mr. Rusticus and Madame, too, for that matter, knew that meals were to be cooked, and much general housework to be performed in that same room; but this was of secondary importance. Their primary idea, as I said before, was to have it roomy. And it was roomy. Furniture, however, was not so plentiful as it might have been, so to divide matters equally and leave no bare spaces, the stove was stranded somewhere about the middle of the east wall, and the dish table (they didn't bother with a sink) stood away off in the northwest corner; while the cupboard relieved the emptiness of the southeast portion.

A pretty arrangement thought Madame, as she turned herself around and around to view it; and so proud was she, that when Auntie Fourscore called on her she must needs bring her into this room to see and admire. But Auntie Fourscore had kept her house for many years; so in place of praising she groaned, and cried, "Oh the steps, the steps!" Poor Madame did not understand her at all, at least, not then, but she did before three years were over.

For she actually did her work in that great room for three years. Three years she scrubbed, semi-weekly, the mammoth floor. Three years she washed the many windows, and doors, and base-boards. Three years she ran back and forth, hither and thither, from table to stove, and from stove to cupboard, traveling miles to get a meal.

It was a little over two and one-half years after she began housekeeping, that Madame Rusticus determined on a change; though a growing sense of the great discomfort of their kitchen had long been in her mind. But one cold, raw morning, in January, the men huddled about the stove awaiting her tardy breakfast; the baby was teething, and she had passed a sleepless night. Now her head ached, her back

ached; she had thought, in fact, that morning, instead of herself, it was a bundle of aches and pains she was dressing. And now, as she endeavored to hurry up the biscuit that would not brown, the men discoursed on the trials and tribulations incident to the life of a plowman; and one of them, to cheer Madame up, assured her that even women might break the Third Commandment if called upon to drive a team. This, too, in a tone of condescension. Just think of the aggravation in that sentence, and tone, and look, to a woman who was endeavoring to reach over, and walk among, and step around these three worthies who endured such trials of patience. She didn't swear, indeed she did what was infinitely better; she resolved on a change. It was weeks, though, before her plan was fully matured. She thought it over and over as she went her weary miles; she noted this improvement, and that step-saving arrangement in the kitchens where she visited, and finally she went to him of the purse strings. What she said I know not; but I opine she must have spoken very sweetly, or very determinedly, very forcibly in some manner, for, notwithstanding all we read and know of the selfishness of that biped who brings home a new double-improved triple-gear self-harvester, and grumbles if his wife wants a patent nutmeg grater, my friend Rusticus entered into her plans with enthusiasm.

Now I would like to make her improvements quite plain to you, and to do this must explain more fully the plan of the original room. It was 16 by 22 ft. On the east end was a bed-room, a very good room but for a certain air of untidiness, caused by the lack of a clothespress. On the west end was a store-room. First, they partitioned off three ft. on the east end, which gave a commodious clothespress to the bed-room. Then, they took nine ft. off from the west end, leaving a room 10 by 16; a good size for a dining-room. The room set off on the west end made an excellent kitchen, large enough for all practical purposes.

The partition was, of course, 16 ft. in length. Part of it, that is 4½ ft., was formed by the cupboard. Two doors were placed in the back of this, so that it could be opened from either room.

Beside the cupboard stood the sink; furnished with water pipes and drain, which, with its drainer-board, occupied seven ft. The doorway took up what room was left.

On the south side was the range. This with a few chairs and some shelves completed the kitchen; but just inside the store-room door stood, Oh, crowning extravagance! two stationary washtubs, duly furnished with pipes for turning in and letting off water.

This last, indeed, was Mr. Rusticus' own thought, from which, we judge, that the sex may not be wholly devoid of kindly feeling.

Oh, what a change was there, my countrywomen! Now, when the dishes were wiped, they were immediately placed in the cupboard, without causing a step.

When the table was to be set, the opposite doors were opened and the dishes placed on the dining-room table. A small thing in itself, perhaps, but when you multiply the three times a day by 365 times a year, quite an item.

In summer the comparatively cool dining-room was a luxury beside the old heated kitchen.

In winter the men gathered around the dining-room, rather than the kitchen fire; and Madame no longer runs risk of life or limb while trying to cook, and at the same time thread her way around and over three pairs of No. 7.

Mr. Rusticus is still alive to improvement, and declares that soon there must be a big boiler, with hot as well as cold water pipes.

Aunt Fourscore looks in, nods approvingly, and cries, "Ah! this looks like living." And seeing that Mr. Rusticus has done what he could, she wisely forbears all mention of dumb-waiters, refrigerators, etc., that will doubtless come in good time.

As for Madame, you see the look of rest and content that has taken the place of the old wearied expression of a year ago.

If she had made her extra time but an opportunity to add 99 tucks to Stella's petticoat, or seven collars to Claude's little jackets, I would have left this story unwritten, for where, in the end, is the gain.

But Madame has portioned out her time as a wise woman would. After breakfast, a little to the roses and honeysuckles, to the pansies and violets, and it is surprising what beauties of nature these half-hours have developed.

After dinner, the PRESS, the Californian, yes, even the Daily and some of the Eastern periodicals find a place. After supper in the summer season, there is more time for rest; but, as winter draws near, the long-closed piano is opened and we grow young again as we hear the old time songs; or as Rusticus said to me a few evenings ago, while we listened to "Way Down upon de Swance River," "it really makes a fellow think that his courting days have come back again."

A GENTLEMAN who was on a visit to Niagara, when the car raised and lowered by steam-power was in use on the inclined plane, went into the starting house to witness the descent, being too timid to go down himself. After the car started, fully impressed with the danger, he turned to the man in charge, and said: "Suppose, sir, the rope should break?" The man, with a serious countenance and a single eye to business, replied: "Oh, they all paid before they went."

Farm Wives' Work.

EDITORS PRESS:—Mrs. Sizer's kitchen and dining-room present a very charming picture of home comfort. When I commenced to read her letter I thought how easy her work must be in such a place, and what splendid times she must have. But it ended like others I have read, in a wail of lamentation over the quantity of work to be done. Day in and day out, month after month and year after year without a taste of pleasure.

The many complaints I have read about "the slavish life of a farmer's wife" proceeded, I thought, from those who had inconvenient homes and were only exceptions. We find it so easy to do our work that we thought it was so nearly everywhere. But I suppose that we are the exception after all. With us, church, Grange, parties and singing school all have their turn. All we have to do on such occasions is to move a little faster than usual, take our place in the singing class and sing do, re, mi with as much composure as though house-cleaning and cooking had never been invented. But if slavery, without any pleasure at all, is the general rule of farm life, you must please excuse me from any further connection with it whatever. I love to have a garden and raise flowers, but rather than risk being such a slave, I would set my cap, or sunbonnet, whichever you like, for some city chap.

The best summer kitchen I ever saw is one which father brought home from threshing, called a cook-house. Some like to be buried in trees and vines; my taste runs the other way. This one I speak of can be opened on both sides, allowing the cool winds to pass through and giving a full view of the surrounding country. On the west, Mt. Diablo is seen in all the glory of its two peaks and rolling foothills. On the east, a boundless plain, dotted here and there with clumps of trees, indicating the shady retreats of worthy farmers, like oases in a desert.

MARY JOSEPHINE CARTER.
Point of Timber, Oct. 26, 1880.

Agreeable Women.

EDITORS PRESS:—In your last issue you had an article (selected) on "disagreeable women." Now, I seldom meet a disagreeable woman. On the contrary, women are almost universally pleasant and agreeable to a man of respectable appearance and common sense. What sparkling sunshine follows the footsteps of the agreeable woman! How we silently worship the genuine virtue and gentle manners of the average lady! This earth would be a blank night in the midst of its sunshine were it not for the saving soul of our agreeable women.

Few men exist who have not had pleasant memories of the long ago—the gentle touch of the ministering angel when fever-scorched the brain. The face might not reveal our highest ideal of beauty, but the sympathy beaming through plain features outweighed the fairest flower. A look, a word a touch from virtuous woman may kindle a flame in the chambers of memory which can never die. But to many a man, these same angel-women might appear to be disagreeable, because occupying a higher plane of thought and action. How liable man is to condemn when he finds a something in woman which he cannot understand or appreciate! Hence, the majority of women are disagreeable to the would-be critic.

If any one finds a disagreeable woman to be irksome, as the selected article would imply, they have quite an unenviable experience. If we—the opposite sex—carry into society the agreeable in our features and conversation, it will arouse the good from the innermost recesses of the soul (be it man or woman), responsive to unexpressed sympathy. How grandly nature has linked the human race in fraternal fellowship! How catching are love and sympathy and a kindly benevolent countenance, and if we do find some feminine countenances with hard and almost savage lines written about the eyes, if we could only open the secret page of life's experience, we might find that some black-hearted lord of creation has built the foundations for such a condition. Scorn, then, is not the roof to finish life's structure; sympathy, pleasant greetings and purity of life and example should smooth out the hard lines, efface the corroding spirit of revenge and despair. Thus one can make the world better by having lived to some purpose.

Go with me while I visit the small farmer and family, whose home has been carved out amidst the rugged foothills. You will find fields bare and brown, but barn full, fences all in order, comfort and contentment all around. The old farmer delights to show you his garden, corrals full of stock, water flowing in streams to supply all demands. But the chief attraction is the woman, and a stout, rosy-faced maiden of 17. And what of them? Ay, what can attract attention to common farmers' wives? Not their high-heeled boots, or frills or follies, but the great piles of yellow, golden butter, and their skillful management of it, while chatting with a zest as refreshing as their beautiful fresh butter. Agreeable is too tame a word for such a picture, all of which I enjoyed a few days ago while on a business tour.

Homes are brightened and man's labor lightened by woman, whose very nature expresses

the agreeable; and, if a contrary experience is sometimes encountered, nine times out of ten man's duplicity has been the primal cause. Many a time I pity the lot of woman. And this should not be; they should never be in a situation to require our pity. But man has not yet allotted to woman her natural birth-right. Nature moves slow in all her grand evolutions. Revolutions in social science must take the same course. Much has been done the past half century for the elevation and emancipation of woman from a cruel thralldom, politically, socially and a great many other ways. When the mothers, maidens and women generally stand before the world as *man's equal*, then will the shade of disagreeableness pass away. The flower shall always evolve a sweet smelling fragrance, and the writer of that selected article will have no cause for issuing a second edition of his disagreeable. Ye men of modern might, learn to cultivate what may be agreeable to those around you, and angels in heaven will not be more beautiful than our angels upon earth.

JOHN TAYLOR.
Mt. Pleasant, Oct. 28, 1880.

How to Interest Boys in the Farm.

A writer in the *Rural New Yorker* says: We don't want our boys to be farmers if their natural tastes turn to some other legitimate industry. If a farmer has a son whom he wishes to become a farmer, he should aim to make his child life on the farm full of pleasure rather than hardships. It is not surprising that boys who are compelled by a rigid father to toil early and late, indefinitely, in the drudgery that usually falls to the lot of farmer boys, when their developing nature needs sympathy and encouragement, find nothing in farming to attach them to the business. It is not their fault. They see only the dark side of farm life, and miss all the pleasurable events which should stand as monuments in their memory for the remaining years of life.

Boys need encouragement, and if we wish our boys to become farmers, we must attach them to the business, or, in other words, cause them to like farming rather than abhor it. The boy who has a liking for farming will usually make a good farmer. Give the youngsters an interest in the farm proceeds, if possible. Let them do something for themselves; counsel with them and discuss the plans and affairs of the farm. A boy thus treated, if he has any business tact for farming, will show it and make a good farmer. If, on the contrary, he shows no inclination toward the business, and has a liking for some other legitimate industry, he should be encouraged in that.

Among the most interesting features that I remember in my life as a farmer's boy, are the opportunities my father gave me to do something for myself. When but a small child he gave a brother and myself a share in all the eggs we could find about the place. In later years he gave us each a garden plot and encouraged an emulation between us, as to which should keep his garden in the best shape, the management being left entirely to us. Every year we were each given a young calf or colt to raise, and when it had grown up it was sold and the proceeds added to our little store of funds. Such conduct would seem like child's play to many farmers who make a practice of getting as much work as possible out of their boys at the least cost or trouble. If farmers would begin early to vary the monotony of farm life for their boys, and to encourage them in the ways above mentioned, there would be less complaint made of boys leaving the farm and fewer discontented young men on the farms of our country.

How Harriet Hosmer Gained Health.

If nature gives health and strength to girls, then we must look for the cause of their disabilities in our country in their education and training. We claim that errors in dress and lack of physical exercise are the two principal causes of weakness and disease in girls. With false ideas of modesty and womanly grace, the girl is deprived of the very out-door and athletic sports that are encouraged in a boy. Harriet Hosmer, of whose success as a sculptor every American is justly proud, is a striking illustration of the power not only of developing physical strength, but of overcoming adverse hereditary conditions. When quite young her mother and elder sisters died of consumption. Her father, who was a physician, claimed that there was a whole lifetime for the education of the mind, but that the body developed in a few years. With this theory he gave Harriet every facility for acquiring strength and endurance. A biographer says: "She early learned skating, rowing, archery, shooting and riding. She became remarkable for daring, boldness and skill. She could tramp with the hunter, manage her steed like an Arabian, rival the most fearless in the chase, and the best marksman with gun and pistol. She both astonished and alarmed her friends by her feats upon and in the water, as agile and varied as a nymph." The author continues: "When outrage is done to mere conventionalities it is little matter, providing there is no moral damage, so there is great gain to health."

If one naturally delicate like Harriet Hosmer can, by physical training, obtain such powers of strength and endurance and thereby develop a natural talent, may not every girl possessing greater natural health attain to similar conditions? What an incubus it would take from woman's life to be freed from the thralldom of pain and suffering.

Chaff.

"Who do you love?" said Jones to his sweetheart's baby sister. "I love oo," was the reply. "And who does Sissy love?" "Sissy loves Misser Smif, toss he tisses 'er." Exeunt omnes.

AN agent was recently struck with lightning while erecting a rod on a house in Rhode Island. That's encouraging, really. Now, can't somebody invent a sewing machine that will burst and chromos that will go off? Come, gentlemen, set your brain work in motion. There's money in it.

A FELLOW stopped at a hotel at Niagara Falls, and on settling his bill the landlord charged him seven dollars a day for five days. "Didn't you make a mistake?" said the fellow. "No," said the landlord. "You did," retorted the wiry looking fellow, "you thought you got all the money I had, but you are mistaken. I have a whole purse full in another pocket."

"I SAY, boy, whose horse is that you are riding?" "Why, it's daddy's." "Who is your daddy?" "Why, don't you know?—he's uncle Peter Jones." "So you're the son of your uncle; how do you make that out, young man?" "Well, you see daddy got to be a widower, and married mother's sister, who is aunt Sally, and so he is my uncle now."

"DOCTOR," said a lipping fashionable belle, who has graduated at a boarding-school, to a gentleman who had just been introduced to her at an evening party—"Doctor, which do you prefer, tholidity of intellect or brillianthy? Thum admire tholidity; but ath for me, as Shakethpeare thayth in hith Bride of Apydoth, I prefer tholidity and brillianthy combined." The doctor sank into the nearest chair exhausted.

ANECDOTE OF MRS. MADISON.—It is recorded of Mrs. Madison, who was one of the most courtly of American women, that one evening at a party, after Mr. Madison ceased being President—for, under the old regime, Presidents and their wives never accepted invitations—she observed, standing by her, a young girl to whom no one was paying attention. Appreciating that a "wall flower" solus was not an agreeable position, she addressed some trifling remark. And, by the way, such things are very common in Washington; where so many strangers congregate, unless they do speak to each other as strangers, the evenings out would be intensely stupid. But the young lady in question came from some place where introduction alone unsealed the lips, and made no response to Mine. Madison, who, supposing her timid, repeated her efforts. At the third attempt the novice replied, "Excuse me, ma'am, we have not been introduced." "O," said Mrs. Madison, "I will relieve you of further embarrassment; I am Mrs. Madison," and left the damsel to continue her posture of wall-flower. It is all a mistake to suppose a word spoken or a civility need be followed by an acquaintance. A truly well-bred person understands how much to give and how much to receive, and a little unbending both ways would have a tendency to establish individual position and soften the brusque American manner that makes so many of our people appear belligerent when out of their "own set," or away from the one they are trying to climb into.—Herald.

TO MAKE RAISED WORSTED WORK.—Take a hairpin or a stiff wire bent in the shape of a straight hairpin, bend the wires near or far apart according to how high you want your work. Wind the worsted around the wires, the threads close, continuing until you have it as long as you want a single leaf or part of a flower. Now lay this on your cloth, or what ever you wish to put your work on. Sew through the middle, catching down each thread of worsted. Pull out the wire, cut in the middle of each loop on both sides, pick out with a pin until all stands up round, then trim with scissors. Before sewing on it is best to draw the threads tight together, passing a thread around with your needle and fastening. For a rosebud, wind shaded worsted, the light at one end and the dark at the other; over this wind green, a few threads over the light and thicker over the dark, and you will have a shaded bud with a calyx outside. You can vary shading and size according to taste.

WARNING TO YOUNG MEN.—Charles Lamb told his sad experience, as a warning to young men, in the following language: "The waters have gone over me. But out of the black depths, could I be heard, I would cry out to all those who have set a foot in the perilous flood. Could the youth to whom the flavor of the first wine is delicious as the opening scenes of life, or the entering upon some newly discovered paradise, look into my desolation, and be made to understand how drear it is when he shall feel himself going down a precipice; with open eyes and a passive will to his destruction, and have no human power to stop it, and yet feel it all the way emanating from himself, to see all godliness emptied out of him, and yet not able to forget a time when it was otherwise; to bear the piteous spectacle of his own ruin; could he see my fevered eye, fevered with last night's drinking, and feverishly looking for to-night's repeating of the folly; could he but feel the body of death out of which I cry hourly with feeble outcry to be delivered, it were enough to make him dash the sparkling beverage to the earth, in all the pride of its mantling temptation."

Young Folks' Column.

Our Puzzle Box.

Numerical Enigma.

I am composed of twelve letters.
My first in speak, not in song;
My second in short, not in long;
My third in like, not in hate;
My fourth in luck, not in fate;
My fifth in rabbit, not in dog;
My sixth in wood, not in log;
My seventh in river, not in hay;
My eighth in barley, not in hay;
My ninth in ship, not in boat;
My tenth in horse, not in goat;
My eleventh in quail, not in dove;
My twelfth in hate, not in love:
My whole is the name of a city.

W. B. FAULKNER.

Syncopeations.

1. Syncopeate deplorable and leave to cease existence.
2. Syncopeate a numeral and leave in place of.
3. Syncopeate power and leave at the front.
4. Syncopeate the name of one of the United States and leave a pit in the earth.
5. Syncopeate to consume by fire and leave a cake.

UNCLE CLAUDE.

Problem.

Mr. Smith owns a garden containing one acre and forty-one rods. It is surrounded by a wall within which, on the outer edge of the garden, is a walk extending completely around the land. Suppose the walk to cover twelve square rods of surface, what is its width?

DICK N. S.

Diamond Puzzle.

1. In healthful beverages
2. A liquor.
3. Combustion.
4. A quadruped.
5. Found in every-day affairs.

JENNIE.

Blanks.

[Fill blanks with same words transposed.]

1. The manner in which he used the ——— was the ——— of knightly skill.
2. ——— accused the ——— wretch of ——— doing.
3. A tremendous ——— of thunder caused the man to ——— to his feet and turn ——— with affright.
4. Our ——— freely given may be an unimportant ———, yet it may benefit us for all ———.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Leviathan.

BLANKS.—1. Mart, mat. 2. Pile, pie. 3. Pert, pet. 4. Best, bet. 5. Burn, bun.

CURTAINMENTS.—1. Town, tow, to. 2. Panel, pane, pan. 3. Wages, wage, wag. 4. Soda, sod, so. 5. Pearl, pear, pea.

WORD SQUARE.—

BITE

IRON

TO AD

ENDS

GROUP OF FRIENDS.—1. Amy (aye-my). 2. Mar-y (rye). 3. Hat-tie. 4. Matilda (mat-ill-day). 5. Martin. 6. Lion-ell. 7. Philip (fill-ip). 8. Frank (e). 9. Or-(w)-ren. 10. Will-iam (yam). 11. War-(w)-ren.

An Allegory.

Once or twice a little leaf was heard to cry and sigh as leaves often do when a gentle wind is about. And the twig said:

"What is the matter, little leaf?"

"The wind," said the leaf, "just told me that one day it would pull me off and throw me on the ground to die."

The twig told it to the branch, and the branch told it to the tree.

And when the tree heard it, it rustled all over and sent word back to the leaf:

"Do not be afraid; hold on tightly, and you shall not go off till you want to."

So the leaf stopped sighing, went on singing and rustling. And so it grew all summer long till October. And when the bright days of autumn came, the leaf saw all the leaves around becoming very beautiful. Some were yellow, and some were striped with colors. Then it asked the tree what it meant. And the tree said:

"All these leaves are getting ready to fly away, and they have put on these colors because of their joy."

Then the little leaf began to want to go, and grew very beautiful in thinking of it. And when it was gay in colors, it saw that the branches of the tree had no colors in them, and so the leaf said:

"Oh, branch, why are you lead-colored, and we golden?"

"We must keep on our work-clothes," said the tree, "for our work is not yet done; but your clothes are for a holiday, because your task is over."

Just then a little puff of wind came, and the leaf let go without thinking of it, and the wind took it up and turned it over, and then let it fall gently down under the edge of a fence, among hundreds of leaves, and it never waked up to tell us what it dreamed about.—*The Children's Hour.*

The Monkey and the Whisky.

A monkey had seen his master and his companions drinking. Finding a glass half full of whisky, Jack drank it off. It flew to his head. He soon began to dance and skip about in a most ridiculous manner. Jack was drunk. Those who saw him were greatly amused with his performances. The next day they wanted to repeat the fun. His master looked about for him, but he did not make his appearance.

On looking into his box, he was found lying down in the furthest corner. "Come out," said his master. Afraid to disobey, poor Jack hobbled out on three legs. His fore paw was on his head, saying, as plain as possible, that he had a bad headache.

They left him for a day or two to get well, and then took him to the drinking place again. Jack looked at the glasses with terror, and crept behind a chair. When his master ordered him to drink, he sprang out of the room, and climbed, in an instant, to the top of the house. They called him down, but he would not come. His master shook his whip at him, but he grinned defiance. Then a gun was brought and pointed at him. Of all things he was most afraid of a gun; but he only bobbed his head and leaped to the other side of the roof. They went round and pointed the gun at him from that side. Then he sprang for the chimney, and, letting himself down into one of the flues, held on by his fore paws. He was willing to be smoked or singed rather than to be drunk. Then his master gave it up. Jack lived with him for several years after that, but nothing would ever induce him to touch a drop of liquor again.

That was a sensible monkey—a good deal more sensible than some men who are supposed to know better. Young men who take the first drink of whisky in drinking saloons might imitate his example with profit, in so far as refusing to touch the vile stuff again.

GOOD HEALTH.

Curing Disease by Fasting.

It appears that Dr. Tanner is not the first person who has practiced upon the idea of curing disease by fasting. The North Adams, Mass., Transcript gives the following: "Apropos to the experiment of Dr. Tanner, who, in New York, attempted to live 40 days without food of any kind, the experience of Mr. John F. Arnold, of this town, may be interesting. Mr. Arnold, as is generally known, is a radical upon the subject of health and medicine, and advocates theories which, to the majority of the people, appear dangerous and unwise. His story is in substance as follows: In 1839 he was very ill, and his physicians gave him little hope of permanent recovery. This fact led him to study medicine and the care of himself. About that time Dr. Graham, the well-known founder of the Grahamite system, came here to lecture, and Mr. Arnold attended the lectures and became a thorough convert. He afterward studied books supporting Dr. Graham's views, and from that day to this he has been a consistent believer in the doctor's theory. In 1847 Mr. Arnold studied the books of Dr. Jennings, of Oberlin College, and embraced his theory that disease was not an enemy of the human system, but was simply nature's method of repair, and was right under the circumstances.

"The first opportunity to put his theory to practical test was in 1865, when, after a season of hard work, and being thoroughly exhausted, he was prostrated with bilious fever. Dr. Hawkes was summoned, and said that escape from the usual 21 days' sickness was impossible. The doctor called regularly and left his medicines, but Mr. Arnold did not take a drop of them, and allowed no nourishment to pass his lips, except pure water, for 24 days. For over three weeks he existed without a particle of food, and then he began to eat and regain his strength rapidly, increasing 15 lbs. in 18 days. Not until he was entirely cured did he reveal his course to the doctor.

"Again, in 1872, after the fright and exhaustion caused by the burning of the Fifth Avenue hotel in New York, where he was stopping at the time, Mr. Arnold was again prostrated with bilious fever. This time he called Dr. Lawrence, and told him that he intended to fast again during the three weeks of the illness, and the doctor consented to watch the progress of the case. The result was the same as before, Mr. Arnold coming out of the fever stronger than ever, having taken nothing into his system for 24 days except water. Mr. Arnold's theory is that nature, if let to herself, if the system be not broken down by previous excesses, will 'repair the machine' better than if hindered by drugs and medicines and other unnatural things."

It may be remarked in this connection that, while Dr. Tanner commenced his experiment in perfect health, Mr. Arnold was, in both instances, exhausted to begin with; but, in his case, the time of fasting was only about one-half that which Dr. Tanner endured.

SMOKING IN GERMANY.—It appears that the German government has taken the matter of smoking seriously in hand, the practice being carried to so great an excess by the youth of that nation that it has been considered to have damaged their constitutions and incapacitated them for the defence of their country. In certain towns of Germany, therefore, the police have had orders to forbid all lads under 16 years of age to smoke in the streets, and to punish the offence by fine and imprisonment. Moreover, a Belgian physician has ascertained, during a journey of observation and inquiry made at the request of the Belgian government, that the very general and excessive use of tobacco is the main cause of color blindness, an affection which has occasioned very considerable anxiety, both in Belgium and Germany, from its influence upon railway and other accidents, and also from the military point of view.

DOMESTIC ECONOMY.

Tested Recipes.

EDITORS PRESS:—Enclosed please find a few more recipes prepared for your paper, all of which have been tested by the undersigned.

Baked Apples.—Pare, and rim out the stem and blossom, set them right side up in the dish in which they are to be baked; fill the hollows in the tops first with water, then add sugar and a very small piece of butter. To a dozen apples put a tablespoonful of sugar in the dish, add water to the depth of half an inch in the dish, dust very sparingly with nutmeg, and bake in a quick oven, taking care not to burn them. The addition of a little sweet cream when eaten makes them fit for a king.

Grape Jelly.—Be sure your grapes are but half ripe or with only an indication of turning, pick from the stems and wash thoroughly, add as much boiling water by measure as you have grapes, keep them stewing lively for at least an hour. If the juice evaporates too much add more boiling water and stew a little longer, put into a jelly bag, hang it up and let it drip into an earthen dish until the pulp is dry (I cook them while I have a fire in the morning, and let them drip till fire again at tea time); then measure with a cup into the dish in which you wish to make it, bring as speedily as possible to a brisk boil, then add as many cups of sugar as there were of juice, and boil briskly until done. This I determine, not by the number of minutes, as the thinness of the juice, acidity, quality of sugar and quality of jelly all have their influence, but by dipping a few drops on to a cold plate, as our grandmothers "tried" their soft soap, and when it breaks from the spoon instead of dripping in a stream take it off immediately, skim off the skum and pour into the glasses, first setting them on to a wet cloth to prevent their breaking. In making any jelly, first be sure the fruit is quite acid, cook the fruit well, drip but do not squeeze it, you will get all the juice if it drips long enough (say through the day or over night), add exactly as much sugar by measure as of juice, boil in small quantities, not to exceed four cups at a time, and boil as briskly as fire will make it, take off at the right moment. This will soon be learned by experience, and you never can fail of good jelly.

Spiced Quinces.—Pare, quarter and core the quinces. Take sharp cider vinegar. To a quart of vinegar add a teacup of sugar, tie in a thin muslin bag, and steep in a little water, a teaspoon of ground allspice, a half teaspoon of ground cloves, a heaping teaspoon of cinnamon, and a teaspoon of ginger, press the strength from the spice-bag as much as possible, and put all into the syrup, also add a few whole cloves and some whole cinnamon. When well boiled up, put in sufficient of the quinces to float in the syrup, but not enough to require stirring as that breaks them, cover and cook until perfectly tender, then carefully remove the pieces into a glass fruit jar, cover with the juice and seal. If there is not syrup enough for the next cooking make more the same as the first.

Pickled Tomatoes.—Take small, round, ripe, but not over ripe tomatoes (the plum varieties are best), place in a jar with pieces of cauliflower, a very few small onions, ditto green peppers, ditto very small cucumbers, add whole spices as follows: cloves, allspice, black pepper and cinnamon, also whole mustard seed, cover with good cider vinegar, and exclude the air as much as possible. They will be good in three days and good for all winter. I make all pickles in glass jars, no danger of glazing poison as in earthen jars. Those with defective covers not fit for canned fruits will do. Mrs. H. M. CONANT, Santa Cruz, Cal.

FRENCH WAY OF WASHING CLOTHES.—A system of washing clothes has lately been introduced in some French towns which is worthy special mention. Its economy is so great as to greatly reduce the cost. This is the process: Two pounds of soap are reduced with a little water to a pulp, which having been slightly heated, is cooled in 10 gallons of water, to which is added one spoonful of turpentine oil and two of ammonia; then the mixture is agitated. The water is kept at a temperature which may be borne by the hand. In this solution the white clothes are left for two hours before washing them with soap, taking care in the meantime, to cover the tub. The solution may be warmed again and used once more, but it will be necessary to add a half spoonful of turpentine oil and another spoonful of ammonia. Once washed with soap, the clothes are put in hot water, and the blue is applied. This process, it is obvious, saves much labor, much time and fuel, while it gives to the clothes a whiteness much superior to that obtained by any other process, and the destructive use of the washboard is not necessary to clean the clothes from impurities.

APPLES IN JELLY.—Pare and core small-sized apples without cutting open; then put them with some lemons in water to cover; let boil slowly until tender, and take out carefully without breaking. Make a syrup of half a lb. of white sugar to one lb. of apples; cut lemons in slices, and put them and the apples into syrup; boil very slowly until the apples are clear; take them out in a deep glass dish; put to the syrup one ounce of isinglass dissolved; let it boil up, lay a slice of lemon on each apple and strain the syrup over them.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES.	1 week.	1 month.	3 mos.	12 mos.
Per line.....	25	80	\$2.00	\$5.00
Half line (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	30.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. O. H. STRONG

SAN FRANCISCO:

Saturday, November 13, 1880

TABLE OF CONTENTS.

EDITORIALS.—The Early Culture of the Cinchona, 305. Notices of Recent Patents, 309. The Week, Fallow Butter and Lard Cheese; Growth of Fruit as Affected by Local Conditions, 312. The Automatic Fruit Evaporator; Grape Notes; Local Manufactures, Hard Wheat, 313.

ILLUSTRATIONS.—Propagation and Culture of the Cinchona, 305. The McFarland Automatic Fruit and Vegetable Evaporator, 313.

QUERIES AND REPLIES.—Raisin Making; Silo Opening; Specimens of California Corn; Recipes for Concrete; Ousting Oak Stumps, 312.

CORRESPONDENCE.—Santa Barbara Fair; Disease From Drinking Water, 306.

HORTICULTURE.—Statistics of Fruit Growing, 306.

THE STABLE.—Clipping and Singeing, 306. Epizooty, 307.

ARBORICULTURE.—The Linden Tree for California, 307.

PATONS OF HUSBANDRY.—A Notable Grange Assembly; Grange Work, 308.

AGRICULTURAL NOTES from the various counties of California, 308-9.

NEWS IN BRIEF, on page 309 and other pages.

THE VINEYARD.—The Remedy for the Phylloxera—No. 3, 307-14.

HOME CIRCLE.—The Bride of Tamalpais (Poetry); A Tale of Two Kitchens; Farm Wives' Work; Agreeable Women; How to Interest Boys in the Farm; How Harriet Hosmer Gained Health, 310. Chaff; Anecdote of Mrs. Madison; To Make Raised Worsted Work; Warning to Young Men, 310.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; An Allegory; The Monkey and the Whisky, 311.

GOOD HEALTH.—Curing Disease by Fasting; Smoking in Germany, 311.

DOMESTIC ECONOMY.—Tested Recipes; French Way of Washing Clothes; Apples in Jelly, 311.

Business Announcements.

Agricultural Implements—Baker & Hamilton, S. F. Thoroughbred Stock—H. S. Sargent, Stockton, Cal. Assessment Notice—Land Purchasers' Association. Little Gem Aque Cure—J. R. Williams, Stockton, Cal. Seed Grain—Waterman & Co., S. F. Sheep Ranch for Sale—N. W. Scudder, Petaluma, Cal.

The Week.

The week has been a maze of figures, and men's conversation has been largely composed of numerals. The outcome of it all seems to be the securing of a majority of Garfield and Arthur electors, and therefore a victory for the Republicans. In the choice of local officers and representatives there were victories for both sides. It is now all over and the season is well nigh spent. The presidential elections come at a very favorable time for the California farmer; that is in the leisure season. There will be now a renewed zeal for work, and much preparation for sowing and planting will be accomplished. The plows are now running in many parts of the State, and dry sowing, where such practice has been found profitable, is being done. The rains are delaying beyond anticipation, and the prospect is that people will be well ready when they come—excepting of course those persons who are never ready for anything. The long gathering season has enabled the fruit pickers to carry their work along without cessation, and, therefore, especially in the case of grapes, the unequalled fruitage has been turned to the grower's account. This, however, would hardly have been the case except for the enlarged facilities and improved appliances which the wineries have armed themselves with. There have been significant tokens of progress in nearly all departments of our agriculture this year, and the outlook is very bright.

The air is taking on winter edge and the frosts have already come. The peerless clearness of the atmosphere peculiar to our winter season is already noticeable, although there has been as yet no rain to bring the dust to earth again. The most delightful season of our year is just at hand; the planting season in the garden and the growing season on plain and hill-side; the sight of the hues of brown before the shades of green.

ON FILE.—"A Stock Farm in Tehama Co.," F.; "Mountain Fruit," J. T.; "Mountain-top Letters," Jewell.

Tallow Butter and Lard Cheese.

Our simple-minded dairymen who are still using pure milk for their butter and cheese-making, have but little idea of the elaborate mixtures which are creeping into the Eastern manufacture of dairy products. They have, of course, read of the millions of lbs. of tallow butter which are consumed in New York, and shipped thence to Europe, but the subject doubtless impressed them only as a distant abomination which gave no menace to local industry. Such indeed it is, but there are reachings out westward, which give the matter no little pertinence here. We were not a little startled to receive in the mail this week a postal card, postmarked at one of the large cities of western New York, which reads as follows:

SIR:—If you will save your slaughter and kidney licks fat clean and sweet, and pack same day as you ship it, and drop card, I will pay five cents per lb. for it and pay freight. Salt barrels will answer; and as it is for tallow butter making, must be free from sweetbread. It should be hung up to cool quick in the air before being put into barrels, and not cool off in the barrel. This is a new outlet for fat at an advance rate while the usual outlet is declining.—Yours, etc.,

This message was doubtless intended for some butcher in a neighboring town, but our address was by some mishap placed upon it. The significance of the message is, that the large manufactories of tallow butter adjacent to the slaughter houses of New York and Brooklyn have found that the metropolitan supply of tallow is not enough to meet their needs, and so they are reaching out after the refuse from the country butchers. This is only what might have been expected, when the enormous mass of tallow butter produced is in mind, but it is nevertheless startling to be brought face to face with the fact. The thought that the fat from the thousands of country slaughter houses, most of them reeking in filth and filled with an atmosphere of intolerable stench, should be cast into old barrels and shipped by rail to the dens of the tallow butter-makers, and there mangled and tortured into a wretched counterfeit, to be offered to consumers as a substitute for the fragrant product of the farm, is not a pleasant one to a person who takes pride in the history and progress of our grand dairy industry. And yet just such is the course of affairs. Not only to western New York has the greed for cheap fat extended. It has erected its temples in the great cities of the west, and has penetrated beyond, even to the heart of the dairy region of Wisconsin, where we read there is a counterfeit butter made by mingling a certain proportion of tallow with butter instead of producing the counterfeit from soft tallow churned with sour milk, which is the method of the "pure counterfeit." It is natural that the butter-makers of the east are up in arms against all these devices, and our exchanges are holding up for reprobation the names of the firms engaged in the manufacture and traffic.

Another style of mixture which seems to be gaining some ground in eastern dairy produce, and which strikes us as much less objectionable than the counterfeit butter, is the introduction of a small percentage of lard into the skim milk for the manufacture of an improved skim milk cheese. This is now being done in St. Lawrence county, New York, where there are large butter factories, and, consequently, a large amount of skim milk to be turned to some account. Skim milk cheese is, as a rule, poor stuff—hard, indigestible, and a drug in the market. It is found that by adding 1½ lbs. of pure lard to 80 lbs. of skim milk there is produced a cheese which is rich enough in fat, and becomes palatable and digestible. This introduction of fat is analogous to the use of lard as "shortening" in kitchen practice, and if done in a cleanly manner can hardly be more objectionable. As there is a strictly fine article of creamery butter, made from the cream which is removed, and as the skim milk is handled in the dairy factory, it strikes us as a legitimate saving of the skim milk, which, without the addition of the shortening, could only be used as food for calves and hogs. The pecuniary aspect of this method of cheese-making is given as follows:

One hundred pounds of new fresh milk yields 4 lbs. of butter and 80 lbs. of pure sweet skim milk; to that skim milk add 1½ lbs. of lard, and it produces 8 lbs. cheese, which, at 8 cents, amounts to 64 cents; without adding lard, it produces 6½ lbs. cheese at 6 cents, 39 cents; add cost of lard, say 14 cents; total 53 cents; difference in skim milk by new process, 11 cents; thereby making the value of 80 lbs. of skim milk worth 11 cents more by using the new process than it would be using the old methods, besides producing a quality of cheese that will be readily bought.

There are in St. Lawrence county at least 90,000 cows. A cow during the factory season should produce 3,000 lbs. of milk. Deduct one-fifth for skimming, leaving 2,400 lbs. skim milk, increased by using this process 11 cents per 100 lbs., would make \$2.50 per cow on the product of factory season of six months, and you have a grand increase in the county of \$225,000. The milk from 40,000 cows in the county is now manufactured in creameries or factories. Increased by this process \$2.50 per cow, you have a grand total of \$100,000, and every dollar of that goes into the pockets of the dairymen.

Thus we have the latest phases of two of the newer practices in connection with dairying. The first seems to us thoroughly objectionable, as it results in a counterfeit, employs the basest materials and builds up, in opposition to legitimate dairying, a business which steals the form of the genuine to serve the false; the latter enables the dairymen to gain the profit of fine butter making and then aids him to turn his skim milk into a valuable food material and thus increases his rewards.

QUERIES AND REPLIES.

Raisin Making.

EDITORS PRESS:—Is there any other object in putting up raisins in small packages of 10 and 20 lbs. except convenience—that is, would there be any danger from heating, etc., if put up in 100-lb. boxes? 2. What is the object of putting up a 20-lb. box in 5-lb. layers, with papers between, as I understand Mr. Blowers and others pack them? 3. In raisins as usually packed in 10 and 20-lb. boxes is there any or much loss from worms, and if so, why not? 4. What are the conditions necessary in packing away 100 lbs. or more of raisins for winter use to so secure them that they will be safe from worms? Having over 100 lbs. tightly packed in 25 and 50-lb. boxes for home use and for sale to neighbors, and hearing that others were losing them by worms, I am anxious for such information as will enable me to make them safe; and considering the valuable information you have published on the subject, by which we have been enabled to make a good article, we think you will mostly likely be the one best able to procure for us the information how to preserve them from damage.—ISAAC B. RUMFORD, Bakersfield, Cal.

EDITORS PRESS:—In answer to questions you send me, I remark: 1. Raisins, if well cured, will keep in 100-lb. boxes as well as in smaller.

2. The object in using 20 lb. boxes is to have a uniform package, so that when we speak of a box of raisins every one may know what is meant. The object of putting them up in layers is this: raisins keep much better excluded from the air; that is they do not dry up, do not sugar, do not become wormy. In packing we use a steel or iron packing tray, holding just 5 lbs., so that in boxing we put one layer in the quarter, two in the half and four in the whole boxes. One of the conveniences of this method is that each layer being entirely enveloped in paper can be removed without disturbing the remainder.

3. For family use the 5 or 10-lb. box is preferred, because when a box is opened and not used immediately, it is necessarily exposed to the attacks of worms, etc. 4. The conditions for packing for home use are the same as for market, viz., sufficiently dried, then sweated for two weeks or more by being placed in large, tight boxes, then packed in boxes of convenient size, so that when a box is opened it will not deteriorate before being used. I find that a good white book paper is the best to use in packing, as it does not easily stain, is stout and excludes the air.—R. B. BLOWERS.

In connection with the foregoing we give below a general statement of Mr. Blowers' method of raisin making, which he gave us some time ago, but which will answer the present inquiries of several readers: The best condition for drying is plenty of air, heated to a temperature of from 100° to 130°; never more than the latter heat. A less is not hurtful, except to retard the drying. A moist air is to be avoided; and rain during the process of drying is positively injurious, even if it should dry without mildew, as it injures the bloom, aroma and flavor. My experience leads me to prefer a tray or a platform 2x2 ft. in size, made from light lumber. The tray is solid, that is, not perforated, and is cleated across the ends. We pick directly into the tray, putting about 20 lbs. of ripe grapes on each, then expose them to the heat of the sun, with an inclination toward the south. When half dry, they are turned by two men taking an empty tray, placing it upon a full one, and giving them a quick turn. The grapes are transferred bottom upwards on to the other tray, turning them very fast. This is done in the morning when the stems are soft. Then, if the drying is completed in the field, when the grapes are sufficiently cured, they are slid from the trays into large sweat boxes, and stored for two weeks or more, when they are placed in small boxes for market. This is the first time the raisins are touched by the hand after picking. They are handled on the tray, thus preserving the bloom, and not breaking up the stems. If the season is advanced, and it is desirable to hasten the drying, the raisins are moved to the drier on wagons while still in position upon the trays, and placed in the drying rooms, where they are exposed to a strong current of warm, dry air, which, being continuously drying at the proper heat, completes the process in about one-third the time required in out-door drying, if the weather is favorable. Three lbs. of mature grapes make one of cured raisins.

Recipes for Concrete.

EDITORS PRESS:—In reply to the query of "Sonoma," I will give two ways of making concrete:

1. (Concrete.) Unslaked lime, three parts; sand, three parts; gravel, two parts; broken stone, four parts.

2. Cement for canal which would answer very well his purpose: Take one part of iron filing, reduced to sifted powder, three parts of silica, four parts of red clay, the same quantity of pulverized brick, and two parts of hot lime; the whole measured by weight and not by bulk.

Put the mixture into a large wooden tub, in order that nothing foreign may be introduced into it. If sufficient water is poured out to extinguish the lime and give a degree of liquidity to the cement, and if all the component parts are briskly stirred a great degree of heat will be emitted from the lime, and an intimate union formed by the heat. But I think that the first concrete will answer his purpose better for cheapness than any other cement can do.—RAOUL DUBERNET, Fruit Vale, Alameda Co.

Specimens of California Corn.

EDITORS PRESS:—Can you send me samples of corn grown in California; one ear each of pop corn, sweet corn and field corn. Also any curious specimens of corn? I am arranging a collection for exhibition and for study, and I hope to show the effect of climate on varieties. I think my work is of enough general interest to justify me in calling on my friends for assistance. I have now over 200 samples arranged.—E. LEWIS STURTEVANT, South Framingham, Mass.

Our correspondent, Dr. Sturtevant, is one of

the leading investigators of corn and corn culture, and we trust abundant material will be sent him from this State. Our readers who have plucked something fine this year are requested to forward sample ears. Single ears can be sent by mail wrapped in strong paper. It will be a good thing to have our corn growing displayed, and samples in Dr. Sturtevant's collection will be carefully examined and comparisons made.

Ousting Oak Stumps.

EDITORS PRESS:—You would very much oblige me if you would tell me the best way of getting rid of oak stumps. I have tried to burn them out by use of coal oil, but was not successful.—PAUL STOLL, Red Bluff, Cal.

Lifting stumps with Giant powder or dynamite is becoming quite common at the East. A hole is made with a bar into the ground, slanting so as to get the cartridge well under the stump, and then it is fired according to the system devised by the makers of this explosive. The toughest stumps are hurled from their place instantly. We are not aware whether this method has been employed on this coast, but we have read many accounts in Eastern exchanges of the ease and cheapness of this method of clearing. If any readers can recommend this or any other means for the benefit of Mr. Stoll, we should like to hear from them.

Silo Opening.

EDITORS PRESS:—We will open the "silo" at Spring Brook farm for the inspection of the public on November 13, 1880, giving a general invitation to all who are interested in the process to attend.—J. W. GREEN & L. M. LADD, Hollister, San Benito Co., Cal.

This is a formal invitation to all interested to attend the opening of the pit in which green fodder was laid down some weeks ago to test the system of ensilage about which much has been said of late. We should attend were the time required for the trip not so long. We hope some of our friends in the vicinity will send us a report of the opening and what practical stock feeders and dairymen think of it.

Growth of Fruit as Affected by Local Conditions.

The confidence with which our Eastern pomologists decide upon fruit lists for wide reaches of country is refreshing when one addresses himself to the task of preparing such a catalogue for any region of this State. The fact is that here there are so many diverse conditions prevailing in different localities that even our best-informed pomologists hesitate to prescribe varieties for certain situations except so far as their knowledge of local successes and failures goes. It is very dangerous to generalize too freely in California, although there are of course similar classes of influences in similar situations here as elsewhere. These, however, when it comes down to the point of prescribing a specific variety of fruit to meet a grower's desire, are often quite unbalanced by special conditions which are strong enough to push the general conclusions off their feet. One can hardly speak with any surety of the success of varieties beyond his own neighborhood. This is often unfortunate, for it disqualifies one from dealing forth confidently an article of advice which is often requested. Besides this, our fruit-growers often think of entering more largely into the production of certain varieties of fruits for which they discern a lasting demand, and must secure new land therefor. This choice of a favoring location becomes a problem for which data is difficult to secure.

For the information of members, as well as of the public, the State Horticultural Society has prepared for transmission to growers in all parts of the State a circular, of which we give an outline in another column of this issue. It is to be hoped that this effort will bring the society into correspondence with those well informed of the adaptations of the many regions of the State, so far as they have been demonstrated by actual experience. Such correspondence would yield many points of exact knowledge, and all are invited to take part therein. If the responses should be general, it may be possible to map out with a good degree of certainty the success of several of the best varieties of the leading fruits, and thus furnish a guide to planters and seekers for locations adapted to special purposes. This would undoubtedly prove a public benefit.

The circular does not aim to include all fruits. It was thought that too comprehensive a list or too minute questioning would make the effort so elaborate that many would be deterred from cooperation. The whole subject of grape culture was omitted because the State Viticultural Commission has planned a very comprehensive collection of data upon the specialty entrusted to it. We trust that the undertaking of the society may yield gratifying results so far as its present scope extends. If so, the work may be supplemented by other searches for information which will make the final outcome quite complete.

THE FOOTLIGHTS OF CALIFORNIA.—Hamlet tells us that all the world's a stage and men are only players, but we hardly expected to see the fact so directly applied to our industries, as is done in the following sentence, which we quote from an exchange: "That the footlights of California will one day support a large and thriving population engaged in grape raising is beyond doubt." The writer undoubtedly meant footlights, but footlights struck the poetic fancy of the printer as more appropriate.

The Automatic Fruit Evaporator.

In order to show our fruit growers what some of their Eastern contemporaries are doing in the way of preparing fruit for distant markets, we have secured an engraving of the McFarland evaporator, which we have learned from our exchanges is being quite widely erected and operated.

It is an apparatus of considerable capacity, as the engraving indicates, although there is a range of sizes using trays 24 inches square, and costing \$130, to trays of 60 inches square and costing \$600. The former size has a guaranteed capacity of 25 bushels of apples or peaches in 24 hours; the latter 150 bushels in the same time. There are, of course, intermediate sizes.

The following is a description of the workings of the automatic evaporator, by the aid of which the engraving will be more intelligible: The trays are all entered at the bottom filled with the fresh fruit, remaining there directly over the furnace, subjected to an intense heat for from five to 15 minutes, the time being regulated by the degree of temperature of the hot air currents, and by the amount of water contained in the fruit or vegetable to be evaporated. At first, while fresh and full of water, fruit, etc., will endure a high degree of heat without scalding or discoloration. After remaining over this first intense heat a sufficient length of time, the tray, by means of a simple and effectual hoisting apparatus, is raised five inches, and a second tray of fresh fruit is placed below it, which protects it from the high, dry temperature just above the heater. Thus, just in proportion as the fruit has lost its moisture by evaporation, and could not endure without injury a high temperature, it is removed at regular intervals from the intense heat and protected by more trays of fruit below, until it reaches the top, perfectly cured, and that in an atmosphere just moist enough to secure the best possible results to the fruit.

In the drying of fruit and vegetables, it is found that as the air becomes charged with the moisture therefrom, its upward movement becomes more and more sluggish, requiring an increased consumption of fuel in order to produce a degree of heat sufficient to force it through the material; and in passing through the material on the trays, this highly-heated air shrivels and contracts the fruit, etc., in some lines more than in others, necessitating a careful watching of the contents of the drier, so as to avoid uneven results—a feature to which the improved construction of trays has special reference. To obviate this excessive consumption of fuel, and in consequence, to render the drying more uniform and perfect, it becomes necessary to provide some means of increasing the draft through the drying flue; and to do this cheaply, effectively and conveniently, the apparatus is constructed as follows: Over the stack of trays or over the flue is located a hood, the lower mouth of which may be made of the proper size to envelop the upper extremity of the stack, and connect the upper mouth with the chimney. This chimney is supported above the position of the stack of trays, which stack, as it is gradually increased in height, approaches the mouth of the chimney. This arrangement leaves a clear space beneath the chimney for manipulation of the trays, and the chimney is not supported upon any casing for the trays, such as immediately surrounds them in previous forms of driers and prevents immediate access to them.

From the heater the smoke pipe is carried up into the chimney just above the hood, and out at the top of the chimney, or, at least, up into the region of the top. To secure the best advantages, this smoke-pipe should be about centrally located within the chimney, and it should be so arranged as not to interfere with the convenient workings of the drier.

From this arrangement it will appear that the heat in the smoke-pipe, which would otherwise be wasted, will be imparted to the moisture-charged air above the drier, and this, in turn, will have a greater tendency to rise and pass off through the chimney, inducing a more rapid flow of air through the drying-flue, in accordance with well known principles of pneumatics. The desired increased air-draft is thus economically produced, and the more thorough and uniform drying accomplished. By increasing the draft in this manner—that is, after the air leaves the contents of the trays—the condensation of moisture upon the top tray is obviated, and leaves the fruit perfectly cured, from the fact that it has been dried in the least possible time, without scorching, and the natural flavor retained.

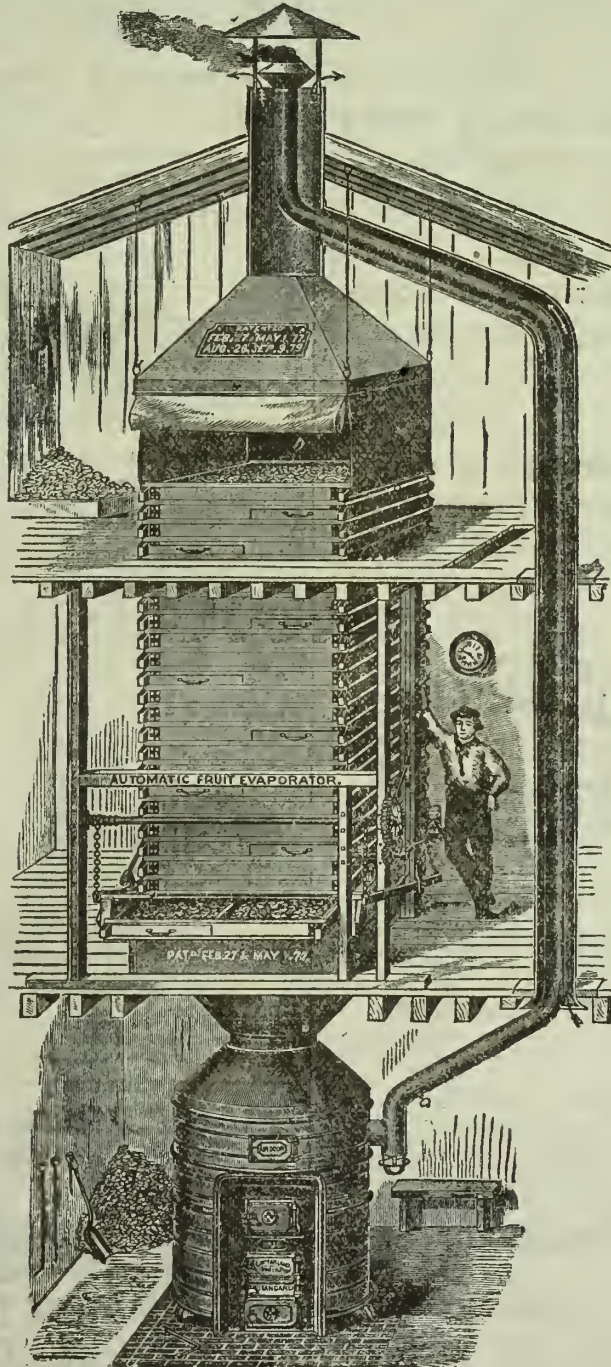
Around that part of pipe between the first floor and its connection with the chimney, is a jacket, the purpose of which is to confine the heat which would otherwise be radiated therefrom, and to conduct this to the chimney also, thereby aiding the draft within the air-flue, and at the same time excluding the heat from the work-rooms, which are upon the first and second floors. Around the hood is a canvass or other flexible curtain, hanging down sufficiently far to envelop some of the upper trays and to exclude air, which would otherwise enter the hood from the outside of the stack.

To remove a tray from the top, the curtain may be easily drawn out of the way, and will immediately resume its place after the tray is detached from the stack. Since the hood remains stationary, the curtain forms a conve-

nient prolongation thereof, useful at such times as before the stack reaches its ultimate height; and inasmuch as the curtain will immediately resume its proper place after having been disarranged, but little fresh air can enter to cool and check the draft through the stack.

The canvas curtain enables one to employ the machine with varying numbers of trays. The trays are also of any desired size; but in the larger machines their exposed surfaces are of such extent as to render them inconvenient and difficult to handle, especially when loaded with fruit. For this reason we make the bottoms in two sections, and so arrange them that they may be removed from the main frame of the tray, if desired.

The foregoing will give the reader an idea of the working of the drier and its claims to excellence. We have received from the inventor, Edward McFarland, of 112 North Sixth St., Philadelphia, a specimen of apples dried in Maine by the automatic evaporator, which is certainly a most beautiful product. In fact, all we hear about this apparatus from our Eastern



THE Mc FARLAND AUTOMATIC FRUIT AND VEGETABLE EVAPORATOR.

friends would indicate that it is worth the examination of those interested in the drying of fruit on a large scale.

VINES ON ADOBE.—Vine-growers in the lower part of Alameda county, are beginning to look upon their most refractory adobe spots as prolific and safe vine ground. The experience of Mr. Dixon and Mr. Curtner and others, of Harshurg and Washington townships, proves that upon this adobe, which is eloquently called the nastiest of its kind, the vine bears surprisingly large crops. More than this, it is hoped that the water-holding quality of this soil would be sufficient to drown the phylloxera if the pest should gain entrance. Certainly this adobe holds water like a basin; so much so that it is out of the question to grow fruit trees which are at all sensitive about having their roots in standing water. The vine, however, has shown no disposition to repudiate such situations, but has grown and produced heavily where some trees have died outright. It would be interesting to hear the experience of any of our readers upon these points. Both the growth of the vine and of the insect in such situations are good subjects for communication from any who have facts to set forth.

GRAPE NOTES.—A visit by a representative of the PRESS to the winery of I. De Turk, in Bennett valley, Sonoma county, showed that the proprietor had previously prepared himself for work by introducing valuable improvements. These include a new engine and a steam crusher, and other minor appurtenances, which give a capacity of 40 tons per day to the establishment. Mr. De Turk has at Santa Rosa another winery, one of the largest in the county, which has two of Heald's steam stemmers and crushers. At the time of our recent visit, they had finished up the Zinfandels, and were going at the Missions. The price paid this year has been \$20 per ton and upwards. The crop this year has been late but very good, and if the present favorable weather continues, there will be a perfect ingathering of an immense product. Bennett valley is evidently well adapted to grapegrowing. There has been no appearance of the phylloxera. Vine planting is progressing, most of the new cuttings

Local Manufactures.

We hope from this on to see California take a better position as a manufacturing center than she has hitherto done. Rates of interest have materially lessened, the country is more thickly populated, means of transportation have increased and improved, and the State has "waked up" generally. It takes time to develop an industry of any magnitude, and it also takes a good deal of money and energy to start it. But we have the energy and the money, and now is the time. There are a good many small towns throughout the State where no particular impulse has been given to any branch of business that can be widely developed, and in any one of these places, if a start were made and a manufactory established, it would not be long before that establishment would make a name for itself if managed properly.

It has been noticed that when a certain kind of manufacturing industry has started up in a small town or new settlement, it finally becomes the prominent industry of the town. Hundreds of Eastern and European towns indicate this. Some are famous for iron-work, some for cars, some for clocks, knives and forks, toys, brass goods, firearms, etc. We haven't any of these places in this State, yet they are the localities which make other communities prosperous.

Most of the manufacturing industries of the State of any magnitude are concentrated in San Francisco. The small towns have been left out in the cold, and have to depend on the agricultural or mining communities near them for support; and, unfortunately, the result has been that very few of the interior towns are in as prosperous a condition as they should be.

Manufacturing establishments of any character must first acquire a local reputation, and this will in time spread as their business increases. San Francisco is now mainly noted, from a manufacturing point of view, for its mining machinery and its woolen goods. The woolen mills have sent their products all over the coast. The foundries, from small beginnings, have multiplied in number and in usefulness, and have for some years manufactured mining machinery, not only for the Pacific Coast States and Territories, but for Mexico, Japan and South America. California has set the pattern for mining machinery of all kinds, making it better and cheaper than elsewhere.

Of course, there are many other branches of manufacture in this great city, which are prosperous and flourishing, and which are gradually becoming better known. The plea we are making now is for similar works to be started in the interior towns. Low rents, cheap living and convenient facilities may be had in many places. Any of these communities will give any assistance in their power. Let the new industries grow up with the country, starting in some small town, and developing gradually with its growth a class of population who shall be producers in a branch requiring skill, mechanical knowledge and ingenuity. Nothing will make us more prosperous than this. Agriculture and mining are very well in their way, but we must educate mechanics and artisans, or it will take all the miners and farmers make to pay for appliances and materials which they need.

HARD WHEAT.—When endeavoring to forecast the future value of California wheat, it is important to remember that its characteristic quality will prove a factor in its future market worth. Of course it is impossible to tell how much can be safely counted as the measure of advantage to be realized, but it is a positive quantity, nevertheless, which will to some extent lift it from association with the too numerous hordes of wheats which will be pressed forward this year from other regions. To show how marked was the divergence of hard from soft wheat in a single week's advices from foreign markets, we need but quote a few sentences from the reports from different grain centers:

Taganrog (Russia), Oct. 4.—Hard wheat is quoted at R. 14.75 to R. 16.50. Ghirka qualities are wanting and nominal at R. 13.50 to R. 13.75 per pud.

Oran (Algeria), Oct. 4.—Soft wheat has shown a weaker tendency, to-day's rates being 26.25f. to 26.50f. Hard wheat was in considerable demand.

Marseilles (France), Oct. 16.—All hard qualities of wheat have been very steadily supported.

London, Oct. 16.—As a comparison of one sort of wheat, a cargo bought for 40s. in August has lately made 46s., and is now worth only 45s.; this is American. For some fine white wheat the fluctuation has been 7s. upwards.

Of course we do not mean to claim that California has a monopoly of the wheats thus shown to enjoy special privileges, but as we have much of that kind, there will be a measure of advantage to shippers.

BISULPHIDE AND THE PHYLLOXERA.—Mr. Wheeler's interesting series of articles on the French experience with the use of this insecticide is concluded in this issue with the announcement of an enterprise to manufacture bisulphide in this State. We are glad that this venture is to be made, and hope it will succeed. As Mr. Wheeler remarks, the price at which the substance could be imported from the East, wholly precluded its use, and we were therefore unable to profit by the experience which France has gained at such great cost of experimentation. We are now to have the material at the same cost as in France, and with our great advantage in the comparatively slow progress of the insect, and the great vine-growing districts hemmed in by natural barriers to the spread of the pest, it would seem that with a moderate degree of energy our vine interest could be held away from impending evil. Such we trust may be the future course of affairs.

ARTIFICIAL CITRIC ACID.—Messrs. Grimaux and Adam have succeeded in building up citric acid from glycerine. Curiously enough, in the last number of the *Berlin Berichte*, Kekule announces that he has been working at the same subject, but by a totally different method. Kekule's work is not sufficiently advanced for him to say positively that his method of synthesis is successful, but he feels justified in saying that very probably the process adopted by him has resulted in the formation of citric acid. *Nature*, from which we clip the above, promises full details of this interesting work in its next issue. The horticultural bearing of this announcement would be that the production of citric acid in the laboratory will probably put an end to the legitimate derivation of the acid from citrus fruits, and growers should shape their plans accordingly.

The Remedy for the Phylloxera.—No. 3.

(CONTINUED FROM PAGE 307.)

then, gives it to the vinegrowers at eight cents per lb. Now, making our estimate on this according to directions for use, previously deduced, we have the following as the cost of the bisulphide of carbon: 32 grams per square meter, the greatest amount necessary, if divided between two applications, to totally extinguish the phylloxera, is equivalent to 255 lbs. per acre; this at eight cents per lb. makes a cost of \$22.80; or, again reckoning for each vine, supposing our vines 6½ ft. apart each way, which makes about 1,000 vines per acre, we have per vine 4 5/16 oz. at eight cents per lb., which makes a cost of \$2 28 cents per vine. It must be borne in mind, that although we have made an estimate per vine, the vapor is not to surround the vine only, but to completely fill the whole body of the soil between the vines, as well as at its tap roots, in order that not one of the insects shall escape its effect. For vines at different distances apart, different rules must be observed for dividing up the quantity per acre; accordingly these will be determined and tabulated, and will then go with the directions for use, etc., which accompany each barrel. The smaller expenses I have not entered into here, they being so inconsiderable, and differing in the different localities.

The application is by means of an injector. This consists of a steel tube pointed at its lower end and attached to a zinc tank above. The whole is of a convenient length and has a cross-piece for a handle above the tank; below the tank and attached to the steel tube is a projection on which to apply foot power in inserting the instrument into the ground. When arriving at the proper depth a button on top is struck sharply with the hand, which, by means of an arrangement within, forces out from the bottom end of the steel tube the amount required for each injection. Care is required in the filling and use of this instrument, but any ordinary workman can manipulate it without trouble. The work is done very rapidly. This instrument costs, in France, 40 francs, or about \$3. These will be had at the manufactory of the bisulphide to be either sold to the user or rented. The plan is to have the bisulphide ready for sale shortly after the 1st of December, in order to make use of the two months most favorable to its application, viz., December and January, or later if necessary; but in all cases when the ground has not been recently plowed or worked.

The works are to be erected between West Berkeley and San Pablo, in some spot convenient for shipment by water and cars; its transportation will be in iron barrels, with quantities to suit. It is expected that it will be not only applied as an insecticide, but that its application as an exterminator of rodents will be rendered equally feasible by the low price of 8 cents per lb. The bisulphide may answer the purpose in killing the ground squirrel and gopher that it did in Australia and New Zealand in exterminating the rabbits, which, without this, rendered it impossible to produce any vegetation. Its application to killing vermin and insects generally will doubtless be hailed by farmers as a great benefit.

The bisulphide, although explosive when mixed with air, boiling at a low temperature, etc., if carefully handled is perfectly safe, as evidenced by its use in France. The first year of its use, there were 432,000 lbs. distributed about the vineyards of that country, and not a single serious accident happened—all owing to their care in following the directions.

The writer in closing this series of articles wishes to thank Mr. Chas. Wetmore for the use of his library. I am also under obligations to Prof. Hilgard, of the University of California, who has watched this work with interest, who has rendered much valuable advice respecting the application of the bisulphide to California and who has kindly volunteered to render any assistance which may become necessary in the manufacture, and in applying the reagent.

The vinegrowers, of Napa valley, in the meeting of the Vinicultural Club, of St. Helena, on the 6th inst., took active means to introduce the bisulphide by resolving to recommend its use to all the viniculturists as the best insecticide for the phylloxera; and farther resolving to do all within their power to encourage this, the first manufactory of this chemical on the Pacific coast. By reference to the St. Helena Star for Nov. 13th, full particulars of this meeting may be had. The writer of this article will be glad to furnish any further information regarding the question of the phylloxera, or anything in relation to the bisulphide of carbon to any one who may address him.

JOHN H. WHEELER.

530 Cal. St. (Room 3), San Francisco.

A NOVEL OBSERVATORY.—Prof. Watson, of the Washburn Observatory, in the grounds of the Wisconsin State University at Madison, Wis., is building an observatory of a novel kind. It is generally known that from the bottom of a deep well the stars can be very plainly seen at bright noonday. Upon this principle Prof. Watson is conducting his experiment. A cellar 20 ft. in depth has been sunk below the surface of the ground at the bottom of the slope; over this a fine stone building is erected. At the top of the hill, which is 60 ft. above the bottom of the cellar, powerful reflectors are to be placed, to throw rays of light down a large tube which ends in the cellar, where the observer will be stationed.

H. H. H. Horse Medicine.

Stockton, February 4, 1880. H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

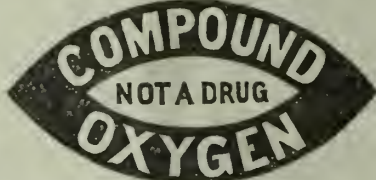
The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 276 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

AUDIPHONES

AND

EARPHONES

For Deaf People. Trial before purchase if desired. Ask terms.

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast Inventors. Circulars of advice free. Address, DEWEY & CO., Office Mining and Scientific Press and Pacific Rural Press, 202 Sansome Street, S. —1880.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vols., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Boys' Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL Press (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT Self Regulating WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned on run in babbitted boxes. Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or hails to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S



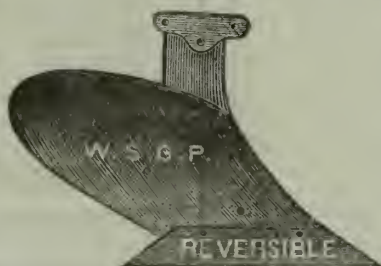
Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by

THEOS. POWELL, Stockton, Cal.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

New Music Books!

CHOIRS Will Remember Our New American Anthem and ABBEY; an excellent collection of easy anthems, Also: one thousand or more of separate Anthems, Glees, Etc., costing about 6 to 10 cents each. A great convenience for occasional singing.

NEW CANTATAS—Christmas, (\$1.); Fall of Jerusalem, (\$1.); Joseph's Bondage, (\$1.25); and many others for winter practice of Choirs and Societies. Send for lists!

THE BEST INSTRUCTION BOOKS

For Piano, Organ, Reed Organ, Guitar, Violin, Cornet, and all Wind, String and Reed Instruments. Send for our lists. 500 such books are published.

Organists need "Harmon's School" for the Organ, (\$3.) by Clarke; also, "Clarke's Short Voluntaries," (\$1.50). "Battiste's 50 Pieces," (\$2.50); or "Organist's Reliance," by Thayer, 10 Nos., each, \$1.25, complete, \$8.

Johnson's New Method for Harmony, (\$1.) is easiest.

Winner's New Schools, (ea. 75 cts. For all instruments. Capital cheap instructors.

Clarke's Reed Organ Melodies, (\$2.) are splendid.

Take The Musical Record, (\$2 per year.)

Welcome Chorus for High Schools, \$1.

Song Books for Common Schools, 50 cts.

Any book mailed for the Retail price mentioned above. Liberal reduction for quantities.

OLIVER DITSON & CO., BOSTON.

O. H. Ditson & Co., 843 Broadway, N. Y.

SPORTSMEN'S HEADQUARTERS.



J. P. CLABROUGH & BRO.,

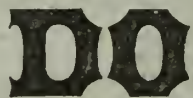
No 630 Montgomery Street, S. F. and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price can not be excelled, if equalled, on the Pacific Coast. Also, importers of Gun material, Breach-loading Implements, Ammunition, Fencing Folds, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks, Card's Rotating Glass Ball Traps and Glass Balls.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hooley Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address BYRON JACKSON, Prop'r.



NOT FAIL to send for our Price List for 1880. Name to any address upon application. Contains descriptions of everything required for personal or family use. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 221 & 223 Wabash Ave., Chicago, Ill.

M. COOKE. R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order,

AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on

Wheats. Apply to

A. SCHULLER,

200 Sansome St., S. F.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER Saxe & Son, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

M. B. STURGES, Centerville, Alameda County, Cal. Breeder of Thoroughbred Short Horn Cattle. Young Bulls and Heifers for sale. Correspondence solicited.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the imported Bull Sheriff, a Scraphin Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Gabilan Herd. The foundation of the Gabilan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxforbs, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importer and Breeder of choice Thoroughbred Spanish Merino Sheep.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

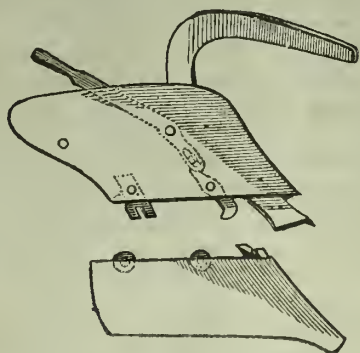
L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular
ISAAC B. MILLINGTON & CO., Chester, Pa.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag's. Samples 10c. Conn. Card Co. Northford, Ct.

PATREY'S
Plow Share Fastener.

(PATENTED, MAY 25, 1880.)

By means of this Fastener PLOW SHARES ARE EASILY AND QUICKLY REMOVED from the mold board. There are no BOLTS or NUTS to rust and wear loose. No tedious and vexatious delays in hunting after nuts and wrenches. There is simply

A Lever Attachment,

Which is thrown back, releasing the share, when another can then be put in its place, the whole operation occupying but a few seconds.

Read the following Testimonials from those who have used the Fastener:

DUNNIGAN CAL., AUGUST 1, 1880.

J. P. PATREY, ESQ.—Dear Sir:—I have been using your patent for fastening plow shares, for some time. It saves time, labor and money, and fastens the share as firmly as if bolted.
Yours truly, M. T. EMMERT.

SPRING VALLEY, COLUSA CO., CAL., MARCH 18, 1880.

MR. J. P. PATREY—Dear Sir:—I used your Plow Share Fastener on a Eureka Plow, breaking up new ground in heavy timber. I frequently had to hitch the team to the rear of the plow in order to release it from stumps and roots, and have always found the Fastener all right. Hereafter I shall use it on all my plows.
J. W. GAHNS.

DUNNIGAN, YOLO CO., CAL., JANUARY 26, 1880.

MR. J. P. PATREY—Dear Sir:—Your "Plow Share Fastener" recommends itself, as no bolts are used. I can change my plow points in a few seconds.
J. A. BYERS.

DUNNIGAN, YOLO CO., CAL., JULY 31, 1880.

J. P. PATREY, ESQ.—Dear Sir:—In answer to yours of a few days since, inquiring of the Plow Share Fastener, I wish to state that I have used the four sent me with perfect success, and consider them a very great saving in time, and would most heartily recommend them to all farmers. I will order one for each Plow before the plow season begins.
Most respectfully, E. B. GLASCOCK.

BEFORE BUYING OR RENTING AN
ORGAN

Send for our LATEST ILLUSTRATED CATALOGUE (32 pp. 4to), with NEWEST STYLES, at \$51 and upward; or \$6.38 per quarter, and up. Sent free. MASON & HAMLIN ORGAN CO., 154 Tremont St., BOSTON; 46 E. 14th St., NEW YORK; 149 Wabash Av., CHICAGO.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

MENZO SPRING.

Manufacturer of the Best

Improved Artificial Limbs.

OFFICE AND ADDRESS:

9 Geary Street, Junction of Market and Kearny, S. F.

ADJUSTABLE
SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,
TAYNTON & DERRICKSON,
Clayton, Contra Costa County, Cal

California Inventors

Should consult DEWEY & CO., AMERICAN AND FOREIGN PATENT SOLICITORS, for obtaining Patents and Caveats. Established in 1850. Their long experience as journalists and large practice as patent attorneys enables them to offer Pacific Coast inventors far better service than they can obtain elsewhere. Send for free circulars of information. Office of the MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, No. 202 Sansome St., San Francisco.

GUNS

Lowest prices ever known on Breech-Loaders, Rifles, and Revolvers. OUR \$15 SHOT-GUN at greatly reduced price. Send stamp for our New Illustrated Catalogue (B) P. POWELL & SON, 238 Main Street, CINCINNATI, O.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct.

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.



Brahmas, Brown Leghorns, Plymouth Rocks, Langshans. BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00. Pamphlet on Cure of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents. Please send stamp for Price List to

M. EYRE, Napa Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON.

Near the University, Berkeley, Alameda Co., Cal.

Brown Leghorn Eggs.

BEST THOROUGHBRED STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR.
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

GRANGERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Butte Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

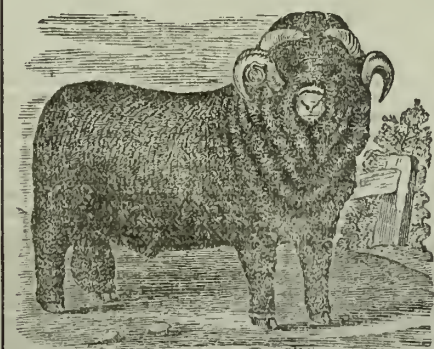
GOLD and SILVER deposits received. CERTIFICATES OF DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

SWEEPSTAKE SHEEP.



FOR SALE.

The entire flock of Thoroughbred French Merino Sheep, known as The Blacow Flock, consisting of 100 head of Yearling Rams, 190 head of Ewe Lambs and Yearling Ewes, 260 head of Breeding Ewes. Are all in good thriving order. Have been carefully bred, are much improved in form, constitution and quality of fleeces. For further particulars apply to MRS. R. BLACOW, or Shepherd, Centerville, Alameda Co., Cal., near Niles Station.

A. AITKEN.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 6 and 6, South Range 15 East, Mt. Diablo Meridian. On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BLACK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,

Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,

Santa Cruz, Cal

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

Thanksgiving Edition.

(From our issue of October 30th.)

We have it in our mind to print an enlarged issue of the PRESS about Thanksgiving time and adorn it with engravings appropriate to that occasion, including also other themes for pen and picture which will make the paper pleasing and valuable to our readers. The present year has been in some respects one of the great things in our agriculture and general progress as a State, and it will be a fitting time to place the items of our advancement upon record and express our thanksgivings thereat. We shall be pleased to have all contributors sharpen their pens and send us something characteristic and seasonable. We desire a good measure of sentiment to awaken our sympathies and attune our rejoicings. We desire also notes of the material benefits which call for thanksgiving. Let each write of the progress of his neighborhood or of the special line of agriculture in which he is engaged. Let us hear of California homes and those who dwell in them. Give us glimpses of California scenery and how to gain access to it. Open to us pictures of the future in the manhood, the society, the industry of our commonwealth, so far as the future may be forecast by the light of our progress hitherto. The busy season is now approaching its close; let the special Thanksgiving edition of the PRESS be a general return and reunion of old and new contributors.

We expect to print more pages than usual in the Thanksgiving edition and to recompense the reader for any encroachment which the present active time in trade makes upon our reading column.

Quinine and Arsenic

Form the basis of many of the Ague Remedies in the market, and are the last resort of physicians and people who know no better medicine to employ for this distressing complaint. The effects of either of these drugs are destructive to the system, producing headache, intestinal disorders, vertigo, dizziness, ringing in the ears, and depression of the constitutional health. AYER'S AGUE CURE is a vegetable discovery, containing neither quinine, arsenic, nor any deleterious ingredient, and is an infallible and rapid cure for every form of Fever and Ague. Its effects are permanent and certain, and no injury can result from its use. Besides being a positive cure for Fever and ague in all its forms, it is also a superior remedy for Liver Complaints. It is an excellent tonic and preventive as well as cure, of all complaints peculiar to malarious, marshy and miasmatic districts. By direct action on the liver and biliary apparatus, it stimulates the system to a vigorous, healthy condition.

FOR SALE BY ALL DEALERS

What Experience Teaches.

PUBLISHERS RURAL PRESS.—Gents:—We have received your valuable paper regularly containing our advertisement. We must say that it is the best advertising medium in the State, as we receive more letters from your patrons than from any other paper in which we advertise. Yours, I. D. NASH & CO., Manufacturers of the Improved Nash & Cutts Grain Cleaner.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

IMPORTANT additions are being continually made in Woodward's Gardens. The grove walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

SAMPLE COPIES.—Occasionally we send copies of the paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CAYES, Prop.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Nov. 10, 1880.

The foreign Wheat market is brightening up considerably, and there is more activity and a better feeling here. Prices are about the same as last week. Today's cable dispatches from London report the Wheat market "stiff," and at Liverpool "strong."

The Foreign Review.

LONDON, Nov. 8.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "The weather has favored sowing and threshing. The week's threshing has brought more prominently into view the deficiency of the Wheat crop, and the damaged condition of Barley. The best home-grown Wheat was firm. Inferior samples were sold with difficulty. In many more important provincial markets the finest samples advanced \$1.60 per quarter. The quantity of grain afloat, however, caused a weaker feeling in London at the end of the week. Foreign Wheat was in brisk demand, and advanced 6d on Wednesday, but further advances were successfully resisted. On Friday the demand was slower, but holders were firm. English and foreign Flour were scarce and very firm throughout the week. Barley was very quiet. There was an improved demand early in the week for barley afloat, but the market was easier at the close. Oats improved, and closed firm. Maize, mixed American, sold steadily, ex-ship at an advance of 3d on Monday's rates. Round Corn was quiet, and closed rather easier. Maize in passage advanced 6d early in the week, and was again slightly dearer on Wednesday, slightly relapsed on Friday, but closed strong. Wheat cargoes were \$3.6d dearer for Red Winter early in the week. In consequence of stocks and the detention of vessels on passage, all descriptions were firm until Thursday, when they became quieter, in sympathy with the American market. On Friday Red Winter was 8d 6d lower. American grades afloat further declined 3d on Saturday. Sales of English Wheat during the week were 42,326 quarters at 43s 6d, against 30,553 quarters at 50s 5d for the corresponding period last year. Imports into the United Kingdom for the week ending October 30th were 539,024 cwt Wheat; 153,943 cwt Flour.

Eastern Grain and Provision Markets.

NEW YORK, Nov. 9.—Markets are moderately active in most departments. Wheat is 1 1/2c higher. On speculative demand cash Wheat is dull, and the European markets were but little better. Barley is firm and in fair demand. Pork quiet and steady. Lard active and higher. NEW YORK, Nov. 9.—The Grain shipments from this port to Europe during October amounted to 12,039,209 bushels, and gave employment to 309 vessels, making a grand total for the past 10 months of 117,023,827 bushels, being an increase over the corresponding months last year of many millions bushels. It is confidently expected that November and December will be the largest shipping months of the year, and that the grand total of the year will exceed 135,000,000, being an increase of over 25% over last year. It is stated that every vessel in port has been chartered to carry Grain, and none are waiting for engagements.

CHICAGO, Nov. 6.—Wheat has been waiting for some development to determine its course, but none has appeared. The bulls and bears still depend each other, but not with determination or vindictiveness. In fact, the bulls of one day are the bears of the next, and there seems to be no stability in their purchases or sales. It is quite certain that no syndicate has been formed yet to handle the Grain trade of the country, nor is any likely to form unless there is a material retrogression in prices. The foreign demand remains good, but there is no speculative action abroad, and prices here are so much above Liverpool rates (shipping considered) that there must soon be a break here, or an advance there, or both. Receipts continue good. Wheat is increasing, Corn decreasing, and Hogs are coming in rapidly and steadily. The stocks in store are increasing as to Wheat and decreasing somewhat as to Corn and Oats. The advancing of water rates, and the prospect of an advance in real prices for shipment before long, tend to counteract other influences, which would enhance values. Sales of the December option were made as follows: Wheat, \$1.02 1/2 @ 1.04; Corn, 30 1/2 @ 30 3/4; Oats, 20 1/2 @ 20 3/4; Pork, \$11.95 @ 12.00; Lard, \$7.90 @ 8.05. The closing December prices were: Wheat, \$1.03 1/2 @ 1.03 3/4; Corn, 40 1/2 @ 40 3/4; Oats, 30 1/2 @ 30 3/4; Pork, \$12.20 @ 12.25; Lard, \$8.00 bid. The closing cash prices were: Wheat, \$1.01 1/2 @ 1.02; Corn, 40c; Oats, 29 1/2 @ 29 3/4; Rye, 32c; Barley, 85c; Pork, \$13.75 @ 14; Lard, \$8.07 @ 8.10.

Eastern Wool Markets.

BOSTON, Nov. 9.—The demand for Wool is good and prices are gradually tending upward. The prospects of trade continue quite encouraging. Holders appear to be quite indifferent about selling. This is a check on transactions. Now that a favorable turn has come holders do not feel like closing out their desirable Wools after carrying them on a dull market for months. The demand continues for all grades and qualities, although manufacturers are still running on fine Wools, and late purchases of washed and unwashed fleeces have reduced the stock materially. Sales of Ohio, Pennsylvania and West Virginia at 40 @ 43c for X, XX and XXX; Michigan and Wisconsin, 43 @ 44c, and few sellers under 45c for desirable X and unwashed; 25 @ 33c for fine, 33 @ 37c for medium, 20 @ 25c for low and coarse and 18 @ 20c for carpet. Combing and delaine continue in demand at 45 @ 48c for fine delaine, and if round lots could be obtained an advance on these prices would be realized. California Wool has been in demand, with Spring at 25 @ 37c, and Fall at 18 @ 20c. Pulled in fair demand at 40 @ 47c; fair and good super, 45 @ 52c. Choice Australia Wool is firmer at 40 @ 43c. Montevidue in better demand at 35 @ 37c. Carpet of all kinds is scarce and firmer.

PHILADELPHIA, Nov. 9.—The Wool market is firm. Prices are unchanged.

NEW YORK, Nov. 7.—On domestic Wools the general tone appears to be still working in favor of the selling interest, and our market offers a promising feature for most grades. The owners have become more than ever convinced that Wool at the present price is good property, and are holding with a determination to stand out stiffly for as full rates as of late reached on actual business, and while too much buoyancy is considered somewhat dangerous at the moment, a further addition to the cost is certainly a part of the present calculations. Many parcels of desirable quality are also held above the limit of any price yet established, but the extreme prices asked are meeting with some opposition, and indicate that the buyers have not as yet abandoned the cautious spirit by which their operations have been guided. Manufacturers are willing to handle Wool and anticipate their wants to a fair extent, but do not feel well enough assured as to the prospects for the dry-goods market to load up heavily, and, having already submitted to 5% and 10% recovery on the price from lowest, negotiate with great care. Advice from the eastward report a strong market, with an increasing limit of valuation on fleeces, and there are also reports of considerable buying in the interior by dealers at advancing rates. There is, however, a great deal of Wool to buy, and the presence of customers brings out many offerings. The supplies here appear to be fair of most kinds, but are well under control, and it is understood that the recent receipts of Spring California were mostly sold before arrival. The transactions reported are not quite so heavy as last week. The sales include 95,000 lbs of Spring California at 25 1/2 @ 33c, and 5,000 lbs of scoured Spring or private terms.

New York Dried Fruit Markets.

NEW YORK, Nov. 9.—Foreign fruits are generally dull. Raisins are quiet and unsettled; new layers, \$2.20; loose, \$2.25 @ 2.30; London layers, \$2.60 @ 2.70; Valencia, \$2.80. New Prunes have been more active and firmer at reduced prices; sales at 5 1/2 @ 6. Figs are very slow. Currants are in large supply, new, 5 1/2 @ 5 3/4; old, 5 1/2.

Freights and Charters.

The ship *McNair*, 1,307 tons, is chartered for Wheat to Cork at £3 15s. The Wheat freight market had a stronger tone during the past week, but business was restricted owing to the few disengaged vessels in port. The disengaged tonnage, which at the close amounts to only 5,155 tons, is very firmly held. There are between 25 and 30 vessels fully due at the present, however, and which may arrive at any hour. Exporters are holding off in the expectation of obtaining some of these vessels on more favorable terms, though it is said that most of them have been already chartered, and will not come upon the spot market.

BAGS.—Bags are quiet and there is no change.

BARLEY.—Feed Barley is showing a better disposition, and has advanced 2 1/2 @ 5c per cwt, with a more active trade. We note sales: 200 sds standard Chevalier at \$1.20; 200 sds do, \$1.15; 300 sds good do, rather dirty, \$1.12; 1,000 and 600 sds light Brewing, 85c; and 1,500 and 500 sds good Feed, 80c.

BEANS.—Bayo Beans are a little lower, and Small White are bigger—about 5c per cwt.

CORN.—Corn is unchanged. Sales: 164 sds Small Round Yellow at \$1.10; 200 sds Large do, \$1; end 200 sds do, 97c.

DAIRY PRODUCE.—There is no change in Butter prices, but there is an active demand. Cheese is stationary and in abundant supply.

EGGS.—Strictly choice California Eggs have advanced to 42 1/2c, and are firm.

FEED.—Hay has advanced the least, Wheat Hay now bringing \$15 per ton. The following is about the range: Alfalfa, \$8 @ 10; Wild Oat, \$12 @ 14; Barley, \$11.50 @ 12.50; Wheat, \$13 @ 15 per ton. The market is strong and has an upward disposition.

FRESH MEAT.—All Meats are abundant and low.

FRUIT.—The list is still contracting. Prices are but little changed. There have been some extra choice selected Apples and Pears, which have gained extra prices. O. N. Cadwell, of Carpenteria, has sent to this market Pears which brought \$2.50 per box, and Apples which sold at \$1.37 1/2 per box and \$3.50 per barrel.

HOPS.—Hops are quiet and prices not materially changed, the reduction being 1c per lb from last week's prices. In New York Hops are telegraphed as firm and quiet. Emmet Wells, in his circular of October 29th, says:

A marked improvement in trade in London has shown its good effect here, by checking a further decline in our prices, and has at last given us what we can call a settled market. Now, for the first time since the beginning of September, we can continue our quotations without change. The export traffic, though not so brisk as last week, has been sufficient, with the demand from brewers, to prevent much accumulation of stock, and, if shipment to Europe can be continued at the rate of 1,000 to 1,500 bales a week, present prices will be likely to be maintained. A few hundred bales of Californians have arrived here, and will be taken by exporters at from 23 to 25c. The 236 bales imported from London this week are returned old Americans.

OATS.—Oats are selling a little more freely, but within the range given last week.

ONIONS.—White Onions are still rising, some sales having been made this week as high as \$2.50 per cwt.

POTATOES.—Prices are about the same and there are abundant supplies at present.

POULTRY AND GAME.—Turkeys are doing about 3c better per lb. There is no change otherwise except in Game Ducks, which are lower.

PROVISIONS.—The Cured Meat market is fairly active; a few slight changes in value are noted in our list.

VEGETABLES.—String Beans are quite high. Green Peppers and Cucumbers are neglected, as the Pickle making seems to have been well along. Green Corn is hard to sell. Tomatoes are a shade lower to-day, but they are quite likely to recover.

WHEAT.—There is quite an active trade for shipping. We note sales: 370 strictly choice Milling, \$1.52; 10,000, 3,000, 2,000 and 1,200 sds No. 1, \$1.50; 50 tons and 850 sds do, \$1.47; 70 tons and 2,000 and 1,056 sds No. 2, \$1.45; 60 tons do, \$1.43; 1,800 sds do, \$1.42; 500 sds Coast, \$1.40; 500 sds do, \$1.33; 60 tons and 1,000 and 200 sds off grade, \$1.37; 1,000 sds do, \$1.35; 320 sds Odessa, \$1.30 per cwt.

WOOL.—The Wool market is strong, and there has been a slight advance in prices for the best lots of California and Oregon growth.

FRUITS AND VEGETABLES.

(WHOLESALE.)

WEDNESDAY M., Nov. 10, 1880

Apples, sliced, 10 @ 10	Pears, sliced, 9 @ 10
Apples, box, 50 @ 1 25	do, peeled, 9 @ 11
Blackberries, box, 2 00 @ 4 00	Plums, 14 @ 16
Blackberries, chest, 8 00 @ 11 00	Pitted, 14 @ 16
Citrus, Cal, 100— @ —	Prunes, 15 @ 17 1/2
Cocoanuts, 100— 7 00 @ 8 00	Raisins, Cal, 10 @ 2 25
Cranberries, 100 @ 11 00	do, Halves, @ 2 50
Figs, black, bx, 50 @ 1 00	do, Quarters, @ 2 75
Grapes, 60 @ 70	do, Eighths, @ 2 00
Muscat, 40 @ 50	do, Halves, 2 25 @ 2 50
Rose Peru, bx, 40 @ 50	do, Quarters, 2 50 @ 2 75
Black Hamburg, 40 @ 50	do, Eighths, 2 75 @ 3 00
Tokay, 40 @ 60	Zante Currants, 8 @ 10
Limes, Mex., 15 @ 16 00	
do, Cal, box, 1 75 @ 2 25	
do, large, box, 5 00 @ 7 50	
Lemons, Cal, 3 00 @ 3 50	
Sicily, box, 8 00 @ 9 00	
Australian, 5 00 @ 6 00	
Oranges, Cal, bx, @ —	
do, Tabiti, @ —	
do, Mexican, @ —	
Pears, box, 1 00 @ 2 00	
Pineapples, box, 8 00 @ 9 00	
Plums, bx, 50 @ 1 25	
Prunes, German, 75 @ 1 00	
Quinces, bx, 75 @ 1 00	
Raspberries, ch, 12 00 @ 14 00	
Strawberries, ch, 8 00 @ 11 00	
Sugar Cane, 100 @ 2 50	

DRIED FRUIT.

Apples, sliced, 7 @ 8
do, quartered, 6 @ 7
Apples, 20 @ 22
Blackberries, 25 @ 30
Citrus, 25 @ 30
Dates, 9 @ 10
Figs, pressed, 7 @ 8
do, loose, 4 @ 6
Peaches, 10 @ 12
do, pared, 18 @ 19

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., Nov. 10, 1880.

BEANS & PEAS.
Bayo, cwt, 50 @ 05
Butter, 1 20 @ 25
Castor, @ 03 00
Peas, 1 25 @ 35
Pink, 85 @ 90
Sml White, 1 25 @ 30
Lima, 1 50 @ 60
Field Peas, h'k eye, 25 @ 50
do, green, 10 @ 15

BROOM CORN.

Southern, 13 @ 2
Northern, 21 @ 34

CHICORY.

Oallifornia, 4 @ 41
German, 6 1/2 @ 7

DAIRY PRODUCE, ETC.

Cal. Fresh Roll, B, 32 1/2 @ 40
do Fancy Brands, 40 @ 42 1/2Pickle Roll, 32 1/2 @ 35
Firkia, new, 30 @ 32 1/2Western, @ —
New York, @ —

CHEESE.

Cheese, Cal, B, 13 @ 15
N. Y. State, 18 @ 20

EGGS.

Cal. fresh, doz., 40 @ 42 1/2
do, poor to good, 36 @ 40Ducks, 27 @ 30
Oregon, 27 1/2 @ 30Eastern by express, 27 1/2 @ 30
Picked here, @ —
Utah, 22 1/2 @ 26

FEED.

Bran, ton, @ — @ 14 00
Corn Meal, 23 00 @ 24 00Hay, 8 00 @ 10 00
Middling, 8 00 @ 10 00Old Cake Meal, 30 00 @ —
Straw, bale, 40 @ 50

FLOUR.

Extra City Mills, 12 @ 25 1/2
do, Country Mills, 12 @ 25 1/2do, Oregon, 12 @ 25 1/2
do, Walla Walla, 12 @ 25 1/2

Superfine, 3 75 @ 4 25

FRESH MEAT.

Beef, 1st quality, B, 5 @ 5 1/2
Second, @ 4 1/2Third, @ 3 1/2
Mutton, 3 @ 3 1/2Spring Lamb, 4 @ 4 1/2
Pork, undressed, 4 1/2 @ 4 1/2Dressed, 6 1/2 @ 7
Veal, @ 6 1/2Milk Calves, 6 1/2 @ 7
do, choicest, 7 @ 7 1/2

GRAIN, ETC.

Barley, feed, cwt., 75 @ 80
do, Brewing, 92 1/2 @ 95Chevalier, 1 15 @ 25
do, Coast, 80 @ 90Buckwheat, @ 2 00
Corn, White, @ 2 1/2Yellow, 1 02 1/2 @ 05 1/2
Small Round, 1 10 @ 12 1/2Oats, 1 05 @ 15
Milling, @ 1 35Rye, @ 1 50
Wheat, No. 1, 1 47 1/2 @ 1 45do, No. 2, 1 42 @ 1 45
do, No. 3, 1 12 @ 15Choice Milling, @ 1 50
Hides, dry, 19 @ 13 1/2

Wet, 10 @ 10 1/2

HONEY, ETC.

Beech, B., 22 1/2 @ 25
Honey in comb, 12 @ 13do, No. 2, @ —
Dark, 5 1/2 @ 5 1/2

Extracted, 6 1/2 @ 7

HOPS.

Oregon, 15 @ 16
California, new, 14 @ 19Wash. Ter., 15 @ 17
Old Hops, @ —

NUTS—Jobbing.

Walnuts, Cal., 9 @ 10
do, Chile, 7 1/2 @ 9do, No. 2, 8 @ 10
Soft shelled, 16 @ 18

Brazil, 14 @ 15

BAGS AND BAGGING.

(JOBBER PRICES.)

WEDNESDAY M., Nov. 10, 1880.

Eng Standard Wheat, 9 @ 9 1/2

California Manufacture, 45 inch, 9 1/2 @ 9 1/2

Hand Sewed, 22x36, 9 @ 9 1/2

22x40, @ 10 1/2

22x40, @ 10 1/2

Machine Sewed, 22x36, 9 @ 9 1/2

Machine Sewed, 22x40, 9 @ 9 1/2

Flour Sacks, halves, 9 @ 10 1/2

Quarters, 5 1/2 @ 6

Eighths, 3 1/2 @ 4

Hessian, 60 inch, @ 12 1/2

RETAIL GROCERIES, ETC.

WEDNESDAY M., Nov. 10, 1880.

Butter, California

Choice, B., 25 @ 45

Cheese, 18 @ 25

Eastern, 25 @ 30

Lard, Cal., 18 @ 20

do, Eastern, 20 @ 25

Flour, ex fam, bb 8 00 @ 9 00

Corn Meal, B., 24 @ 34

Sugar, wh. crsd, 12 @ 13 1/2

Light Brown, 8 @ 9

Coffee, Green, 23 @ 35

Tea, Fine Black, 50 @ 1 00

Finest Japan, 55 @ 1 00

Candles, Adm'te., 15 @ 25

Soap Cal., 7 @ 10

Rice, 8 @ 12

Yeast Pwdr, doz., 1 50 @ 2 00

Cand Oysters, doz, 10 @ 30

Syrup, 8 F Gold'n, 75 @ 100

Tinned Apples, B., 10 @ 15

Commission Merchants.**HOPS!**

NEW CROP FOR SALE BY

MOODY & FARISH,
WOOL & COMMISSION MERCHANTS,
 210 Davis Street, San Francisco.
 CASH ADVANCES Made on CONSIGNMENTS

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed, Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.



Liberal advances on consignments.
 Wool Sacks, Twine, Shears, and Ranch Supplies furnished

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SHOEBERT & BEALE,

Commission Merchants,

FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.

ADVANCES MADE ON WOOL AND LIVE STOCK

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

PAGE, MOORE & CO.,**WOOL and GRAIN**

Commission Merchants.

NOS. 211 AND 213 CLAY STREET,

San Francisco.

L. G. SRESOVICH & CO.,

Importers, Wholesale Dealers and Commission Merchants in

Foreign and Domestic Fruits.

All kinds of Green and Dried Fruits, Walnuts, Brazil Nuts, Pecan Nuts, Filberts, Peanuts, Almonds, Dates, Etc.

505 & 507 Sansome St. (Nanette Building), S. F.

Canning Factory and Packing House of all kinds of Green and Dried Fruits.

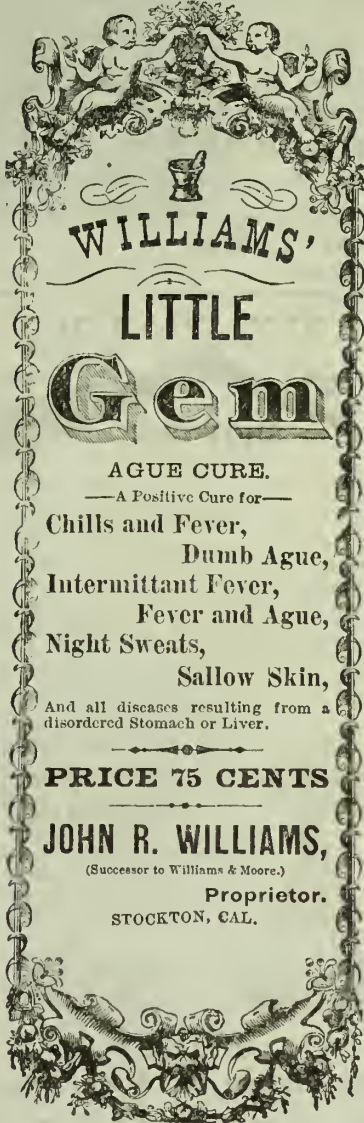
Third and Fourth Sts., bet. Julian & Empire, San Jose, Cal.

Branch House in Honolulu, H. I.

EUGENE AVY,**SHEEP and WOOL Commission Merchant,**

320 Sansome Street, San Francisco.

Advances made on Consignments.

**Land Purchasers Association.**—Location of place of business, San Francisco, California.

Notice is hereby given that at a meeting of the Directors, held on the Ninth (9) day of November, 1880, an assessment of Five Dollars (\$5.00) per share (being a part of the 44th installment on the subscription to the stock), was levied upon the capital stock of this Association, payable immediately to the Secretary, at 313 Montgomery Street, San Francisco, California.

Any stock upon which this assessment shall remain unpaid, on Friday, the Tenth (10) day of December, 1880, will be delinquent and advertised for sale at public auction, and unless payment is made before, will be sold on MONDAY, the Tenth (10) day of January, 1881, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

N. B.—This assessment is to pay the taxes on the property of the Association for the current year.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent or Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.

OWNERS of small fruit farms have been examining driers lately. The Plummer machine costs \$200, but something cheaper, not over \$50, is wanted. A cook-stove attachment is suggested.—Bulletin, July 26, 1880.

ZIMMERMAN

Improved Galvanized Iron, Portable Combined FRUIT DRIER and BAKER

Answers the above requirements exactly and satisfactorily. It is a perfect Drier, and as a Baker has no superior. It is simple in construction. A child 12 years old can run it as successfully as an adult. It is Fire-proof. It is economical, requiring but little fuel. It has the approval and hearty endorsement of nearly all the leading fruit and agricultural journals of the country, and the good-will of all who have used or seen it operate.

PRICES—\$47.50, \$63, \$130.

AWARDED A SILVER MEDAL

BY THE MECHANICS' INSTITUTE, San Francisco, Sept. 1880.

Over 12,000 Now in Use!!!

Send for Illustrated Catalogue with Testimonials to

LINFORTH, RICE & CO.,

General Agents for Pacific Coast,

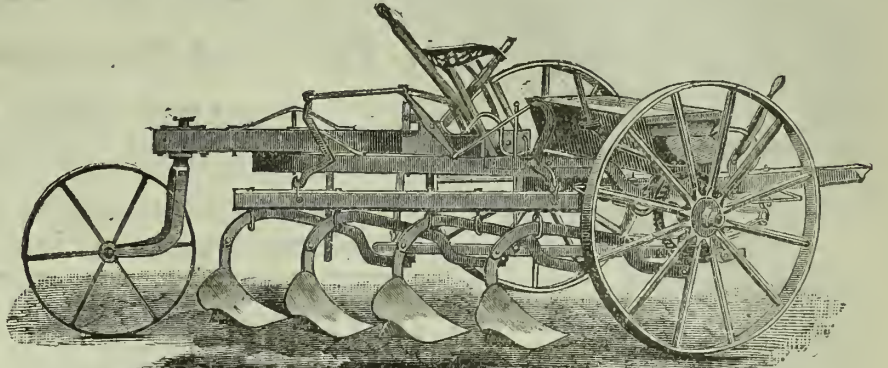
Nos. 323 and 325 Market St., San Francisco, Cal.

LOCAL AGENTS WANTED.

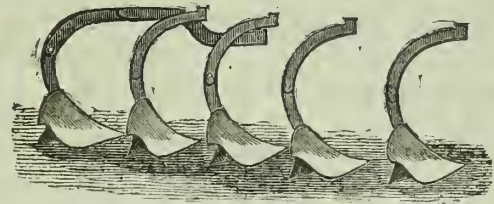
SHERRILL

GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

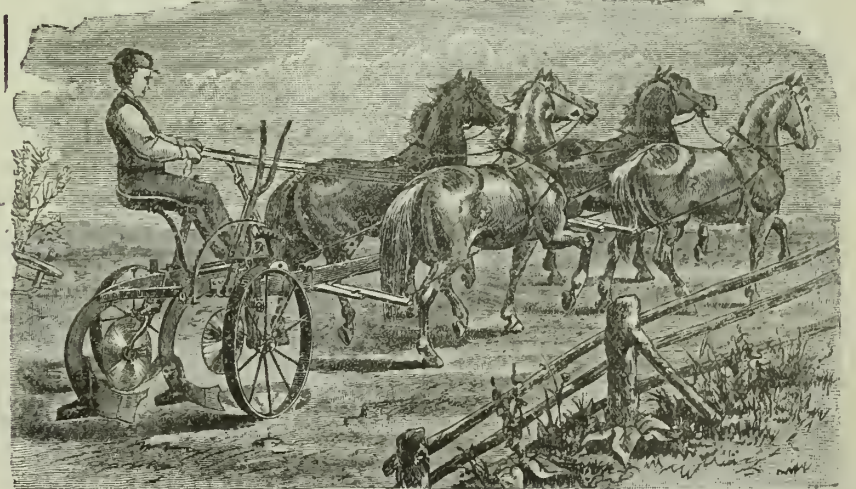
The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco.

THE GARDEN CITY**Gang and Sulky Plows.**

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW,

FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.

SEND FOR CIRCULARS AND PRICE LIST.

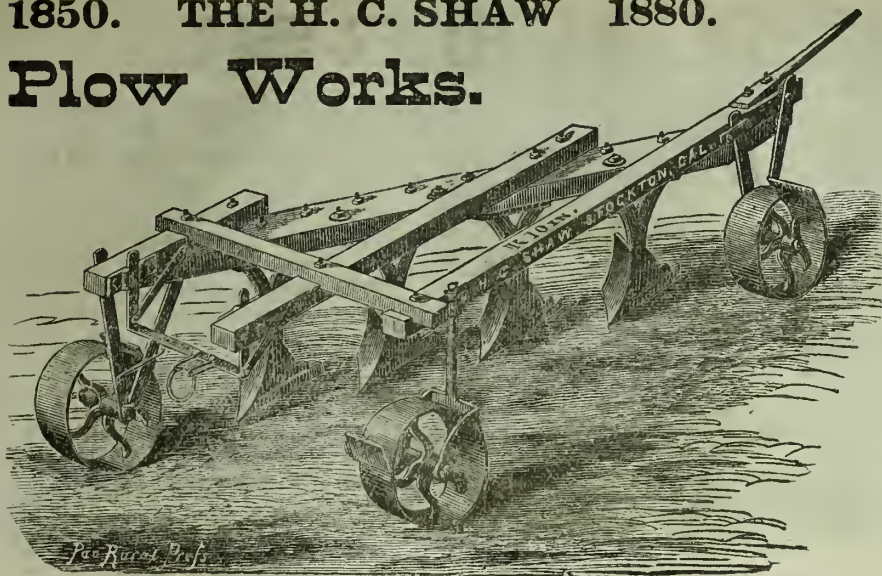
GEO. A. DAVIS, SOLE AGENT,

No 327 Market Street, - - San Francisco.

L. O. HUDSON, Stockton, Cal.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

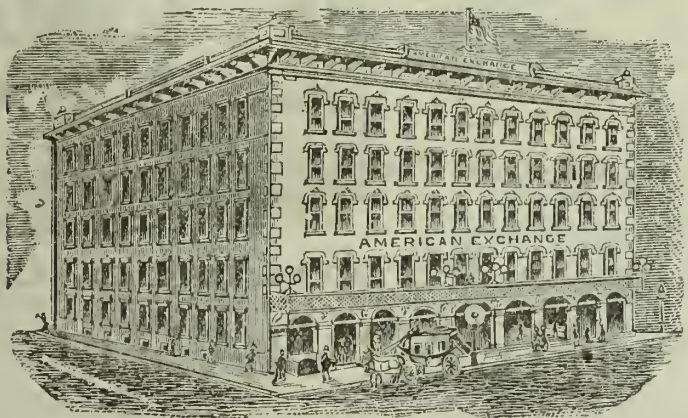
Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout is in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

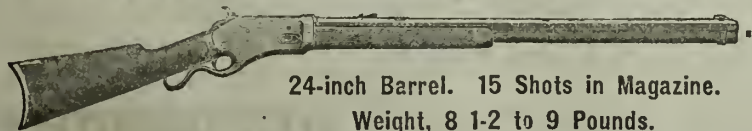
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apology, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

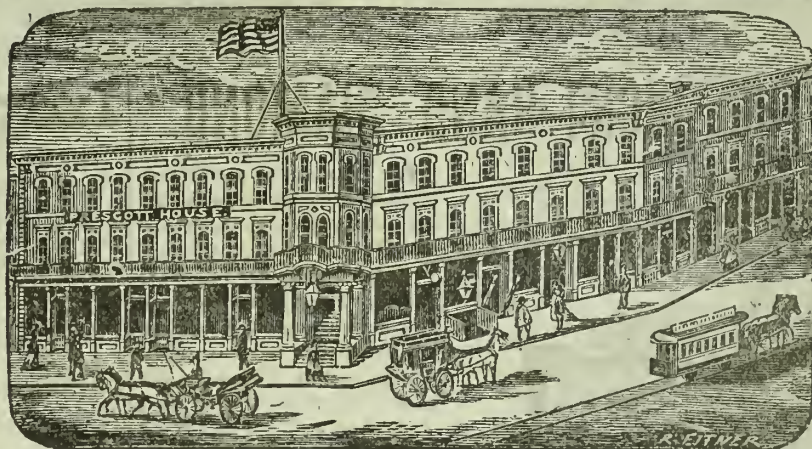
ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street, San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds. Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

In consequence of Spurious Imitations of
LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Croxson and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

50 All Gold, Chromo and Lithograph Cards, (No 2 a like,) Name on, 10c. Clinton Bros., Clintonville, Con. Dewey & Co. { 202 } Patent Ag'ts { Sansome St }

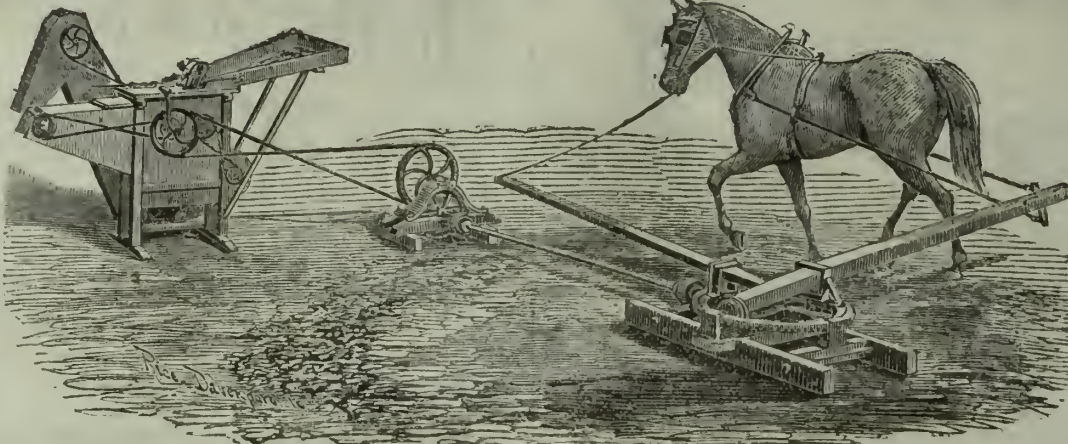
CORN SHELLERS!

This Sheller Combines Several Attractive Features, viz.:

IT IS EITHER A HAND OR A POWER MACHINE.

The **SHAFTS,**
BOXES
and **FRAME**

Are Heavier and Stronger than in a Sheller Made for Hand Use Only.



NO. 37.—FARMERS' CORN SHELLER WITH POWER.

As will be seen by the engraving, the machine is a

TWO-HOLE HAND-FEEDING SHELLER.

It shells in the most thorough manner, whether the corn is sound or soft, taking all the corn clean to the tip of the cob, and leaving the cob unbroken and in good shape to make valuable fuel. The cob and shelled corn are separated by means of the revolving wire cob-rake. The corn is cleaned by a fan attached to the machine. It will shell and thus dispose of 300 to 400 bushels per day.

The Farmers' Sheller, No. 37, capacity 400 bushels per day, weight, 400 pounds, price, \$75.00. Jack, \$30; Power, \$65; Price, complete as above, \$170.00.

THE RIGHT-HAND DIAMOND. Improved Gem Seed Sower.



The **DIAMOND** is a One-Hole Separating Sheller, separating the cob from the corn, and as the passage of the cob cannot be choked, we claim they are the best in the market. It has a strong frame of the best seasoned hardwood, turned shafts, carefully fitted wheels, and is intended, with proper care, to last a life-time.

EXPLANATION.—A right-hand machine is one where the crank is turned with the right-hand, the person operating standing in a position to feed with his left hand.

Prices at the Factory.

No. 14 Diamond, Without Fan, \$15
No. 15 Diamond, With Fan, \$18

No. 102 Favorite, with Fan Table and Band Wheel.....\$45.00
Burrall's Corn Sheller, with Wooden Legs.....\$15.00

The Gem Belt has two valves that supply the Distributor with grain—one for each side of the wagon; therefore one may be closed when sowing by a fence, ditch, or land that is not to be sown. The Distributor of the Gem whirled around horizontally, and throws the seed with great force to the right or left, but does not throw it up or down.

The Gem does not throw the seed up into the air, to be blown about by the wind, but throws it sharply to the right or left.

Price of No. 1 Gem, to run with chain and bevel gear, weight, 132 pounds.....\$30.00
Price of No. 2 Gem, to run with belt gear, weight 154 lbs, \$35.00
Price of No. 3 Gem, to run with all gears, weight 165 lbs, \$40.00
No. 3 only made to order.

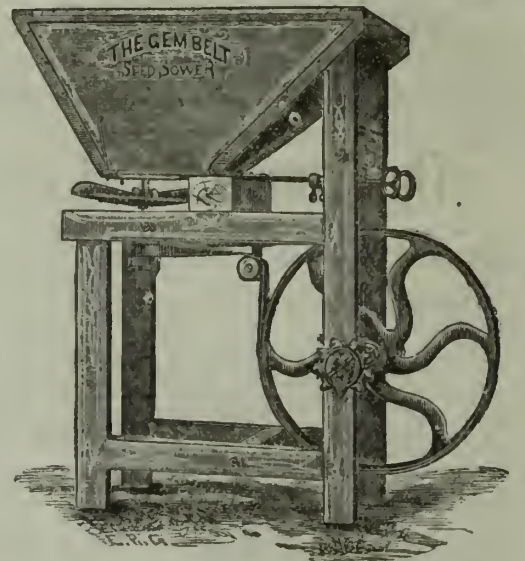
CAHOON SEED SOWER, \$15 Cash
At Our Factory in San Leandro.

Gale's Chilled Plow Metal.

Metal presents itself as the important feature, being harder than any other plow metal, and so fine in fiber that it will receive a polish almost equal to a mirror. Its fiber does not run parallel with the surface of the casting, as with cast iron and steel, but its direction is through the thickness of the mold-board, thus bringing the friction of the soil on the end of the fiber or grain. This feature avoids all reasonable possibility of imperfections being hidden below the surface.

The Triumph Grain Force Feed Drill will drill from one peck to any quantity per acre.

Gorham Seeders, Triumph Seeders.



BAKER & HAMILTON, San Francisco, Cal.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

Baling Fencing Telegraph Telephone Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order.

H. S. SARGENT,

IMPORTER, BREEDER AND SHIPPER OF

Thoroughbred Stock.

Poland China or Magie Pigs
from Imported Stock.

Thoroughbred Jersey Bull.
Also two **Jersey Bull Calves,**
Strictly thoroughbred, for sale cheap.

Bronze Turkeys for sale, bred from Imported stock.

Address,
H. S. SARGENT, Stockton, Cal.
Care Grangers' Union.



AMERICAN

MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

AT AUCTION!

Fine Sheep or Dairy Ranch,
IN MENDOCINO COUNTY.

Known as the "Shearer Ranch," consisting of 2,040 acres (U. S. Patent) of the finest grazing land in Mendocino county, 6 miles from Ukiah, and 18 miles by wagon road to shipping point. The place is thoroughly watered, having 40 springs and two streams running its entire length. There is not a hill ranch on the coast that offers a finer variety or greater quantity of feed. It will keep 3,000 head of sheep, or will dairy 200 head of cows, is in a warm belt, and the absence of bugs and prickers makes the price of wool 25% higher than that from the southern counties. Has a good dwelling, a barn, outbuildings, corrals and 10 miles good fencing. The above place, if not sold at private sale, will be offered at PUBLIC AUCTION at UKIAH CITY, Mendocino county, on SATURDAY, NOVEMBER 27TH, at 2 o'clock, P. M. For price, terms or other particulars apply to D. L. FARNSWORTH, 100 California street, S. F., or N. W. SCUDDER, Petaluma, Cal.

OIL PORTRAITS.

— The Best —

At Lussier & Hill's New Studio,
No. 6 Eddy Street, rooms 90 and 100,
Opposite Baldwin Hotel.

Portraits in Oil at all prices from \$15 to \$1,000, to suit the customer. Satisfaction guaranteed in all cases.

P. S.—Special attention is called to our Portraits from Photographs of deceased persons.

Come in and see our work, everybody.
San Francisco, Cal.

PRESSES
HAY & WOOL

EAGLE HAY PRESS, Old Style, - \$200.

EAGLE HAY PRESS, Improved, - \$250.

PRICES' PETALUMA HAY PRESS, \$450

All kinds of PRESSES MADE TO ORDER, to put TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

HOPE FOR THE DEAF

Garmore's Artificial Ear Drums

RESTORE THE HEARING and perform the work of the Natural Drum. Remain in position without aid, and are not observable. All conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address **CARMORE & CO.,** S. W. Corner 5th & Race Sts., Cincinnati, O.

Engraving. Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco at favorable rates.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, NOVEMBER 20, 1880.

Number 21

Southdown Sheep.

The bright outlook which now lies before the flock industry will give new interest to all the ovine breeds. Although the Merinos and their grades are proved to be best adapted for wool growing on a large scale in our western regions, there is still a chance for the other breeds in the numerous small bands, which we believe will soon be kept on most farms. As an adjunct to other kinds of farming, as scavengers to clean up the fields and keep the orchards free from the fallen fruit, and thus reduce the increase of insects, the quiet English breeds will no doubt obtain a place in our agricultural economy.

We give on this page a very good engraving of a Southdown ram, and in connection therewith, we introduce some notes on this old and famous breed, by Hon. J. R. Dodge, who attended the Vienna world's fair to investigate the sheep interest for the Department of Agriculture. The original Sussex or Southdowns have probably the purest blood, free from admixture during the long period which covers the rise and development of the British wool-manufacture and the increase of meat production, of any race of British sheep. Their improvement has been long continued and is still continuing, apparently without the necessity of recurrence to any foreign blood for amelioration of a single objectionable point. While they have been greatly improved, progress has invariably been in the direction indicated in the distant past, and not by radical and violent changes. It has been carried on, there is little reason to doubt, solely by selection, there being little, if any, positive evidence that the Leicester or other blood has aided in the amelioration. In the production of Hampshire and Shropshire and other breeds bearing the Down name, it is well known that other blood has been effectively used; but it should be remembered that these families, or rather breeds, are not really improved Downs, but have come from selected individuals of other hardy primitive breeds, molded into a modification of the Southdown type by large and repeated infusion of that blood, with occasional dashes of Leicester to give greater size and aptitude for fattening. The changes effected in the true South (or Sussex) Downs have been mainly these: Speckled faces have been changed to a uniform tint of brown or fawn color, sometimes almost a gray; the forehead and cheeks have been partially covered with wool; a greater symmetry of form has been obtained; a larger size and greater fattening aptitude. The flock of Lord Walsingham exhibits some deviation from the Sussex type, having somewhat greater length and a decided development of the fore quarter, giving greater weight at the expense of somewhat reduced value to the butcher. They are splendid animals, and have been largely sought by continental purchasers, though disapproved by many breeders of pure Southdowns.

By reason of its purity the Southdown, perhaps, has stamped its peculiarities upon its cross-bred offspring more certainly and strongly than any other of the English breeds; and for this reason, together with its hardiness and the unsurpassed quality of its mutton, it is deemed of greater practical value in its crosses than in its pure bred flocks. But for the fact that quantity and quickness in lamb production are of more pecuniary value than superior quality, it would far surpass the Leicester in its prevalent use for cross-bred early lambs.

It is now about 100 years since Mr. Ellman, of Glynde, Sussex, sought a more symmetrical and profitable form, and a superior flesh and fat producing habit, without injury to constitution or fecundity; and he pursued his object slowly, cautiously, with a judgment, patience, zeal, and intelligent liberality that insured success. The light fore quarters, narrow chests, and long neck and limbs, were totally changed.

LAKE COUNTY APPLES.—Among the best California apples we have ever seen, must be placed a sample grown by E. R. Moses, of Adams Springs, near Glenbrook P. O., Lake county. They included specimens of several of the leading varieties, and for size and flavor combined were quite remarkable.

Hats from the California Fan Palm.

Mrs. N. W. Winton, Secretary of the Santa Barbara Horticultural Society, has sent us some samples of hat-braiding, the material being derived from the leaves of the California fan palm (*Washingtonia filifera*), which grows wild on the Mohave desert, and has been introduced as an ornamental plant in gardens all over the State. The utilization of the leaves of this plant as a fiber for braiding seems to have originated with Mrs. Joseph Sexton, of Goleta, Santa Barbara county, and the specimens of her work sent us by Mrs. Winton are quite handsome, and show the strength and beauty of the material employed. Mrs. Winton has prepared for the *Santa Barbara Press*, an account of the way such fibers are prepared for braiding, instancing the practice of the Panama straw braiders, who use a different kind of plant (*Carludovica palmata*), but which has a leaf similar to that of a palm. The leaves are gathered before they unfold, as in the case of our

ton saw them in South Carolina forests, and was informed that they were cut and sent North for all the work upon them; an example unworthy of our imitation. No country can prosper without a multitude of small interests as well as large. About two leaves per month can be cut from one plant. The California fan palm grows well in nearly all parts of the State, even as far north as the snow line. Those who have the plants may be interested in home experiments in braiding the fibers.

California Meat Products.

We are always glad to note indications that California meat products are making progress both in local consumption and in the export trade. We always look upon anything which tends to increase the growth of farm animals in our State as a salutary influence looking toward diversification of our agriculture, consumption at home of cheap field products and the restoration of fertility because of the bringing of animal wastes to the soil. These, as well as the direct profit of growing animals for a quick and



RAM OF SOUTHDOWN BREED—THE FAMOUS MUTTON SHEEP.

palm, and in preparation the ribs and coarser veins are removed, then the leaf is cut in shreds. It is said that in New England large quantities of this palm are imported and worked up at the homes, with profit, despite the distance the material is hrought; and it is at this point that their mode of stripping comes in for our aid. Their method is to prepare a board, with a row of sharp knives on the edge, and drawing the palm over this strips it into uniform shreds. These strips for the Panama hats are exposed to the sun for a day, and then tied into a knot and immersed in boiling water. This process whitens them, and after drying in the shade they are bleached for several days with sulphur. These preliminary processes are carried on at headquarters, and then distributed to the natives for braiding, which is done on a block of wood held firmly on the lap.

The palm fiber exceeds in durability any known article—will not break, but only wear out in process of time, and Mrs. Winton rightly concludes that they will always be at a premium with mothers, one of the unsolved problems of whose life is, to keep whole hats on a family of irrepressible boys. One of the essential elements of the happiness of a boy's existence will be destroyed if he cannot manage a ventilator or two in his painfully new straw hat. A palm fiber hat is warranted to stand service as hat for a ball; a basket for eggs, fruit and rocks, and any modern convenience desirable for the masculine juvenile.

Mrs. Winton also mentions the manufacture of fans from the leaves of our fan palms. For fans, several of the *Chamærops C. humilis*, *C. palmello*, *C. excelsa*, etc., are used. These are prepared by trimming and bleaching, wiring and binding; and grow freely here. Mrs. Win-

Cotton Growing.

This year's experience with cotton growing in the upper San Joaquin valley will in all probability lead to a wider planting next year. There has been talk about the immediate erection of cotton mills by the capitalists upon whose lands in Kern county there was a satisfactory test crop grown this year, but these rumors are premature and are repudiated by the men who have been credited with the intention to manufacture. It is too soon to build cotton mills in this State, for the product is not yet large enough. It is probable that our woolen mills will need all the cotton that can be grown here for a year or two to incorporate in their "all-wool" fabrics, and so long as the local demand takes the crop, it is not likely that growers will be restless to test the problem of manufacturing. It is, however, quite likely that, if growing proceeds, there will be an introduction of the new style of cheap cotton mill, which, by the use of the Clement attachment wheel, we described some months ago, will work the material into thread directly from the boll.

The great cotton interest of the United States seems to be in quite a prosperous condition and production has increased so that ante-war figures are largely exceeded. It is stated by Eastern authorities that the 15 crops since the war were greater than the 15 crops before the war by 9,500,000 bales, worth fully \$600,000,000. The crop of 1880 promises to be one quarter greater than any crop before the war. This item of progress and prosperity in the South must be gratifying to all lovers of the country. It is to be expected that the volume of the new census which will treat of cotton production will bring to light a vast amount of information which will serve the whole growing industry.

It does not appear that the wealth produced by the cotton plant is at all adequately realized, but that immense wastes occur which, in part at least, may ere long be turned to good account. The cotton growing industry as it might be is shown by Edward Atkinson, of Boston, as follows:

The present power of King Cotton is but the shadow of the substance yet to come. The value of the seed is yet an unknown quantity. It may seem almost the work of a visionary to compute it. If we make 6,000,000 bales of cotton fiber in a year, the weight of cotton-seed that will remain after enough has been set aside for the next year's planting will be 3,000,000 tons. If the whole of this seed be treated as a small portion is now treated, this seed will give the following results: About 90,000,000 gallons of oil, about 1,300,000 tons of oilcake or meal, about 1,500,000 tons of hulls, from which there is every reason to suppose from experiments here, and actual use elsewhere, that 750,000 tons of paper may be made. Otherwise these hulls ground into meal with the oilcake will serve as food for stock—2,800,000 tons in all. Each ton of this ground meal would carry at least five sheep six months, the rest of the year they would have ample food from the annual grasses that are the pest of the cotton planter, or from corn-fodder, cow-peas, or other refuse or alternate crops. The waste of the cotton gin, and of the oil press, with other waste of the cotton farm, will, therefore, suffice for not less than 14,000,000 to 20,000,000 sheep, probably for double that number. Those sheep, folded upon the cotton fields, would so fertilize the soil as to double the crop of cotton on any given acre of uplands—the manure of animals fed on cotton-seed meal being richer than that from any other known variety of food.

Mr. Atkinson suggests that there be held at some future time a grand exhibition of the products of the cotton plant and the machinery employed in their preparation and manufacture. The suggestion is a good one and it would seem fitting to fix upon the New York world's fair of 1883 as the proper occasion. By that time the present cotton experiments of California will have reached some results and if favorable it will be a good opportunity to show our cotton to the world.

OSTRICH RANCHING.—It rather seems as though ostrich ranching was to be tried in this State after all. The *Bakersfield Californian* states that Haggin & Carr seriously contemplate such an enterprise in Kern county, and the *Los Angeles Commercial* announces that a Mr. Whiting, of South Africa, is now in that city endeavoring to enlist capitalists in an ostrich enterprise. Something should come of these rumors of intention.

NEW YORKERS are delighted with the large and luscious California grapes which have been received.

	Hams, lbs.	Bacon, pkgs.	Lard, cs.
1880.....	4,209	744	6,935
1879.....	5,176	1,234	9,542

POULTRY YARD.

Fatal Turkey Disease.

EDITORS PRESS:—A fatal turkey disease has broken out among the turkeys in Tehama county, which is devastating the flocks and bringing ruin on many industrious citizens who depend on their turkeys for a living. Can you, or any of your readers, give us any information as to the nature of the disease, or its treatment, to benefit the birds that are not yet carried off by the scourge? As described to me, the birds are taken lame when first attacked, and seem weak, sleepy and unwilling to leave the roost; later in the disease they sneeze and troop their heads, and stagger aimlessly around, and in a day or two die. I have recommended cayenne pepper with chopped cooked flesh, such as pluck, liver or rabbits, and hope it will prove beneficial. Thinking your experience would be more extensive than mine, I thought to address you on the subject in the interest of our unfortunate turkey owners. An early reply will be appreciated.—FELIX, Red Bluff, Tehama Co., Cal.

EDITORS PRESS:—If I could see the turkeys I could tell the disease, and cause, and remedy; but it is difficult to diagnosis from this meager description. I judge it to be a disease I call *enteritis*, a diseased state of the liver. If the droppings are yellowish or green, and thin or watery, it is *enteritis*. The cause and cure are given in my pamphlet and have already been published in the PRESS. In the advanced stage of the disease the birds act as described by Felix. The first symptoms are diarrhoea; the fowl mopes and stands with its head drawn in, with a sleepy look; often the face is pinched and thin; the bird grows thinner and weak; the droppings become green, and at other times like yellow paint. The bird, in its weak state, is liable to colds, and often has running at the nose, and sneezes. Later on it staggers from weakness and mopes until it dies. It is difficult to cure turkeys after the disease has been allowed to run along for any length of time. If the directions in my pamphlet are followed, especially when the turkeys are "shooting the red," they will not suffer from this disease.

To cure it give the bird an ounce of strong alum water (1 lb. alum melted in 1 gallon hot water, and allow it to cool) twice a day. Give stimulating food and keep in a warm, dry place. When the disease first makes its appearance, and this can be ascertained by the color and consistency of the droppings, mix alum water with the soft food fed to them. To prevent the disease keep constantly on hand "Douglas mixture," which is simply sulphate of iron and acid and water: Take 1 lb of sulphate of iron (green copperas or green vitriol, to be had in any country store at 12 or 15 cents per pound) and 4 oz. of sulphuric acid, and dissolve in 4 gallons water. Each morning add to the soft food, say, 1 pint to food for 50 turkeys. Twice a week boil up "pluck," or meat, and add 1/2 lb. alum; mix the liquor with bran and shorts. Half pound alum is enough for the food mixed for 100 turkeys.

The disease results from too much sameness of food, an excess of fat-producing food, deranging the liver, fermented or unwholesome grain, and stagnant water especially, and from any neglect which deteriorates the system and produces an abnormal condition of the liver. Seek the cause, alter the food, feed different food each day, disinfect the houses and roosting places, change the location, and use alum. It is difficult to cure the disease when it has so spread. If proper care were taken it could be easily prevented; it is hard work after the whole flock is so diseased to cure it. It should have been looked to in its first stages, or, better still, prevented. If your correspondent will read my pamphlet carefully, and follow the directions exactly, the disease will not appear, or if it does it can be easily cured in its incipency.

M. EYRE.

Napa, Cal.

Geese.

Geese are kept at a good profit where the locality is well adapted to raising them. When kept on some waste lands which are of little use for any other purpose geese are often very profitable. They require but little water, being better vegetarians than ducks; in fact, they will graze like sheep. Their legs are set farther forward than those of the ducks, which enables them to walk easily. They will often walk a long way daily to beat all over their pastures. On commons, or such waste ground, where many cottagers turn out a number of flocks, it is a pretty sight to see each flock trailing in Indian file at nightfall to its respective home. By giving them a light feed of grain or corn at night, they will be very punctual in this habit.

There are several varieties of domestic geese, besides the common. The principal sorts are the Emden, Toulouse, and China geese, all of which are large varieties.

The Emden, so called from the town of that name, now in the province of Hanover, are pure white and of immense size. Some geese have been exhibited weighing up to 26 lbs. each, and ganders as high as 32 lbs. The feathers being white are more valuable than dark ones. The bills are flesh colored, the legs deep orange.

The Toulouse, so named from the city of the same name in southern France, are gray, the necks are dark, the bodies and breasts are lighter, the legs of a deep orange, the bills dark-red, light toward the points. These noble geese stand squarely on their legs; their large, deep breasts give them a very solid appearance. The legs and necks are a little shorter than those of other breeds, and they show a sort of dewlap, or loose flesh, under the upper part of the neck. They are the embodiment of the true goose shape and build, and with that pecu-

liar gray color, they are the truest representatives of the goose. Some are occasionally bred a light silver gray.

The China geese show two varieties—white and gray. These are also large geese with a thick, almost black knob at the upper part of the base of the bill. Their necks are long, which gives them a swan-like appearance. They show a stripe down the back of the neck. In the gray-colored this stripe is brown; in the white the streak is faint; but all pure-breeds show this stripe and also a dewlap. This goose is a native of the southern and eastern parts of Asia. All geese have a strong, brassy-light call, but this one gives out a strong, harsh note like a deep trumpet blast. It is more prolific than other geese; while others lay about 15 eggs, this bird lays about 30, but the eggs are not so large as those of the two former breeds.

There are several other sorts of geese, but they are kept more for curiosity than profit. Geese are less troublesome than poultry or ducks. They are good mothers to the goslings but are not good hatchers. Two to four geese are enough for one gander; the latter shows a preference for one female more than for the others. The eggs may be set under hens—three or four are enough for a moderate-sized hen. When a goose appears tractable (some are very ugly when inclined to sit), it is well to let her hatch one brood, and when those hatched under hens are big enough, they will all go together.

Thirty days is the time required to turn out a gosling from the egg. They are hardy and easily raised when young. They should be fed just like young ducks. Oats, corn, or wheat meal with potatoes, chopped green onions, cives and salad are good for them; but they soon learn to graze. It is best to coop up the mother goose or hen for a week or two till the little ones get strong enough to follow her well, or they get tired out and left behind. I have seen an old goose turn back and try to rouse up a flagging gosling, showing astonishing solicitude. Goslings grow quickly, and when well fed take on flesh rapidly. They are more easily kept than ducks on a farm in winter; they will eat more vegetable food, such as turnips and other refuse vegetables chopped up for them. It is said they will eat hay, tied up in bundles in their house in winter, but it must be kept off the floor.

Geese are a great protection from thieves or intruders; they will raise an alarm when they hear a strange footstep or noises. In parts of southern Asiatic Russia, where the people dwell far apart, they keep geese as a protection in the lower part of the house when they retire upstairs for the night. Many people think geese simple things, but the reverse is the fact—they are very cuts and observing, knowing friends from foes, and have a very discerning ear for sounds.

Many people used to pluck the feathers off the breasts of these birds three or four times a year; this is a barbarous practice too cruel to be countenanced. Just before the time of moulting it may be done with profit, and not much loss to the bird, as the feathers at such times come off very readily naturally, and it does not make the bird any weaker, but to compel nature to make new feathers out of season, is a hardship to the suffering bird. The quills are still in demand for pens, although the demand for them for this purpose is nothing like what it was before we had steel pens.

The goose does not bear out the theory advanced by some naturalists that an animal lives to a short or longer life in proportion to the time it takes to mature. Geese mature early yet live to a great age; many are known to have lived 30 or 40 years, and some say they can live to double that age, but as they become ill-tempered as they get old, many are killed on that account. A blow from an old goose's wing is no joke. They do not lay until they are over a year old, but as they are so easily kept on ground adapted for them, they are profitable in such cases, especially if there is some natural water, as they must always have access to water, even if it be but a small pond.—*Rural New Yorker*.

Dressing Poultry.

C. B. in the *Country Gentleman* gives the following timely suggestion: For summer feeding, use light grain, such as buckwheat, wheat screenings or barley. For autumn and for fattening feed give corn alone, and yellow corn, too, as that gives a rich color to the skin when dressed. When fully feathered, the body has attained its full growth for the year, and is easily and quickly fattened. The period varies somewhat with the breed, some maturing earlier than others. When preparing for slaughter, feed bountifully the day before, that the body may become full, and do not give anything on the day of slaughter, thus leaving the crops empty. In killing, the bird should be hung by the heels from a pole, where it cannot beat and bruise itself. Then open the vein in the throat, and the fowl will quickly and easily bleed to death.

There is quite a knack in dressing a fowl so that it may look plump and inviting. The performance should be got through with quickly, before the animal heat escapes. The legs should be picked dry, and the outer portion of the body scalded. Care should be taken that the water is not too hot; if so, the skin will be cooked, and will come off with the feathers. Handle with care, that the skin is not marred. The stripping of the first feathers is the most difficult task, and the one most essential, for in do-

ing this, when steaming from the scald, the skin is liable to be broken. A skillful hand will dress a turkey so that there will be no pinfeathers left. All the feathers should be removed, after which the fowl should be dipped in the scalding water again, and afterward plunged into a tub of clear cold water and hung up by the heels in a cool place. Do not allow poultry to freeze before packing. It gives it a blus, pinched look, and it will not keep, as after thawing it soon spoils. Never draw the entrails from the body of a fowl intended for market. Pack in clean oat or rye straw in clean boxes or barrels, and make the packages solid and firm. The poultry will look nicer if the heads are cut off, and the skin is drawn down over the protruding bone and tied neatly, and the blood wiped therefrom.

LANGSHANS IN NEW ZEALAND.—A writer in the *Auckland News* says: The birds come early to maturity, are very tame and social in their habits, not addicted to flying over fences, as other fowls are, easily fed, and excellent layers. After weighing a number of eggs I found that on an average eight turns the scale at a pound. The birds generally lay three days running, miss one day, and so on. Some young pullets, about eight months of age, which have been laying for some time, weighed six lbs. and fourteen ounces. Altogether I consider the Langshans the best variety of fowls yet introduced into the colony.

POULTRY YARD POLICE.—A flock of a dozen Guinea hens affords, a poultry keeper finds, better protection for his fowls against hawks and human thieves than any watchdog, "giving instant warning of the approach of a stranger."

THE VINEYARD.

Tuolumne County Grapes.

EDITORS PRESS:—One year ago I promised you a sample of our mountain grapes. Circumstances then prevented me from fulfilling my promise. I now send you a box from the garden of Hugh Quinn, near Chinese Camp. Mr. Quinn is one of our successful orchardists, having the necessary qualifications to ensure success, viz: Vim and good management. No weeds grow under his wagon tires. He is now driving to and from Bodis, taking advantage of the present good weather, while other less persevering horticulturists are laid up for the winter.

You will find two varieties of grapes in the box—the white Muscat and black Hamburg—if I mistake not. We claim that a finer variety of grapes is grown amongst the foothills, where the climate is warm and mild, the atmosphere dry and pure, all of which are requisites to a berry free from mold or rust, or any of the blighting influences which a damp or foggy climate may produce. In time this fact will become more and more apparent, as each district becomes settled as to its characteristics.

Chinese Camp.

JOHN TAYLOR.

[The box of grapes was duly received and much enjoyed. The fruit has especial characteristics. In size, it is good, but it is praiseworthy, because of its rich flavor and sweetness. We are glad to know that such grapes can be produced in the foothills.—EDS. PRESS.]

The European Phylloxera Congress.

As many of our readers are aware there is an organization in Europe composed of leading entomologists and others, entitled the "Phylloxera Congress." This body has had meetings at different points in the infested districts, and has promulgated several manifestos against the pest. The last meeting was held in Saragossa, Spain, and a report thereof has been furnished to the *New York Herald*. It does not appear that any sovereign cure for the evil has yet been brought to light, excepting such indirect escapes from destruction which have been before proposed. However, there were several points of interest brought forward, which are contained in the following paragraphs: On the third day of this congress, M. Planchon, the French savant and traveler of repute, opened a vigorous campaign in favor of the American vines that he had studied and examined in the States. He laid down as an axiom that no American vines are proof against the phylloxera, but that they have such powers of resistance to its effects that they can be and ought to be seriously recommended to wine growers all over the world. According to Planchon these powers of resistance, greater in some classes of American vines than others, arise from their anatomical and physiological conditions. Directly after M. Planchon, the learned professor of the School of Agriculture in Montpellier, took up the same subject and demonstrated that from his own practical experiments at Montpellier, and from experiments on a large scale in the southern departments of France, it was a proven fact in the eyes of scientific men and in the annual vintage of wine growers, that American plants produce as many barrels of wine per acre as the French vines, and if grafted with the *vitis vinifera* they produce capital result. The last assertion of Prof. Saint-Pierre was

ably supported by the great savant, M. Foex, who reviewed all the varied species of American vines that have been successfully introduced in Europe, and refuted the theory of some authors who pretend that American vines, owing to their robust and rather spreading exuberance of roots, require a rich soil and deep bed of resisting strata. Prof. Foex proved by examples from the vineyards of Languedoc and Aquitaine, from instances in the valleys of the Rhone and Garonne, where the soils are so varied and different in point of resistance and depth, that the species *Solonis*, *Vialla Riparia*, *Agresta* and *Taylor* have all been used for grafting purposes with the old French plants, or for new plantations, and success in point of production, as well as in powers of resistance to phylloxera invasions, has been clearly attested even by unscientific observers. Next to the French Professor the American vines found a very decided champion in Baron de Prato, the Austrian delegate, who declared that in his travels in France, Germany and Italy he had more than once noticed the contrast between American plants, still vigorous, covered with green foliage and fruit, though they were attacked with phylloxera in their roots or trunk, and lo! a few yards off the native plants, French or Italian, were shriveled, leafless and utterly useless for producing wine or fruit.

This question of remedies and palliatives was discussed at length in the congress, and most of the French and foreign savants seemed to patronize the liberal application of bisulphides of carbon to destroy the insect, and of sulpho-carbonate of potash, which tends to strengthen this plant itself. Senors Miret and Munoz Castillo gave interesting data on the researches made at the expense of the government and of the provincial councils to find some insecticide substance, and the almost general failure of these panaceas until water, fire, and finally the pulling up of the infected plants were resorted to, as the same means had been attempted in France and Italy. In one French department—Le Gard—out of 94,000 hectares of 376,000 acres of vineyards, more than five-sevenths were uprooted. After long debates, in which natives and foreigners came to the conclusion that the best preventive precautions were in vigilant examination of the vines, in good manures and careful tilling of the soil, in severe measures against the infested districts or countries and their exports, the congress closed, after adopting the following resolutions:

First—To defend the vineyards at any cost whenever it may be possible to do so, and to prevent the invasion and propagation of the insect at any cost.

Second—The extinction of all focuses of phylloxera by insecticide substances and other modes of relief that must be employed in the cases that science and experience may recommend.

Third—When the varied means of extinction are inefficient, wine growers must have recourse to the American vine.

Fourth—In future plantations of resisting American plants must be organized in every province and wine-growing center, and the plants so introduced must be distributed among the cultivators of the vine to allow them to study their conditions of adaptations.

Fifth—In the districts that are completely infested, the authorities ought to allow the immediate and direct introduction of American shoots for grafting purposes, but without trunk or roots, and such shoots, if they are of the year's growth, must be brought into the country with all the precautions that the administration and science may deem necessary, and subject to all the prescriptions that laws and regulations may determine.

Sixth—The congress must respectfully inform the government that it deems a reform of the actual legislation on the phylloxera necessary and most urgent.

These resolutions have struck every one as proving that the congress had not achieved much in its 11 sittings beyond recommending the introduction of the American vines, now adopted all over Europe.

THE APIARY.

Foul Brood.

Our southern counties are now considering an appeal to the Legislature of 1881, for some legal enactments to stamp out the grievous disease known as foul brood. In order to show what other beekeepers have done in this direction, and thus present the way in a definite shape for improvement, we give a copy of an act passed during the last session of the Legislative Assembly of Utah:

"Be it enacted by the Governor and Legislative Assembly of this Territory of Utah, That it shall be the duty of the County Clerk of each county to appoint from among the beekeepers of the county one or more suitable persons as inspectors of bees.

"Sec. 2. Those inspectors shall be appointed biennially—viz., on the first Monday in March of each alternate year, or at the first regular sitting of the court thereafter, and shall perform the duties of bee inspectors for two years, and until their successors are appointed and qualified. Said inspectors shall qualify by taking and subscribing to an official oath, and giving bonds with sureties to be approved by their respective county courts; said bonds to be filed with the clerks of said courts.

"Sec. 3. In determining the fitness of a person to fill the position of inspector, the court may be guided by the wishes of the majority of the beekeepers owning or keeping bees in their respective counties, and it shall be deemed lawful for any inspector, if he so desires, to invite one or more persons to assist him in prosecuting his inspection, provided that no charge is made for this voluntary service.

"Sec. 4. On the complaint of any person to the effect that, in his opinion, the disease known

as foul brood exists among the bees of any person or persons, whether owners or custodians, it shall be the duty of the inspector residing nearest to where the foul brood is suspected to exist, to immediately inspect the bees believed to be infected, and if said inspector finds that foul brood does exist, he shall there and then instruct said beekeeper wholly to destroy said bees and hives in which it is found, by immediately burning or burying them.

"Sec. 5. If a beekeeper, by his own inspection, or through any source other than through a duly appointed inspector, discovers foul brood in his apiary, it shall be his duty wholly to destroy the hives affected, as provided for in section four (4) of this act; failing to do which, he will be held liable to the penalties hereinafter imposed.

"Sec. 6. If the beekeeper, in whose colony the foul brood is discovered, either by himself or an inspector, does not immediately wholly destroy the said diseased bees and hives, in the manner above provided, on the complaint of an inspector or other competent person before the nearest Justice of the Peace of the precinct in which the said beekeeper keeps his bees, and on sufficient and lawful proof he shall be held liable to a fine not less than \$5, and not to exceed \$25, for the first offence, and for each additional offence he shall be liable to a fine not to exceed \$50.

"Sec. 7. To provide for the prosecution of the duties of bee inspectors under this act, the county courts are hereby authorized to appropriate such sums as may be necessary for these purposes out of the revenues of the several counties."

The Salicylic Acid Treatment.

I. Hopkins, an Australian beekeeper, gives the following points in the use of salicylic acid, a substance which has already been tried in this State. He writes to a colonial paper, as follows: If we can find a substance that will prove fatal to the fungi, and yet not injure the bees, the problem is solved. Our German scientists—those masters in scientific research and discovery—have found this valuable fungicide in salicylic acid, an extract from the same willow that gives us pollen and nectar. This cheap white powder is easily soluble in alcohol, and when mixed with borax in water. Mr. Hilbert, one of the most thoughtful of German beekeepers, was the first to effect a radical cure of foul brood in his apiary by the use of this substance. He dissolved 50 grains of the acid in 500 grains of pure spirits. One drop of this in a grain of distilled water is the mixture he applied. Mr. C. F. Muth, from whom the above facts as to Herr Hilbert's practice are gathered, suggests a variation in the mixture. Mr. Muth suggests an improvement, and takes advantage of the fact that the acid, which alone is very insoluble in water, is, when mixed with borax, soluble. His recipe is as follows: 128 grains of salicylic acid, 128 grains of borax, and 16 ozs. distilled water. There is no reason why water without distillation should not do as well. This remedy is applied as follows: First uncup all the brood; then throw the fluid over the comb in a fine spray. This will not injure the bees, but will prove fatal to the fungi. If the bees are removed to an empty hive and given no comb for three or four days, till they have digested all the honey in their stomachs, and then prevented visiting the affected hive, they are said to be out of danger. It would seem the spores are in the honey, and by taking that the contagion is administered to the young bees. The honey may be purified from these noxious germs by subjecting it to the boiling temperature, which is generally, if not always, fatal to the spores of fungoid life. By immersing the combs in a salicylic acid solution, or sprinkling them with the same, they would be rendered sterile, and could be used without much fear of spreading contagion. The disease is probably spread by robber bees visiting affected hives, and carrying with them in the honey the fatal germs.

SHEEP AND WOOL.

The Wool Trade.

Walter Brown & Co., of Boston, in their monthly wool circular, dated Nov. 1st, remark as follows: A better feeling has been established in the wool market, which has grown stronger as the month advanced, and we can to-day report a rise of 2 and 3 cents per lb. on most classes of fine wool, from the lowest point of a month ago. This improvement is not confined to the raw material, but has extended to the goods trade, which is of even more importance, as an active demand for their production, stimulates manufacturers to a speculative inquiry for wool, thus relieving the market of the burden of large stocks, and giving a healthy tone to the course of business. The movement is noticeable in the fine washed fleeces of Ohio and Michigan, particularly the latter, which during the season have been selling relatively lower than wools from the former State. Michigan fine clothing fleeces which sold as low as 38 cents, with Ohio of same grade at 44 cents, are now quoted strong at 42 cents. The relative difference in value should not exceed 3 cents per lb. in average years, and this season ought not to show any exception. That it has done so, is owing to the fact that the growers in Michigan sold their wools freely when the season opened, at the prices then current throughout the country; while in Ohio, the farm-

ers as a class, were not willing to meet the views of buyers, and a large proportion of them have their clips still on hand, held even above the figures at present obtainable in the seaboard markets. This course has made the offerings of Ohio fleeces comparatively small, and they have consequently ruled proportionately higher than other wools on the list.

There has been more inquiry for medium wools during the past few days with stronger prices, although we cannot report so much improvement for the better qualities. This demand is, however, only for good $\frac{3}{4}$ to $\frac{1}{2}$ blood wools and does not extend to the coarse qualities, which continue to be neglected for clothing purposes.

We should like to make a few remarks for the benefit of the wool growers in Kansas. We know it to be the custom among some of them where they corral their sheep, to plow and harrow the ground every few days, for some time previous to shearing, reducing the dry soil to a fine dust, which penetrates the wool and greatly increases the weight of the shorn fleece. This pernicious habit does not, and cannot increase the weight of the shorn wool per head, and while such growers may be successful one year or possibly more, in finding a buyer not sufficiently experienced to appreciate the condition of their wools, this course is sure to act to their disadvantage in the end, and is now the cause of the undesirable reputation attached to the wools from Kansas. We would urge all those growers who have the ambition to gain a good name for their clips, to discountenance this habit in every way and to use their influence in favor of its discontinuance.

Regarding the future, with the prospect of no change in the controlling powers at Washington, it would seem that we can look for a continuance of the prosperity that has been enjoyed since the resumption of specie payments was established, and that a period of healthy business, upon a sound basis, will be the order of the next few months. It will not, however, be safe to count upon a "boom" such as prevailed last winter; two or three cents farther advance will open our markets to competing wools from foreign countries, and unless a demand from the American trade should advance values abroad, we cannot expect the rise to extend many cents above the present basis.

THE STOCK YARD.

A New Stock Farm in Tehama County.

EDITORS PRESS:—A visit to the farm of Gen. N. P. Chipman was enjoyed by the writer a few days ago. The entrance to his lands is almost within the limits of the city of Red Bluff, and is guarded by one of those ingenious contrivances known as Strong's patent gate, the working of which need only to be experienced to be thoroughly appreciated. In the first field we found a small band of milch cows and some yearlings browsing on the dry but nutritious grass. Among the herd were noticeable three blooded animals which deserve special mention, as they are the first of the breed that we have met with in the county. They were Jerseys; and consisted of one yearling bull and two heifers, one a yearling the other a two-year-old. The two heifers were purchased in Oakland. "Alexis," the bull, was purchased at Sacramento, while on exhibition at the State fair, from Major Beck, the well-known cattle breeder. The youngster is a dark brown, almost black on the back, but light fawn-color underneath; his legs, which are short, are slim and delicately formed; all his points, as to color, are good, and he would no doubt have been a prize taker had he been properly classified at the fair. The heifers are both fawn-color, almost yellow on the back, but real fawn-color underneath; their eyes are large and mild-looking, a characteristic of the Jersey cattle. The three are a nucleus of a herd the General intends to be possessed of as soon as he gets his farm in shape to enter actively into the raising of pure breeds of cattle, stock and sheep. He believes the same amount of feed which a scrub requires to live on will suffice for an animal of pure breed.

The farm consists of 800 acres of a mixed grade of red land and white clay soil, it is cut up by water courses and is in some places of a rich loam, and will yield splendid crops of cereals. He has 100 acres well covered with young live oak, scrub oak and manzanita. This timber land he will thin out and use as a pasture for his fine sheep and blooded cattle. There are some 200 acres of summer-fallow now being seeded, and it is the General's intention to winter plow a portion of the ranch as soon as the rains set in. Portions of this farm used to belong to Barney Simmons, and yielded splendid crops of hay. No doubt but that fine fruit can be raised on the place. There is no orchard on it yet, but the present owner intends planting one at once. From a fig tree on the Barney Simmons place the writer picked the sweetest and best flavored figs he ever tasted in this county.

The General has substantial and slightly barns and outhouses on the farm, as well as a comfortable and elegantly furnished dwelling, replete with all modern improvements known to art and science. The house is beautifully situated on a plateau, surrounded with nature's own shade trees, oak, manzanita and other wild shrubbery. The dwelling commands some of

the grandest landscape scenery to be found in California. A bird's-eye view of the city of Red Bluff, with the Antelope valley and the level stretch of rich farming land of the Sacramento valley, can be had from the south. The east is one grand panoramic view of mountains, with their winter's snow and their cool hazy appearance in the autumn, which must be seen to be appreciated. On the west the Coast range, in all its grandeur, looms up in bold relief. Away north the hoary-headed old Mt. Shasta, with its perpetual snows, shines as a landmark of nature's own construction. The General and his family can view Alpine scenery from every point of the compass.

W. Baker, a sturdy husbandman, joins the General's farm to the north. He has 240 acres of good grain-bearing land, and like his neighbor has a sure market for his splendid crop of hay at the city of Red Bluff, which is in full view of the two homesteads.

It is General Chipman's aim to make a stock farm rather than a wheat-raising one, and to introduce, as before stated, new and improved breeds of cattle and sheep. The peculiar knolly and broken appearance of the land is well adapted to the shelter of stock during the inclement winter months, affording shelter and plenty of feed for the young animals. This year and next it is the intention to break new land which has never been sown to any seed, so as to bring into pasture those worn-out places where the natural growth has been, year after year, eaten down so close as to finally kill it. No doubt but that, with a year or two of judicious farming, General Chipman will have a "model stock farm," where for so many years no produce has been gathered, and the land has been lying in a state of idleness. FELIX.

Red Bluff, Cal.

THE SWINE YARD.

Col. Curtis' Pig Party.

Col. Curtis, of Saratoga county, is a progressive farmer known to many of our readers. During the last year he has been trying new policies in pig feeding, and as he wished to demonstrate them to his neighbors he gave what he called a "pig party," and invited them all to attend. The reporter for the New York Tribune says: After a tour through the buildings and fields, and a refreshing lunch, the guests all assembled under the grand old trees in front of the mansion and in the rooms, and the proprietor unfolded his plan of a new departure in pig raising. He said, standing on the front piazza, where all could hear, that he had become satisfied that pigs can be raised at less cost in the East and put into the market than we have been in the habit of doing. This is necessary if we expect to compete with the West, where corn, the great staple provender for pigs, can be raised so much cheaper than with us. The "pig party" was made to see the results of an experiment. It began practically last year, when a field of clover was seeded for the pig pasture, and a crop of roots was gathered, upon which to keep the pigs through the winter. The pigs were fed up to the time of the coming of the young on raw roots, and he never had stronger or better ones. As soon as the clover was large enough, they were all, old and young, turned into it.

The old ones were fed nothing, but the little ones were taught to come into an inclosure where they were fed a small quantity of corn three times a day. At first two quarts were sufficient for a feed, and this amount was gradually increased as the pigs grew larger, until they received a half bushel. This was all the food they had, both old and young, until a patch of sweet corn, planted for the purpose, was grown, when a portion was cut up and given to them morning and night. The sweet corn stalks were followed by Early Amber sugar cane, which was similarly fed until the 1st of October, when they were turned into the orchard and mangels, to help themselves as the guests had seen. When these are all consumed they will be put into another field to eat the refused roots, and the crop of turnips which are now growing for them. This latter supply he expects will be ample food for them until cold weather, when they will be fed corn if necessary to fit them for slaughter. He has expended thus far \$100 in extra food for the mothers before turning them into the clover after the pigs were born, and for the young ones during the summer. He has already sold \$75 worth of pigs, and the increase now on hand, 120 in all, has only cost for extra feed purchased, the sum of \$25. He thinks that this number of pigs will not cost over three cents a pound when ready to kill. With him, and he thinks it is a proper conclusion, the question of cost is of more account in raising pigs than to see how large they can be made or how fat. If a large pig or a very fat one costs as much as it is worth there will be no margin for profit. Under his system pigs will be healthy food, which he feels sure is not always the case when they are confined in pens to breathe the fumes of filth and always given heating and stimulating food.

His pigs have plenty of fresh air, and all the benefits of being on the ground and eating food which must be healthful. Such meat must be more desirable. The over-fat pigs are not wanted by butchers, as people nowadays do not relish so much lard. The lighter ones are more suitable for bacon, and, having plenty of exercise, develop lean meat with the fat. He has more Red Berkshires than any other, because

they possess, naturally, more of this desirable quality—lean meat mingled with the fat—than any other breed. They are longer in the body, and rapid growers. The windfalls and ripe apples are worth more for the pigs to eat than for any other use, as there is no labor attached to them. The item of labor is an important consideration, and as all these pigs are allowed to help themselves, there is no expense in this connection. The apples make them grow fast, and the mangels, where they have all they can eat, will fatten them. He tried this experiment the year before, and found that pigs in a turnip field had gained fine condition. They did not gain so rapidly nor become so fat as when fed on corn, but they made an excellent quality of pork. They might be topped off on corn for two or three weeks if desired. But with all the mangels or sugar beets which they will eat it is not necessary to put them in condition for slaughter.

THE STABLE.

The Horse Epizootic.

As this troublesome disease is quite prevalent at the East, and as something like it, if not the same malady, has appeared in this State, we give some notes from the Toronto Globe concerning the disease and its treatment: The epizootic is a milder type than that which showed itself some eight years ago. It is to be noticed that at each subsequent appearance of the disease after the first outbreak, whether in Canada or the United States, it has been less serious than before. Of course this is no guarantee against the epizootic again assuming its once formidable proportions. Still there is as yet no reason to anticipate another general prostration of our horses.

It was about eight years ago that the attention of horse owners in this city began to be attracted by the condition of their horses' nostrils. Those who had been taking particular notice of the state of the animals had observed a few days' fever. Then a watery discharge was observed to be set up in the nostrils, and the horses became perceptibly weaker. The feverishness increased, and the nasal discharges became yellowish and glairy. The throat and bronchial tubes became involved, and a short hacking cough was set up. The legs and ears became cold, the mouth hot and the membranes of the nose reddened. Occasionally the disease progressed to the lungs, especially in horses that were at all touched in that organ. A violent shivering and trembling took place, a gurgling in the throat and a quick, labored lifting of the flanks was next observed. The eyes became glassy, the pulse weaker and weaker, and the patient finally fell down and died. But the fatal termination was not reached in many cases. Usually the horse threw off the disease after a few days' rest and blanketing, and became as good as new, except in a few cases where objectionable sequelae showed themselves after the disease had passed away.

Very careful investigations into the nature of the disease established the fact that there was a peculiar fungus present in the discharges, but it cannot be said whether the fungus causes the disease or whether its presence is merely an incident. Human nostrils began to be affected with influenza and catarrh at the same time as the horses suffered from their disease. In the human subject it was noticed, at several places in the States, that an attack of cerebro-spinal meningitis was apt to follow shortly after the influenza was cured. Has the reported prevalence of diphtheria in many places in the Dominion and the States at this time any connection with the renewed outbreak of the epizootic?

It is worth while mentioning, in case the horse epizootic should extend its operations westward, that the result of the experience gained during the former visitation was this: Drugging the animals did no good. The best way to treat them was to give them linseed mash, and the remainder of their food in the shape of boiled oats or barley with bran. The nostrils should be sponged with tepid water. When left to nature, the disease ran its course more quickly, and there was less to be feared in the way of after-consequences. It was only in severe cases that the veterinary surgeons found themselves useful.

Other Remedies.

An old veterinary surgeon sends the New York Times the following "simple and safe cure" for the epizootic: "Take one lb. gum asafetida, mix it with one gallon boiling water, stir the mixture constantly until the asafetida is dissolved, let the mixture cool, strain and give one-half pint every three hours. This will relieve the horse within 12 hours, and give him a good appetite."

The experience of those having the care of horses in New York shows that the epizootic spreads among those who never come in contact with the animals suffering from it. The treatment now pursued is entirely different from the course taken at its former visit. The animals are compelled to perform a modicum of work. When a horse returns to the stable his throat, mouth and nostrils are rubbed with oil or warm water. Then he is given as much cut food mixed with bran as he can eat. If his bowels are in bad order, powdered niter is given him. Care is taken also to keep the animals warm and out of drafts.

PATRONS OF HUSBANDRY.

The Grange and its Work.

Worthy Master, V. E. Piolett, of the Pennsylvania State Grange recently delivered an address, from which we take the following paragraphs: It is evident that farmers are slowly moving forward to accomplish the grand purpose for which the Grange organization was instituted. To such of us as have given thought and reflection to the actual condition of the agricultural people in every part of the civilized world, it is gratifying to see evidences of a disposition to break up the historic isolation, diversity of mind and action which have heretofore characterized the farmers of Pennsylvania.

The Grange proposes an effectual method for uniting the agricultural people for mutual advancement in all that will be calculated to elevate their manhood and womanhood.

Eligibility to membership is confined to those who are engaged in agriculture. Being an organization of men and women devoted to rural life, skilled in the varied duties of practical farming, there are no conflicting purposes to mar our unity. When the mission of the Grange is accomplished, a fraternal brother and sisterhood will exist throughout the agricultural domain of our Republic. Such a state of society is required to maintain the productive wealth of the country, which must always reckon agriculturists as its greatest resource. The farmers have never had any proper form of organization before the advent of the Grange, and what is of equal significance, no other class of people, engaged in any of the varied vocations that employ labor and use capital, but have organized as the first grand requisite to a successful prosecution of their industry.

It is no cause for discouragement, my good friends, that we have not made greater progress in the seven years that number the annual sessions of the Pennsylvania State Grange. You must remember that we began under the most discouraging circumstances. The unorganized and isolated condition of the farmers we had to contend with in the beginning. Without a precedent by any past action of their own class, how could they be expected to break away from habits and customs which had characterized them in all ages and were ingrafted in their very nature?

It required a superhuman effort to arouse and awaken this sleep of death. Had it not been for the thoughtful and educated farmers, such as I see around me to-day, the American farmers would not have been awakened to the danger which environed them until the chains of their enslavement had been riveted too firmly to admit of their freedom.

Such of you as have given your time and the best efforts of your philanthropic minds to arouse and awaken your fellow-farmers to the importance of uniting in a brotherhood and sisterhood cannot reproach yourselves for having labored without a reward.

Thirty thousand of the farmers of Pennsylvania, and more than 1,000,000 of American farmers, are enrolled and bear true allegiance to the Grange.

This grand army of educators are quartered in every part of our agricultural domain. Enlistments are steadily swelling our ranks, in preparation for the general encounter which is to determine the farmer's relative position in all the future of this republic. Existing laws and customs have become so anti-republican and partial that a conflict between the agricultural class and those people who conduct the protected vocations cannot be ended until industries of every nature shall have the equal protection of the laws of our Government.

I hope God in his providence will continue my existence upon this earth until the Grange shall round one quarter of a century. If this be His good pleasure I have no doubt of seeing American farmers so thoroughly educated and associated as to perfect the fraternal bond which our organization benignly contemplates.

That the Grange will survive, though I may not be an actor upon this theatre of existence, is as certain as the future.

In this interval of time our agricultural army will be irresistible in their onward march, until that plane of equality which the genius of republican institutions was intended to confer upon every human being will be attained.

How gratifying this will be to that intelligence and philanthropy which are the distinguishing characteristics of the noble men and women who have struggled to found the order of Patrons of Husbandry. What a missionary the Grange will have been.

HARVEST FEAST AT EDEN GRANGE.—We are assured that the harvest feast at Eden Grange, Hayward, Alameda county, last Saturday, was a notable and enjoyable occasion. The attendance was good, and several who had not attended meetings for a long time, came forward with encouraging remarks and substantial contributions. The feeling was one of general cheer and confidence in Grange work.

HARVEST FEAST AT STOCKTON GRANGE.—We acknowledge with thanks an invitation to a harvest feast with Stockton Grange on Saturday, November 20th. The meeting will be held at 10 A. M. and feast at high noon. It will be a joyous occasion no doubt.

Grange Notes.

We condense the following items from the Patron of Nov. 13th: Worthy Secretary Adams informs us that this report of the proceedings of the California State Grange is in the hands of the printer and will be ready for distribution on or about the 1st of December.

B. R. Spilman, Worthy Master of California State Grange, and his good wife, left this city Wednesday morning last, on the overland train bound East. They go direct to Washington city in order to be in attendance at the National Grange, which will assemble in that city on the 17th of this month. After the close of the session brother and sister Spilman will visit their relatives and friends at Glasgow, Kentucky, where they will remain some weeks. The Worthy Master expects to return to California on or about the 1st of January. As soon as brother Spilman returns from the East, he proposes to make a vigorous canvass in search after Grangers in the northern part of the State. Humboldt county, in particular, will be the chief field of his labors.

Article 2, Section 2, of the Constitution of the National Grange, declares that the officers of subordinate Granges, "shall be chosen annually at the regular meeting in December, and installed at the regular meeting in January, or as soon thereafter as practicable." Here is an imperative law, which it will be well for all subordinate Granges to observe. There is no limitation or qualification of this Order, and as it stands, Grange officers must be elected at the regular meeting in December; otherwise the election may be declared illegal, and, if contested, evidently the subordinate Grange electing officers at any other time would lose its representation in the State Grange. Therefore we would urge every Grange in the State to comply with this law. Worthy Master Spilman informs us that at the installation of officers in January, as above provided, the "Annual Word" will be ready for communication to every one entitled to receive it.

Resolutions of Respect.

EDEN GRANGE, No. 106, Hayward, Cal., has adopted resolutions to the memory of C. MOHR, who was a worthy Brother in the Grange, a warm-hearted and useful member of society and a devoted husband and father.—[Josie Sharrat, L. B. Auway and Maud F. Russell, Committee.]

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

STOCK SHIPMENTS.—Gridley Herald, Nov. 12: Live stock shipments over the C. & O. R. R. are exceedingly lively this fall, each week seeing many car-loads pass south. A large proportion of the stock—in fact, nearly all of it—comes from Oregon. It is composed principally of three and four-year olds. 24 cars passed by in one train Saturday. They came from the Goose Lake country, were driven overland to Cottonwood, and shipped thence to San Francisco. In addition to those going through by rail several large herds have been driven through town during the last fortnight. A firm of Stockton butchers has a band of 500 head pasturing on the ranch of Robert Turner, two miles south of town, and ship as the cattle are needed below.

COLUSA.

THE CODDLING MOTH.—Cor. Sun: Looking over the last issue of the Sun I noticed an article headed "Can Our Orchards Be Saved?" which I think worthy of some further notice. I have observed as I have traveled through the county, that there has got to be a general move in that direction, or it will not be long until our orchards will be destroyed.

WILD GESE.—These pests are reported more troublesome than usual at this season of the year.

FRESNO.

FRUIT PACKING.—Republican, Nov. 13: On Wednesday last we visited the fruit-packing establishment of Miss M. F. Austin, situated on Elm avenue, Central colony. The building, 27x35 ft. is well ventilated and lighted, and in all respects admirably situated for this business intended. We found seven ladies, all residents of the colony, busily engaged in sorting and packing the cured fruits, three tons of which are now ready and awaiting shipment, and three tons more will soon be prepared for the market. In addition to the six tons of layer raisins, Miss Austin will have a large quantity of loose raisins, which will be sold at reduced rates. Several boxes of samples have been forwarded to Lynde, Hough & Co., of San Francisco, who speak of them in the highest terms. We were shown some samples of dried prunes and apricots put up this season by Miss A. which equal any dried fruit we have ever seen. No one on our colonies has exhibited more energy and business tact than the lady above mentioned, and we are more than pleased to chronicle such an absolute success for her. [Mr. R. J. Trumbull showed me the other day, an orange quince grown on Miss Austin's place, which for general symmetry and delicacy of skin, was as fine as any we ever saw. It weighed just one lb.—Eds. PRESS.]

KERN.

COTTON.—Californian, Nov. 11: We learn that Messrs. Haggin & Carr are so well satisfied with their experiment in growing cotton that they intend to plant 1,000 acres next year.

A large factory that is soon to be started in San Francisco will require all that can be raised.

LOS ANGELES.

GRAPE YIELD.—Express, Nov. 13: A large yield of grapes was realized this season from nine acres of land, a part of La Puente ranch, owned by Mrs. Reese. About 70 tons were sold to L. J. Rose for \$1,552, cash, besides two or three tons given away and wasted. The entire product of the land could not have been less than 8 tons per acre—about 16 lbs. to the vine. The grapes were of the common Mission variety, the vines about 20 years old, on dry land, which has not been irrigated for years. It is claimed by old residents that, with proper pruning, grape vines over eight years of age may, without irrigation, be made to yield from 16 to 20 lbs. per vine, as well as to produce this usual quantity of 5 to 10 lbs.

THE INDUSTRIES OF THE COUNTY.—Herald, Nov. 13: As a matter of prosaic truth, every leading interest of Los Angeles county looks today better than at any period of our history. Independent of all considerations, political or other, Los Angeles are in a state which justifies them in being confident of an assured and phenomenally progressive and prosperous future. For the first time in years the Anaheimers are perfectly indifferent to the local demand for their staples. The real need in Los Angeles county, to-day, is for more casks and barrels—for anything that will hold wine and brandy. This active and growing movement can be emphasized by one notable example, which is really but one of many. The Cucamonga vineyard has long been famous for its port wines. This superior quality has created a demand for it in all parts of California, in the Eastern States and in Europe. So strong is the outside inquiry for this famous port that the principal proprietor of the vineyard, the other day, after the shipment of three car-loads for Eastern account, notified our local dealers, that if they desired to retain any of the vintage in our midst they must send in their orders immediately. And so it goes all along the board. Anaheim, even, as we have said, are shipping largely direct to Europe. The wines and brandy "boom" is a fixed fact, whose prevalence is attested by the exertions which all our vignerons are making, in all sections of Los Angeles county, to extend the area of their vineyards. The possessor of grapes does not now, and probably will not in the future, envy even the lords of our very profitable orange groves.

IRRIGATION SURVEY.—Hon. W. H. Hall, Chief Engineer of the State Bureau of Irrigation and Mining Debris, accompanied by Assistant Engineer Schuyler, will start this morning on a reconnaissance of the ground in this and San Bernardino counties, covered by the work of this department which has been in progress for the last three or four months under the personal supervision of Mr. Schuyler.

MERCED.

EDITORS PRESS:—Merced county is fast improving, a greater area of it being under cultivation this year than before, and still more is likely to be cultivated this coming year. Many new parties are arriving looking for land, and most of them for renting, as they wish to test the locality before buying land. Lots of rich unbroken land is to be had still, and land is generally rented from one-fourth to one-sixth in some cases. Generally parties renting land become buyers, but very many of those coming get disappointed, as they cannot get homes right away. They forget that it is only seven years since this county was only a cattle raising county, and there was comparatively no cultivation carried on. This is now entirely changed. Lots of land in healthy localities, with irrigating facilities—either artesian wells or canal water—are to be had at reasonable rates. I have traveled this coast, and I can safely assert that we can offer considerable inducements, such as cheap, good land, healthy locality, good domestic water, good roads and shipping facilities, with prospects of a rising, thriving place, with a narrow-gauge railroad and better water shipping facilities. They are beginning to get in grain here by dry plowing or by only harrowing it in. There are lots of geese and every sign of early rain. Great preparations are being made for coming season's crops. It seems too bad that other crops besides wheat are not introduced.—M. J. O' B., Merced.

MODOC.

GROWTH OF THE COUNTY.—Cor. Reno Gazette: Goose Lake valley, like Surprise, showed signs of improvement on every hand. The crop of hay and grain is not as large as in Surprise valley, but the people are full of courage, and farm lands have quite largely appreciated. Lakeview, Oregon, had so changed in five months that one would hardly know it. Many new buildings had gone up, and old ones were much improved. It drew the trade of a large section of country. Seeing the thousands of cattle passing down this valley, one would have no idea that last winter was a hard winter, and the loss of cattle of any account. It was true that thousands died, but it certainly was a very inconsiderable number of the tens and hundreds of thousands in northern California and eastern Oregon. Coming south we found a town springing into being, as if by magic, at Pine creek, on the State line. Alturas does not look as it did when we came here for the first time a year ago. Then the town was in ruins by her great fire. Now it is rebuilt with a better class of buildings, and many new ones added. The writer must say that the pluck and growth of Modoc county is something mar-

velous. Reno will do well to have an eye on this north country. Her agriculturists and cattle will increase more rapidly when Mr. Moore brings his railroad.

MONTREY.

POTATOES.—Castroville Argus, Nov. 13: The potato crop in the valley and county is much smaller this season than in previous years. It is true that on overflowed lands the yield and quality of the crop are excellent, but the reduced area planted and the light yield on other than overflowed lands, together with the fact that a considerable portion of the crop has already been shipped to San Francisco and San Jose, move one of our best informed produce dealers to express the opinion that before this time next year potatoes will be shipped to this point from San Francisco.

MENDOCINO.

ROAD OVERSEERS.—The Ukiah City Press says: Under and by virtue of our new road law every township is made a road district, and an overseer has been elected by the people of each district throughout this county. Within 10 days after receiving notice of his election each overseer must file his bond in such amounts as the Board of Supervisors may direct, take the oath of office, and receive a certificate of election with the oath indorsed thereon, or a copy. He takes office on the first Monday of January next, and holds office two years and until his successor is elected and qualified. Overseers elect should at once file their bonds, and procure from the clerk a copy of the road law, the study of which, alternated with shovel and pick practice daily from now until New Year's will fit them for the discharge of the duties of their office. The road tax is two days work or \$3. Any person may notify the owner of the lands over which the public highway runs to remove fallen trees which obstruct the road, and a penalty of \$1 per day may be collected for each day the obstruction is allowed to remain. No person has a right to remove a standing tree from the highway except by permission of the overseer, and not then unless it is an obstruction.

SANTA BARBARA.

CUCZO CORN.—Press: The famous Peruvian Cuczo corn which has so long defied the efforts of California farmers, has finally yielded, and is exhibited in great perfection by W. A. Franklin, of Santa Barbara. From two and a half lbs. of seed he has produced 500 lbs. of superior corn. This great curiosity has small cob and large kernels. It grinds very easily, and is much richer in starch than any other American corn. The stocks bear from three to six ears, and make fodder that is almost as sweet and delicious as sorghum. Among the rare Cuczo corn raised by W. A. Franklin, is one brilliant red ear, surpassingly lovely in coloring. The peculiarity of this is that the Cuczo corn is a pure white, will not mix with other varieties, and in the entire field only this one ear of red corn appears.

SAN BENITO.

OPENING OF THE SILO.—Advance, Nov. 11: Next Saturday, at two o'clock, the large silo at the Springbrook farm, about three miles south of town, will be publicly opened. A number of parties interested in the new system of preserving feed for stock, styled ensilage, have been invited, and have signified their intention of being present. Mr. Green, the owner of the farm on which the silo is located, is enthusiastic over the success which has attended his efforts in testing the practicability of the new system. He has been feeding his stock, for some little time past on ensilage, and the result, both in point of cheapness and the remarkable improvement in the stock thus fed, has made him an earnest advocate of the general adoption of the system. On the occasion of the opening of the silo next Saturday, Dr. Crepin will deliver an address setting forth the advantages of the ensilage system; a grand dinner will be given, and a general good time is expected. We hope to see a large crowd, as the exercises of the day will be both instructive and amusing.

SAN BERNARDINO.

THE MOTTLED LEAF.—Riverside Press: Wherever the orange grows, as far as we can learn, the trees are troubled more or less with yellow or mottled leaf. While there appears to be nothing fatal, or even serious, about this condition of the tree, it is very evident that the less a tree shows of the mottled leaf the better it will be for the tree. Its appearance is evidently the result of some defect of cultivation, or perhaps of the soil. Some who have had the mottled leaf in their orchards have removed the same by a free application of well rotted manures from old sheep corrals. The orchardist who thinks that the soil of southern California is sufficiently strong to sustain a large orange orchard for years without any application of manures will do well to undeceive himself at once. The Wolfskill orchard is now some 30 years of age, and it is kept up by a heavy application of manures every two or three years, some part of the orchard being manured every year. This orchard is situated in the rich alluvial bottom land of the Los Angeles river. That orchard would undoubtedly be in much better condition if the rigid system of manuring now practiced, had been commenced when the orchard was first set out. Many of the Riverside orchards have been growing now for seven or eight years, with little or no applications of manure. Those orchards that have received enrichments are the better for it.

CITRUS FAIR MEETING.—A meeting of the citizens of Riverside was held at Public hall on Thursday afternoon, pursuant to call of the com-

mittee appointed at Los Angeles. A. Keith was elected chairman and Walter Lyon Sec'y. The subject of the local Citrus fair at Riverside, and the traveling Citrus fair was discussed at length by nearly all present, and the latter project was heartily endorsed. It was finally decided that when this meeting adjourned, it should do so to meet again at Public hall on Saturday evening, November 20th, to take into consideration the subject of a Citrus fair at Riverside next March, and to further discuss the traveling Citrus fair question.

SAN DIEGO.

ITEMS.—*News*, Nov. 13: It is high time now to expect rain, if we are to have it this winter. Some one remarked to us yesterday that the rains had begun in Oregon, from which we might expect rain, and said that in a few days, we should have them. We are in a condition now for the rains to come. The farmer is ready for them, having his old crop all out of the way, and something done in the way of the new one. We hear of some farmers that have potatoes planted in fair quantities, and many of them up and doing well. Some say they look for a fine season with this article, and others have a dread that the rain will not be sufficient for a large crop, etc. It is too early to determine such questions. In the way of pasturage, we hear no complaint, and it is likely the feed is good enough for the present, but rain is required to start off the new grasses and keep them up. If there was a scarcity, sheep men would speak of it, as well as those having other stock on pasture. Hay has gotten up to a nice price, say \$12 per ton for loose and \$14 or \$15 for baled. Unless holders fear a dry winter, we do not understand the cause of this advance as there is no outside demand. Bees are reported in good condition, so far, and, unless another phenomenal winter should prevent, will be ready for a large honey yield the next year.

SAN JOAQUIN.

WANTED, A GOOD ROAD LAW.—*Stockton Independent*, Nov. 11: One of the matters neglected by the last Legislature was the enactment of a road law. For the smaller counties an act was passed which, so far as heard from, has given satisfaction. But for the larger or first-class counties the bill was among those which failed of passage in the last hours of the session. Some half dozen bills were presented to the Legislature on this subject, but the one introduced by McComas, from Santa Clara, was the one that appeared to give the most satisfaction. In some of the bills the proposition was made that each road district should raise and disburse its own road fund, irrespective of the Board of Supervisors. In that event Road Commissioners would have to be elected for each district to serve, according to the proposition made last winter, without pay. In some counties, under the present system, road overseers are elected by the people; in others, appointed by the Supervisors. The Constitution requires uniformity of laws, so that in the new statute one of the two systems must be followed. Good roads are of the utmost moment in agricultural districts. With bad ones the farmers' expenses for hauling are largely increased, so that parsimony in road matters is a poor sort of economy. The same quality of land is worth more in a county where the roads are good than where they are poor or none exist. Good roads are always an index to the prosperity and progress of a community. Perhaps the majority of the farmers of San Joaquin haul their wheat to Stockton. There is no county more interested in securing a good road law than this one.

THE WEST VINEYARD.—*Bulletin*: W. B. West, of San Joaquin county, has sold this year 300 tons of grapes, produced on 28 acres of land, which is over 10 tons to the acre. The two sorts comprised in the sale were the Mission and Black Prince. It is understood that the average price brought was \$27 a ton.

HEAVY FROST.—*Lodi Review*, Nov. 13: The pump in the backyard of the *Review* office was frozen solid on Thursday and Friday mornings of last week.

SONOMA.

POTATOES.—*Petaluma Courier*, Nov. 11: Potato digging has fairly commenced in this section, and a large number of Chinamen are engaged at the work. The average prices paid by farmers is from 8 to 12 cents a sack. At this rate hands can make a little over a dollar a day. A third less ground has been planted here this year than last, but the potatoes are of a better quality than for several years past, and the yield will be fully on an average with any crop for the last ten years. The price offered for potatoes here is from 40 to 50 cents a hundred. This will not pay, and next year there will probably be less ground planted in spuds than ever before.

TULARE.

IRRIGATION SURVEYS.—*Della*, Nov. 11: We are pleased to see that the work of the State engineer's department in the irrigation surveys of this district are rapidly approaching completion for the next report to the Legislature. While Assistant Engineer Schuyler has been engaged since June last with one of his surveying parties in the Los Angeles district, Mr. H. B. Choice, in charge of another party, has been making carefully recorded surveys in the Sierra Nevada range, along the upper Kern and King's rivers and their several tributaries. These mountain surveys are very important in solving the question of a permanent water supply in the future systematic irrigation of the largest possible area of our naturally fertile valley

lands, and their value should not be underestimated, because we cannot at once realize all that they can accomplish. A chief object of the really laborious and rather risky work of Mr. Choice's corps of surveyors is to approximately estimate the annual supply of water for irrigating purposes from the vast western water-shed of the Sierras, that finds its way to our plains through the countless streams that form the arteries of our really grand mountain system. With a view to husbanding this supply of water in future, that it may be used with greatest efficiency and as little as possible he wasted, when its full capacity shall be in demand, this party is selecting sites along the several forks of Kern and King's rivers as they, also, will eventually do along the head waters of Tule and Kaweah rivers and our smaller streams, where huge reservoirs can be readily constructed to collect and hold large bodies of water. Unquestionably, such reservoirs, which can easily be constructed in the canyons of the Polvadero, the Cantua, the big and little Panoche creeks and other streams on the eastern slope of our Coast Range mountains, are the only sure means to reclaim and render valuable much of the fine but exceedingly dry and now worthless lands on the west side of San Joaquin and Tulare valleys. Again we say we are glad, that the preparatory work for such reservoirs is progressing so well, and we shall look with deeper interest for the forthcoming report of State Engineer Hall and his assistants. Mr. Choice's party have completed their summer's work on Kern river, together with the south and middle forks of King's river, and are now finishing their surveys along the north and last fork of the latter stream. Other assistants are gathering useful statistics to be in the next report with reference to lands irrigated this year in Kern, Tulare and Fresno counties.

COLORADO.

A FRUIT FARM.—E. R. Sizer, in *Denver Farmer*: In answer to your note of recent date, I will say it is a pleasure for me to do anything in my power to place our much-abused State where it justly belongs as a fruit-producing State. To accomplish this, I know of no better way than to keep on planting trees and vines, and thus furnish evidence and experience that may in time be of value to others. I have now in bearing 1,225 Concord vines, and 100 Creveling. I am also preparing the ground to plant in addition 1,000 Martha and 1,000 Catawba. I have 1,700 apple trees, mostly winter varieties. Those that are in bearing are full of large, smooth apples, fit to set before the gods, if need be. My plum orchard now numbers 3,000 trees, 700 of them in bearing. Since the first crop they have not failed to bear annually full crops of large, fine, well flavored fruit. I have also 228 prunes, young trees, but growing rapidly—in fact all the trees and vines I have are growing fine, and will in due time bear fruit. I invest money and labor in fruit trees and small fruits with as much confidence as I do in cattle. Of course the cultivation and management of orchards here must differ widely from that of States farther east, but in California it is just the same, and they only get for their grapes \$8 to \$17 per ton, and claim grape growing pays better than wheat or wool. I should be pleased to see every one who owns a home in Colorado plant trees and vines, knowing that with proper care they will do well, saving many thousands of dollars to our people. This year my Concord grapes drove all other grapes from our market. While they lasted the people would have no others. They said my fruit was thinner skinned, sweeter and more tender than California or Kansas grapes.

CRAB GRASS.—This grass (*Panicum sanguinale*), of which we lately gave an engraving, and which has been found growing in this State by J. W. Potts, of Los Angeles, has points which would seem to warrant its general introduction. We find much about this grass in our exchanges from the Southern States. One letter, now before us, says: "Crab grass is one of those grasses that naturally come in the latter part of the season, affording excellent grazing to the stock when they are allowed to get at it, and one, moreover, that makes a sweet and nutritious hay. It is highly relished by all kinds of stock, and poultry at this season delight to pick off the seed where they are maturing in the field. It grows very sparingly; if at all, on wild lands, but springs upon cultivated grounds in the summer, and growing with great rapidity, becomes a most trying pest to the farmer, especially in showery weather. It has a great number of very fine fibrous roots, and also sends out roots from the lower joints of the stems, causing it to spread in all directions. The plant produces a great number of seeds, and once upon a field, nothing but entire shade or abandonment of cultivation seems able to cope with it." It will require some tests to see just in what way the plant can be made useful in this State, but it would seem that it might be of considerable value on moist spots, or on irrigated lands, for a late piece of pasture.

WORK is progressing steadily at Mount Hamilton. About 30 tons of rock are being blasted off the face of the mountain summit to give room for the building. The burning of the kiln of brick was completed last Friday. The engine has been erected, and the work of preparation is going forward with fair speed.

Political Education.

We note with interest the formation of a society at the East called the "Society for Political Education," which we are assured is to be non-partisan in its character, and in the best sense national in its scope. Its object is to induce the young men to begin and pursue a systematic course of reading, concerning the principles of government, political economy, etc. It is to be sincerely hoped that such an object will be attained. As it is, our young men arrive at a voting age with but little or no knowledge of the principles which underlie our Government or prevail in the maintenance of our industries. Such a smattering of political ideas as they do obtain is such as comes through partisan sources, and is often merely half truths which serve party ends. The welfare of the country demands that our young men shall be better grounded upon the real truth and thus enabled to reason for themselves and draw their own deductions as to the truth or falsity of party positions.

The society is to be managed by an executive committee of 25 members selected from different sections of the United States, many of them being experts in different departments of the study of social and political science. A singular feature of its organization is that it has no President, and thus avoids the risk of having its aim confounded with the idiosyncracies of any individual chosen for its head. The correspondence of the society is to be divided among five Secretaries, one each for the East, including the Middle States, the northwest, the southeast, the southwest and the Pacific slope. Its executive committee, which is not yet filled up, now includes the names of well-known publicists, and induces the belief that the organization will be true to the character claimed for it.

It is the purpose of the society to select a list of elementary works on the subjects of politics, political history and political economy, and have them published in cheap form, so that they may come within the reach of young men of very moderate means. We have not space to outline the proposed working of the organization in all its details, but these may be obtained by any one who is interested by writing to R. L. Dugdale, 79 Fourth avenue, New York City, who is the Secretary of the society.

ANIMAL ELECTRICITY.—M. Amat, in a recent account of his experiences in the Sahara, states that in that dry region, without insulating himself from the ground, he could often get long sparks by simply passing a pocket comb through his hair or beard. This succeeded best in dry, hot weather, on return from a long excursion over arid plains, the most favorable time being in the evening from seven to nine o'clock. Some of the lower animals, and especially horses, present electric phenomena still more strikingly. On hot summer days one sees on Arab horses long hairs diverging from the middle of the tail. On caressing the tail with the hand, a number of crackling sounds are heard, and if it be in darkness sparks are seen. The electricity liberated by the tails of horses M. Amat finds to be positive. Man, in direct communication with the ground, does not show such an accumulation of the electric fluid as the horse does, and friction is necessary to develop it. The horn of the horse's hoofs seems to act as an insulator.

NEW MEXICO FRUIT.—Now that the extension of the railroad is bringing us into connection with New Mexico, it is interesting to note indications of the adaptations of the country for fruit growing. The *Kansas City Journal*, speaking of some New Mexico fruit on exhibition at the fair there by Don F. Perea, says: "This small exhibition by Col. Perea has been a revelation to our people, and to the thousands that saw its varied varieties, will do more to attract attention to New Mexico, from the migrating people, than all the products of her mines can do. Such flavored fruits can only be grown in a perfect climate, and where they are produced in such perfection must be a congenial place for man to live and work. The sun and air that makes the New Mexican grape must be an elixir for the human lungs and system. We saw nothing in all the vast array on exhibition that possessed, to us, the interest that did those specimens from the gardens and vineyards of New Mexico."

FROM AN EASTERN FRIEND.—An Eastern friend of our State, after a sojourn among us, writes as follows: "My trip would tempt me to insist on a greater diversification of agriculture in California, as soon as the conditions will permit, and that farmers make strenuous efforts to compel circumstances to change. I also noticed the poverty of nature in the southern country in the matter of trees suitable for timber. We passed hundreds of miles of fencing imported from, perhaps Oregon, to fence in open pastoral lands, which grew hardly any trees but evergreen oak and buttonball. This brought to mind the value of the quick-growing catalpa for posts—a tree whose seeds should be sown broadcast over the State." Let the hint be taken.

At the recent Chico fair the total expenses were \$3,736, the total receipts \$3,804; balance on hand, \$68.

News in Brief.

RAIN and snow in North Carolina. SMALL-POX is killing the Canadian Indians off by the hundreds.

A SHARP shock of earthquake was felt at Callao on the 15th.

THE revenue receipts of Italy exceed the estimates by 10,000,000 francs.

THE Amador hotel at Denver was damaged \$10,000, by fire, on Monday.

THE New York banks hold half a million over their legal requirements.

THEY had a cyclone and an earthquake in Sitka, Alaska, on October 26th.

THOUSANDS of negroes, it is reported, are leaving Louisiana and Arkansas.

THE Eastern trunk lines have restored passenger rates to the former figures.

TWO violent shocks of earthquake were felt in Agram, Austria, on Monday night.

A COMPLETE compilation of the figures of the census will be made by the middle of December.

JOHN W. MACKAY, the bonanza king, has left the Comstock for a while and gone to Paris.

GRAHAM MURDOCH, who was shot by his brother at San Jose, on Sunday last, is recovering.

THE Ogden City council, Utah, has adopted a proposition for lighting the city by an electric light.

ADJUTANT-GENERAL DRUM favors applying the rules and powers of the regular army to the militia.

STRONG opposition to the presentation of the "Passion Play" is developed among the New York clergy.

SITTING BULL swears that he will fight the United States troops forever, and die rather than surrender.

A COMMITTEE of scientific men have asked the President to appoint Gen. H. L. Abbott as Chief Signal Officer.

A FIRE in the central stable of the Omnibus Company at Paris Tuesday, caused damage to the amount of \$50,000.

THE German Austrians made a demonstration in Vienna on Sunday, against the Sclav tendencies of the government.

EXTENSIVE fires have been burning on Uncle Sam mountain during the past week; also east and northwest of Lower lake.

TWO-THIRDS of the town of Newport, Ark., was burned on Monday night. Two hundred families were rendered homeless.

JUDGE LEVERING, of Cahunga, Los Angeles county, has received an order for four stands of bees to be shipped to New Zealand.

THE Minnesota insane asylum, which cost \$500,000, was burned this week. Ten or fifteen of the inmates were burned to death.

GEN. McCook reports that the Army schools are doing good work, but that a change in the system of providing teachers is needed.

JENNIE SPENCER, a daughter of Richard Spencer, Secretary of the gas works, hanged herself in Burlington, Ia., on Saturday.

A FIRE at Mammoth City, Mono county, on Sunday, destroyed all the upper portion of the town, involving a loss of about \$45,000.

AT New Orleans the passenger depot of the New Orleans, St. Louis and Chicago railroad was burned, with two coaches. Loss, \$30,000.

REPORTS on the French beet crop class it among the worst as regards quality. Advices from Germany and parts of Austria are better.

HANLON beat Trickett in the sculling match on the Thames Monday. Hanlon's time was 26 minutes 12 seconds; Trickett's, 26 minutes 19 seconds.

THE arrival of the French monks at Alicante and Barcelona caused a hostile popular demonstration. They were compelled to re-embark from the latter place.

AT Lexington, Santa Clara county, on Monday, James A. Newell, aged 12 years, accidentally discharged a loaded gun, and instantly killed his sister Nellie, aged 7.

GENERAL ORD's report says that in western Texas parties of troops driving the hostile Indians have been frequently followed by surveyors locating railway routes.

JESSE POMEROY, the Massachusetts boy murderer, has been foiled in an attempt to escape by sawing through a thick boiler casing with a saw improvised from a knife.

THE Jesuits have attempted to re-enter Portugal; the government has instituted vigorous efforts to strictly enforce the decree of 1824, abolishing all religious orders.

THE President has appointed ex-Secretary of the Treasury Boutwell counsel for the United States before the newly-organized Franco-American Mixed Claims Commission.

THE United States District Court for Western Pennsylvania has affirmed the right of the Western Union Telegraph Company to use the wires of the Baltimore and Ohio railroad.

IT is stated that a large amount of rifles have been introduced into Galway from the United States, and troops have been sent in that direction. Rifles are also said to have been shipped from Italy.

SECRETARY THOMPSON's omission to invite the Admiral, Vice-Admiral and other leading officers of the navy to the recent naval review off Fortress Monroe, has created a great stir in army and navy circles.

GENERAL SCHOFIELD, in his West Point report, recommends the retirement of colored men from the army in all its grades, but advises more care in appointments, for most of the colored men appointed cannot nearly pass the examination.



Work and Wait.

A husbandman who many years
Had plowed his fields and sown in tears,
Grew weary with his doubts and fears.

"I toil in vain! These rocks and sands
Will yield no harvest to my hands;
The best seed rot in barren lands.

"My drooping vine is withering;
No promised grapes its blossoms bring;
No birds among its branches sing.

"My flock is dying on the plain;
The heavens are brass—they yield no rain;
The earth is iron—I toil in vain!"

While yet he spake a breath had stirred
His drooping vine, like wing of bird,
And from its leaves a voice he heard:

"The germs and fruits of life must be
Forever hid in mystery,
Yet none can toil in vain for me.

"A mightier hand, more skilled than mine,
Must hang the cluster of the vine,
And make the fields with harvest shine.

"Man can but work; God can create;
But they who work, and watch, and wait,
Have their reward, though it comes late.

"Look up to Heaven! behold and hear
The clouds and thundering in thine ear—
An answer to thy doubts and fear."

He looked, and lo! a cloud-draped car,
With trailing smoke and flames afar,
Was rushing to a distant star.

And every thirsty flock and plain
Was rising up to meet the rain
That came to clothe the fields with grain.

And on the clouds he saw again
The covenant of God with men,
Rewritten with his rainbow pen:

"Seedtime and harvest shall not fail,
And though the gates of hell assail,
My truth and promise shall prevail."

Presence of Mind.

I have always been celebrated for my presence of mind in emergencies.

Grandfather used to say that he never had a girl who was not afraid of a mouse or a spider, and how mother's daughter ever came to be so brave he couldn't guess. That was before I married, and, of course, I have not become timid with advancing years.

I am Mrs. Jasper Jackman; my husband is, of course, Mr. Jackman, and our place is known as Jackman's Nook. Nook, indeed! If there was a corner to the world I should fancy it was put away in that, for it is the most out-of-the-way habitation that ever existed. It is indeed. You can't see it until you are within 50 ft. of it, for the trees and the nasty rocks.

"So romantic!" people say. I call it miserably lonesome.

Now you know I'm not the least bit nervous, but having lived with father and mother and the rest all my life, I did not enjoy being shut up all alone like a—a—a—well a hyena in a menagerie, while Mr. Jackman attended to business in town; and I often thought if house-breakers were to make an attack upon the house, what should I do, a poor little woman, with no one to call upon? for I count Bridget as a great cypher in every occasion of life that does not involve soap suds.

I told Jasper that absolutely, if I had known what a place Jackman Nook was, I was not sure that I should have thought twice before refusing old Dr. Muligatwny, whose palatial residence is on Fifth avenue, New York city, as of course everybody knows.

However, after you have once said "yes" to the gentleman who pops the question to you, you may say, "no" ever after to all other questions for all he cares, for he'll have his own way always.

Mother-in-law Jackman having made Jasper promise that I must live always at the Nook, was considered unanswerable; and, after all, what could we do? No one would hire or buy the place, and we had it on our hands. Of course we lived there. I always knew that doing so would be the cause of my showing the presence of mind for which I am celebrated in my own family—if nowhere else. And so it came to pass.

One stormy night in November, in the year 1863—it was the 4th, I think, for baby was just one year old on the 1st, and there was some of the cake I had made for his "blessed 'little birthday'" still left in the pantry, and a cake of that size certainly never would last longer than that in our house. It was the most unpleasant day I ever remember to have lived through. The ground was soaked. The bare branches looked like so many skeletons, and the sky was the color Bridget's tin pans were when I first got down stairs this time last year.

In the city it would have been some fun to sit by the window and watch the folks go past, looking like so many drowned rats, but at the Nook (I should think it was a nook) there was nothing to be seen—absolutely nothing.

I had not a book which I had not read, and the note paper was out, for Jasper had forgotten to bring me some from the city, and I had finished all my sewing.

I spent my time as best I could; but how I did wish that the regiment which was encamped about half a mile away was near enough for me to watch them drill—if they do drill in such weather. I'd thought them too near before, on account of Bridget, whom I have caught a score of times talking to men in blue jackets at the gate, and wished them off to the seat of war, or anywhere else, over and over again; but that afternoon, what a relief they would have been!

I was the more lonely that Jasper had said that morning, "My dear, if it rains as it does now to-night, I shan't come home, but will stop at your father's." And how could I blame him in such weather? Yet it was dreadfully lonesome. If you are sociable with your servants they always presume upon it, and I do so love to talk.

Of course I watched the clouds with interest, if it should prove fair at last, Jasper would come home, and if it rained he wouldn't.

Every now and then there would be a pretence of clearing off, and I began to hope for a pleasant sunset; but it was always a false pretence, and at tea time it poured as though there was going to be a second flood.

Biddy asked me, as it was so near the Hudson, whether it wasn't likely to be a risin', and whether in that case "we wouldn't be drowned?" And I said "Yes." It was too bad, I know, but it was really some amusement on such a day to frighten the stupid girl.

I had my tea alone, and I do hate to have tea alone if any woman in the world hated it—and then I put baby to sleep in her cradle in the sitting-room, and took my knitting, and was as comfortable as I could be under the circumstances, when I bethought me of the morning's paper. I called Biddy to bring it to me, and she came to me at once.

"It's well-thought of, missus," she said, as she laid it in my lap. "It's yerself will be interested wid the raidin'. There's accounts of the house-breakin' in it."

"Of what?" I ejaculated; and though I assure you I'm not the least nervous, my heart was in my mouth for a moment.

"Of the house-breakin', mum, and how the thaves in the wurruld got into Mither Dinsmore's house, that's sitted the same as this, neighboring nobody, and tuck all they could lay their hands on, to say nothin' of half murderin' the ould gentleman. The saints be above us this night—"

There it was, sure enough, headed "A Bold and Outrageous Attack upon the Residence of Mr. Dinsmore!" I read it through, and then I said to myself:

"Jerusha Jackman, remember your presence of mind. Don't let it fail you in cases of emergency. Should a housebreaker take advantage of your solitude, let him find you prepared." It was as though some invisible what's-his-name had addressed me from the chimney.

I answered, "I will!" and you can't imagine how bold I grew at once. I rehearsed all that I should do in case Biddy came to me in the night, saying, "Missus, there's some one in the cellar!"—all I should do if I found anybody in the wardrobe when I retired, and I had the satisfaction of feeling that I was prepared. I might wake up to find the spoons gone—I might be murdered in my bed; but it would not be un-awares, and they would inscribe upon my tombstone the words: "She showed her presence of mind to the last." I felt quite self-possessed and happy, though I was certain—yes, morally certain—that something remarkable would happen before morning; that I should be, as it were, weighed in the balance and not found wanting before the sun arose. I did not feel like retiring early, and sat by the fire until the clock struck 11. Then, just as the last stroke died away, Biddy came down from her bedroom like a red flannel ghost, with eyes and mouth wide open, and something of importance evidently on her mind. I put baby down in her cradle and arose, drawing myself up to my full height, and feeling that I was the only one to be depended on in this awful emergency.

"Bridget," said I, "how many are they? Is it one or more?"

"Mum?" said Bridget.

"The thieves I mean," said I.

"Oh, it isn't thaves, mum," said Biddy.

"It's only that thafe of a wind that's took the roof clane off the chicken house, and there's the wee bits iv chicks a starvin to death wid cowl'd."

"And in this dreadful rain, too," said I.

"It's clared off fine," said Biddy, "and the moon's up."

So it actually was, and I began to feel very brave.

"We must go out and put them in the wood-house," said I. And so saying, I tucked baby up in his blankets, and wrapping a shawl over my head, went out into the night air. It had grown very cold, but it was clear, as Biddy had said, and we paddled round in the mud catching the poor little chickens. We had them all at last, except one, and we heard its little voice—*swee, swee, swee*—somewhere, and of course could not be so heartless as to forsake it. And at last there it was, tangled up in some dead vines, and as cold as a lump of ice. By the time we gave it to its mother, who was very glad to see it, the clock struck 12. Baby had been alone three-quarters of an hour.

"Muzzer's darling! sound asleep yet?" I said, as I went to the cradle. Merciful powers!

shall I ever forget that moment? Baby was not there!

In a moment the truth flashed on my mind. Housebreakers had entered the dwelling in our absence and stolen my treasure. Perhaps they were in the house yet, or some of them. I felt the strength of a tigress, and, leaving Biddy howling in the dining room, rushed up stairs.

Sure enough there was a light in my bedroom, and I peeped in. The moment I did so, I felt I was powerless. The robber who had stolen my baby was there, and the terribly muddy boots of another were sticking from under the bed; and oh, horrors! another had got into it, and had hidden, as he imagined, under the quilts.

On my presence of mind depended the recovery of my child and my own life. In a moment the plan flashed upon me. There was but one door to the room, and the windows were high and barred, for I had contemplated the time when baby should be large enough to climb up and lean out. Noiselessly and suddenly I drew that door to and locked it on the outside, then, with the key in my hand, and trembling like an aspen leaf, I stole down stairs and cried to Bridget:

"I've locked them in; they shall give my baby back; come with me!" and away I went across the garden and down the road to the first house.

That was "Mulligan's tavern," a very low place, indeed, shunned by all respectable folk; but I knew there was always men there who were afraid of nobody. The greatest brutes would not refuse aid to a woman at such a time.

As we came near I saw a light in one of the windows, and heard voices and loud laughter. It was no time for ceremony, so I burst the door open and ran in. There were four men playing cards, and old Mrs. Mulligan behind the bar.

"Oh, please excuse me," I cried; "but do come right away. There are housebreakers in my house, and they've stolen my baby."

"Sthole the baby?" cried old Mrs. Mulligan.

"Oh, do come," I implored.

"Go, Pat," said the old woman; "never mind the game. It's Missus Jackman; more betoken she's the next neighbors to us. Take yer pistols, an' away wid ye, boys. An' Missus, just take a drop o' screechin' hot whisky to kape the life in ye."

Of course I refused the latter offer, but in a moment the men were on their feet, and I felt like blessing them—those half-savage creatures who had become my protectors.

I don't know how we got to the house or upstairs. I remember an awful tumult, a smell of gunpowder, oaths and shouts. Then there was silence—then a loud laugh.

"It's thrue, boys," said old Mulligan's voice. "I know Mither Jackman, an' it's himself. It's a great misthake—that's all."

"A singular mistake to enter a man's house and endeavor to shoot him in his own bed," said a voice I knew to be my husband's; and at that I rushed into the room.

He was there, and so was the baby, for he held her in his arms; and there, also, was Mulligan and his friends and their pistols, and half the furniture was broken and the stove upset. But as for the housebreakers, they—I began to see the truth. Mr. Mulligan was hacking out.

"I'll leave Mrs. Jackman to explain," he said. "An' I'm proud I didn't kill ye, though it's out o' friendship I'd have done it; for if yer own wife took ye for a housebreaker, how would I know better? The top o' the night till ye, an' I'll lave the lady to explain."

Ah! I did really wish that the ground would open and swallow me. You see my husband had come home while we were hunting up the chickens, and finding baby wide awake, had taken her up to bed and gone to sleep. And the robber under the bed was his muddy boots, with, of course, no feet in them; and well there were none, for they were riddled with bullet holes. Mr. Mulligan had fired at them, fortunately. When I thought of the awful danger Jasper and the baby had been in, I went into strong hysterics at once, and frightened Jasper so that he was glad to forgive me when I came to myself. It was a terrible mistake, and might have ended seriously of course; but I will say now and always that it was Jasper's fault, and that if he had been a housebreaker we might all have been thankful for my great presence of mind.—*Mary Kyle Dallas.*

HOME ADORNMENT.—Nature is active in adorning her dominions, and man, to whom this beauty is addressed, should feel and obey the lesson. Let him, too, be industrious in adorning his domain—in making his home, the dwelling of his wife and children, not only convenient and comfortable, but pleasant. Let him, as far as circumstances will admit, be industrious in surrounding it with pleasant objects—in decorating it, within and without, with things that tend to make it agreeable and attractive. Let industry make home the abode of neatness and order—a place which brings satisfaction to every inmate, and which in absence draws back the heart by the fond associations of content. Let this be done, and this sacred spot will become more surely the scene of cheerfulness and peace. Ye parents, who would have your children happy, be industrious to bring them up in the midst of a pleasant, a cheerful and a happy home. Waste not your time in accumulating wealth for them, but plant in their minds and souls, in the way proposed, the seeds of virtue and prosperity.

Mountain Top Letters.—No. 11.

[Written for RURAL PRESS by "JEWELL."]

Four months of sunshine! No fogs, winds, clouds, or excessive heat, is what one might call a perfect climate, it seems to me—and such has been our climate since June last. No wonder the consumptives begin to climb our rugged slopes, camping out, and devoting time and strength to hunting, fishing and enjoying the charming scenery stretching for miles on every side, beneath their feet; and no wonder they gain health and strength in such an atmosphere of purity and lightness, away from the city's breath and exciting hum, and amid nature's crowning works—God's temples in which His feathered tribes worship and give thanks daily. Surely, with such grandeur and beauty, such a continued display of sunshine and balmy breezes, such an endless variety of tree, vine, shrub and fern, one would expect to rapidly gain in health, strength and beauty too. That they do so is proven by the fact that most of the settlers are, or were invalids, and have come upon the mountains to live; and it is astonishing the amount of work an invalid man can accomplish, without being killed.

Ye dwellers of cities or valleys have little conception of the amount of labor necessary for the making of a home on the mountains. There are roads to make—which is no easy task—trees to fell and split into boards or timbers for your cabin, fence to make, fields to clear for planting, trees to plant, and if there are only two hands to do all this, and they feeble ones, you may readily imagine the weary months before anything seems accomplished, where so much remains undone.

One often wonders why men of sound bodies and big purses do not build themselves homes here. Perhaps the quiet beauty and grand outlook over miles of territory would not harmonize with the abnormal desires wealth brings its possessor. Yet I very much doubt if untold wealth would make me willing to go from my mountain top.

What a blessed counselor is hope; bidding the poor wait for better times; the invalid trust and wait for strength; and the rough mountaineer hope for good crops, and the good time in the future, when he shall see his fruit trees bending with heavily-laden limbs, as if thanking the planter for having allowed them space in the soft, brown loam of the orchard. In the darkest day of trials, in sickness and death, if the angel of hope be near, the heart is cheered and warmed by thoughts of a near future of happier times, and a lasting reunion where no sickness or death can come. All have a vague hope that all is well as it is, if we only can calmly learn a lesson of patience and fulfill our duties left us to do.

Perhaps no one faculty of our organization is so essential to the welfare and health of humanity as that of hope. It makes the rude cabin glow in its fire-light as a palace. The stormy day is enlivened with gleams of visionary sunlight; and the fading invalid feels new life coursing his veins as hope opens her windows to his vision. Without hope, life loses its charm and death is sought by the suicide.

These thoughts come to those who live so much in the future, when the cabin shall have many outgrowths, all under one sheltering roof. Outbuildings shall have grown, fences neat and strong—be a sure protection against roving stock. Big orchards, vineyards and berry patches in healthy growth. Babies grown to big boyhood and a help to the overworked parents overworked no more; grown gray, perhaps, but placid and easy in the good time come. Good roads and fat, sleek teams make "going to town" easy and pleasant, where once it was difficult and dangerous. School-houses within easy access, and jovial neighbors on adjoining farms; ruddy youths and maidens meeting socially at each others' homes—making merry over the tales of old times which tried men's souls, and women's too. Such castles, hope builds for us, and dreaming them we try to forget the hardships and privations of today.

Santa Cruz.

WHAT "WIFE" MEANS.—Says Ruskin: What do you think the beautiful word "wife" comes from? It is the great word in which the English and Latin languages conquered the French and Greek. I hope the French will some day get a word for it instead of that *femme*. But what do you think it comes from? The great value of the Saxon words is that they mean something. Wife means "weaver." You must either be housewives or house moths, remember that. In the deep sense, you must either weave men's fortunes and embroider them, or feed upon and bring them to decay. Wherever a true wife comes, home is always around her. The stars may be over her head, the glow-worm in the night's cold grass may be the fire at her feet, but home is where she is, and for a noble woman it stretches far around her, better than houses ceiled with cedar or painted with vermilion—shedding its quiet light for those who else are homeless. This, I believe, is the woman's true place and power.

MISS BETSEY ROATH, of Greenville, Conn., celebrated the centennial anniversary of her birth on the 6th ult., at her residence, which stands upon a portion of the grant of four square miles made to Robert Roath, her ancestor, over two centuries ago. She is in good health, and reads without the aid of glasses.

Chaff.

A WESTERN paper heads the marriage of a bachelor of 57 years, "Another Old Landmark Gone."

If the size of a man's head-gear is proof of intellectual power, what an immense brain the fellow must have who stole our hat.

ANOTHER poet comes forward and says: "And I hear the hiss of a scorching kiss." Beats all what a man can hear if he is only mean enough to listen.

"How many deaths?" asked the hospital physician while going on his rounds. "Nine." "Why I ordered medicine for ten." "Yes, but one wouldn't take it."

THE poor old negro preacher was more than half right when he said, "Bredderin, if we could see into our hearts as God does, it would mos' skeer us to death."

JOSH BILLINGS suggests that if a man is on his way to the woods to commit suicide, and if a bull suddenly gives chase, the chances are that he will run for his life.

A WRITER advises that girls who wish to have small mouths should repeat at frequent intervals through the day: "Fannie Finch fried four floundering frogs for Frances Fowler's father."

A CERTAIN doctor of divinity said every blade of grass was a sermon. The next day he was amusing himself by clipping his lawn, when a parishioner said, "That's right, doctor, cut your sermons short."

AN elderly resident of Newtown was approached by an agent for a cyclopædia. "I guess I won't get one," said the elderly resident, and frankly added, "I know I never could learn to ride one of the pesky things."

"You see," said a lively old Aberdeen hachelor, on being advised to get married, "You see I can't do it, because I could not marry a woman I didn't respect, and it would be impossible for me to respect a woman who would marry me."

A DROLL fellow fished a rich gentleman out of a mill-pond, and refused the offer of 25 cents from the rescued miser. "Oh, that's too much!" exclaimed he, "'tain't worth it!" and he handed back 21 cents, saying calmly as he pocketed 4 cents, "That's about right."

At Deippe, in France, the following notice has been issued for the police: "The hatching police are requested, when a lady is in danger of drowning, to seize her by the dress, and not by the hair, which often remains in their grasp. Newfoundland dogs will govern themselves accordingly."

The Governor's Thanksgiving Proclamation.

The following proclamation has been issued at the State Capital:

Immemorial custom has engraven upon the hearts of our people a grateful acknowledgement to Almighty God for the manifold mercies he has bestowed upon us as a nation.

This settlement of these American States was founded on the everlasting principles of civil and religious liberty; its teachings have made us among the nations of the earth honored and respected.

Thanksgiving Day is the offspring of those principles, hallowed by the dearest and most sacred memories.

It has pleased the Father of us all to have dealt most kindly and generously to us; Government has been strengthened, the unity of our people cemented, prosperity has gladdened our hearts, peace has bestowed plenty, and plenty has diffused happiness and comfort throughout the vast extent of our beloved country.

For these blessings let us be truly thankful; let each individual accord praise for these blessings as his belief may lead him; gather together around the family table; make these reunions the bright spot of home love; forget not the poor and the unfortunate; let charity and mercy be the attributes to mark this day as one set apart, to forget which is to remember nothing.

Now, therefore, in accordance with the proclamation of his Excellency, the President of the United States, I recommend that on Thursday, the 25th day of November next, the people of the State of California do assemble at their places of worship and offer thanks to the Giver of all these great mercies, for the many blessings which His bountiful goodness has been pleased to bestow upon us.

In witness whereof I have hereunto set my hand and caused the great seal of the State of California to be affixed, at the city of Sacramento, California, this 10th day of November, A. D. 1880.

GEO. C. PERKINS,

Governor.

Attest: D. M. BURNS, Sec'y of State.

"God save the Commonwealth."

FURNISH YOUR BOYS WITH TOOLS.—Prof. John E. Sweet, in an address before the Onondaga Co. Farmers' Club, said: "The farmer who provides himself with the necessary tools to do the repairing of the farm, not only makes a paying investment, but does for his sons, in another way, just exactly what he does for them when he sends them to school. He gives them a chance to learn something—he does even more, he gives them a chance to learn to do something. From among those boys will be found the mechanical engineers of the future." It would be difficult to crowd more truth and common sense into this short space. It is well known among mechanics that when an apprentice "learns to handle his tools" his trade is half learned.

Young Folks' Column.

Mr. Martin's Leg.

Last week I got a beautiful dog. Father had gone away for a few days, and I heard mother say that she wished she had a nice little dog to stay in the house and drive robbers away. The very next day a lovely dog that didn't belong to anybody came into our yard, and I made a dog-house for him out of a barrel, and got some beefsteak out of the closet for him, and got a cat for him to chase, and made him comfortable. He is part bull-dog, and his ears and tail are gone, and he hasn't but one eye, and he's lame in one of his hind legs, and the hair has been scalded off part of him, and he's just lovely. If you saw him after a cat you'd say he was a perfect beauty. Mother won't let me bring him into the house, and says she never saw such a horrid brute, but some women haven't any taste about dogs anyway.

His name is Sitting Bull, though most of the time when he isn't chasing cats he's lying down. He knows pretty near everything. Some dogs know more than folks. A "specialist in cats," which means that he knows the whole science of cats. The very first night I let him loose he chased a cat up the pear-tree and he sat under that tree and danced around it and howled all night. The neighbors next door threw most all their things at him but they couldn't discourage him. I had to tie him up after breakfast and let the cat get down and run away before I let him loose again, or he'd have barked all summer.

The only trouble with him is, that he can't see very well and keeps running against things. If he starts to run out of the gate he is just as likely to run head first into the fence, and when he chases a cat round a corner he will sometimes mistake a stick of wood or the lawn-mower for the cat and try to shake it to death. This was the way he came to get me into trouble with Mr. Martin.

He hadn't been at our house for so long (Mr. Martin, I mean) that we all thought he never would come again. Father sometimes said that his friend Martin had been driven out of the house because my conduct was such that he expected I would separate him from all his friends. Of course I was sorry that father felt bad about it, but if I were his age I would have friends that were made more substantial than Mr. Martin is.

Night before last I was out in the back yard with Sitting Bull looking for a stray cat that sometimes comes around the house after dark and steals the strawberries and takes the apples out of the cellar. At least I suppose it is this particular cat that steals the apples, for the cook says a cat does it and we haven't any private cat of our own. After a while I saw the cat coming along the side of the fence looking wicked enough to steal anything and to tell stories about it afterward. I was sitting on the ground holding Sitting Bull's head in my lap and telling him that I did wish he'd take to rat-hunting like Sam McGinnis's terrier, but no sooner had I seen this cat and whispered to Sitting Bull that she was in sight than he jumped and went for her.

He chased her along the fence into the front yard, where she made a dive under the front piazza. Sitting Bull came round the corner of the house just flying, and I close after him. It happened that Mr. Martin was at that identical moment going up the steps of the piazza, and Sitting Bull mistaking one of his legs for the cat jumped for it, and had it in his teeth before I could say a word.

When that dog once gets hold of a thing there is no use in reasoning with him, for he won't listen to anything. Mr. Martin howled and said "Take him off; my gracious the dog is mad," and I said, "Come here sir. Good dog. Leave him alone," but Sitting Bull hung on to the leg as if he was deaf and Mr. Martin hung on to the railing of the piazza and made twice as much noise as the dog. I didn't know whether I'd better run for the doctor or the police, but after shaking the leg for about a minute Sitting Bull gave it an awful pull and pulled it off just at the knee joint. When I saw the dog rushing round the yard with the leg in his mouth I ran into the house and told Sue and begged her to cut a hole in the wall and hide me behind the plastering where the police couldn't find me. When she went down to help Mr. Martin she saw him just going out of the yard on a wheelbarrow with a man wheeling him on a broad grin.

If he ever comes to this house again I'm going to run away. It turns out that his leg was made of cork, and I suppose the rest of him is either cork or glass. Some day he'll drop apart on our piazza, and then the whole blame will be put on me.—By Jimmy Brown, in Harper's Young People.

THERE is a fortune in store for the genius who shall produce a boiler-iron shoe for the small boy. Something warranted to last two weeks is what is wanted.

"In what condition was the patriarch Job at the end of his life?" asked a Brooklyn Sunday-school teacher of a quiet-looking boy at the foot of the class. "Dead," calmly replied the quiet-looking boy.

TEACHER—"Suppose that you have two sticks of candy, and your big brother gives you two more; how many have you got then?" Little boy (shaking his head)—"You don't know him. He ain't that kind of a boy."

GOOD HEALTH.

Health in the Schools.

William Blaikie, the author of "How to Get Strong and How to Stay So," spoke before the Brooklyn Teachers' Association recently on "Physical Education." "I want," said he, "to see if in an informal talk we can't hit upon some way in which we can bring the physical education of school children down to a practical basis."

Our children, who are healthy and buxom when they begin school work, come out pale, sickly, and with round shoulders. If you require the children under you to sit far back on a chair and to hold their chins up you will cure them of being round-shouldered, and the lungs and other vital organs will have free and healthy play. Another simple plan is to have the children bend over backward until they can see the ceiling. This exercise for a few minutes each day will work a wonderful transformation. If a well-qualified teacher could be employed to superintend the physical development of the children, the best results would be seen. Dr. Sargent, now the Superintendent of the Harvard gymnasium, who formerly had charge of a gymnasium in New York, has no equal as a teacher of simple, efficacious means by which the weak parts of one's body may be developed. I think it would be well for you to send some competent person to him to take some lessons, and then the exercises could be taught to your teachers. The first steps should be simple and economical. Exercises of the simplest kind can be begun without any apparatus.

In our opinion there is no way of securing physical education in city schools, except by having a professor of physical culture in each of them, and a large room for the use of the pupils. Physical training should receive the same attention as arithmetic and grammar, and the teacher of it he just as well qualified in his department as those in other departments. We have talked about it long enough. What we want now is action. When this boon has been given we shall all wonder we did not have it before. We might as well leave out geography as gymnastics in our schools.

The Use of Grapes.

With the abundance of grapes grown in California, but little attention has been paid to the value of the fruit as an article of diet, both in health and sickness. They contain a considerable amount of hydro-carbonaceous matter, together with potassium salts, a combination which does not tend to irritate, but, on the contrary, to soothe the stomach, and which is consequently used with advantage even in dyspepsia.

According to Dr. Hartsen, of Canhes, in France, who has recently contributed an article on the subject to a foreign medical journal, the organic acids in grapes, especially tartaric acid, deserves more consideration than they have generally received. Their nutritive value has, he thinks, been much underrated. It is known that they are changed to carbonic acid in the blood, and possibly careful researches may show that they are convertible into fats. Dr. Hartsen thinks that they should be ranked with the carbohydrates as food. They have been found a valuable diet in fever, and the success of the "grape cures" in the Tyrol and other parts of Europe appears to show that they are positively beneficial in other diseases.

TO RENDER COD-LIVER OIL TASTELESS.—Dr. Penneves, in a French journal, recommends in order to render cod-liver oil tasteless to mix a tablespoonful of it intimately with the yolk of an egg, add a few drops of essence of peppermint and half a tumbler of sugared water. By this means the taste and characteristic odor of the oil are entirely covered, and the patients take it without the slightest repugnance. Besides, the oil, being thus rendered insensible as the water in all its proportions, is in as complete a state of emulsion as the fats at the moment they penetrate the chyle vessels, consequently absorption is better assured.

COFFEE FUMES A POWERFUL DISINFECTANT.—The power of burnt coffee as a disinfectant has been tested by some recent experiments made in Paris. A quantity of meat was hung up in a closed room until decomposed, and then a chafing dish was introduced and 500 grammes of coffee thrown on the fire; in a few minutes the room was completely disinfected. In another room sulphureted hydrogen and ammonia were developed, and 90 grammes of coffee destroyed the smell in about half a minute. It is also stated that the fumes of coffee quickly destroy the smell of musk, asafoetida and other powerful odors.

FRECKLES.—These troublesome patches indicate a disturbance in the functions of the skin. The capillaries are congested with effete or excrementitious matter, hence the yellowish discolorations. Persons who are troubled with this, are in the habit of eating food which contains too much carbon. They are fond of butter, sugar, gravies, salt, rich sauces, etc. The character freckles represent is that of carelessness in diet, perhaps in washing, too, rather than anything of a special moral type.

DOMESTIC ECONOMY.

Cake Basket.

We select the following recipes from the Rural New Yorker:

Imperial Cake.—One pound of butter, one pound of sugar, one pound of flour, one nutmeg, one pound of raisins, half a pound of citron, ten eggs, one wine-glass of brandy, one wine-glass of wine, and one pound of blanched almonds.

Snow Cake or White Sponge Cake.—One tumblerful of flour, one and one-half tumblerful of sugar, one small teaspoonful of cream-of-tartar (no soda), and the whites of ten eggs. Beat the eggs very light, sift the flour, sugar and cream-of-tartar together, and stir gradually to the eggs. Bake in a round, papered pan 45 minutes. After baking, frost it with the white of one egg, three spoonfuls of powdered sugar, and then cover with grated cocoanut.

Roll Jelly Cake.—Three eggs, one cup of sugar, granulated, four tablespoonfuls of cream, one-half teaspoonful of soda, one cup of flour. If sweet cream is used, add one teaspoonful of cream-of-tartar. Bake in a long, shallow pan to a light brown. When done, turn bottom up on a hawl or cloth, spread with jelly, and roll up while warm, wrap the cloth around it, and set in a cool place until needed. For sponge cake, use the same recipe, omitting the cream. It seems to me all the recipes given in our papers are so rich or elaborate in construction as to be of little use to busy housewives whose time is fully occupied. The above will be found quickly and easily made and very palatable.

Fig Cake.—Two cups of sugar, one-half cup of sweet milk, one cup of butter, three cups of flour, three teaspoonfuls of baking powder, 24 figs, sliced thin. Drop them in after you have put the cake in the tin to bake.

Currant Cake.—One cup of sugar, one-half cup of butter, one-half cup of sweet milk, three teaspoonfuls of baking powder, one cup of English currants, roll them in flour; one and one-half cup of flour.

Ribbon Cake.—One cup of sugar, one-half cup of butter, one-half cup of sweet milk, one large teaspoonful of baking powder, two cups of flour, three eggs, taking out two of the whites for frosting. Bake in three layers, put spices and fruits in middle layer, between each light one put jelly, then frosting between each.

Marble Cake (dark).—One cup of brown sugar, one-half cup of molasses, one-half cup of butter, one-fourth cup of milk, yolks of four eggs, two teaspoonfuls of cloves, two of cinnamon, two nutmegs, one teaspoonful of baking powder, two cups of flour. Light part.—One cup of white sugar, one-half cup of butter, one-fourth cup of milk, whites of four eggs, one teaspoonful of baking powder, one-half cup of flour, lay in layers or spots. This makes two large layers.

ORANGE SAUCE.—Orange sauce is composed of the grated rind of bitter oranges, horse-radish, mustard, cayenne pepper, etc. It is as important an adjunct to ham, as brown-bread and butter to whitehail, or apple sauce to sucking pig, and brings out in a marvelous manner, certain delicate aromas, certain hidden subtleties of flavor which, without its aid, are almost imperceptible to an ordinary palate.

CARROTS A LA CREME.—Pick out the smallest new carrots that can be obtained, boil them in salted water till almost done, then drain off the water. Melt one oz. of butter in a saucepan, add to it a dessertspoonful of flour, pepper, salt, grated nutmeg, a pinch of powdered sugar, and a small quantity of cream. Put in the carrots, simmer gently a few minutes and serve.

PLUM MARMALADE.—Rub the plums, after draining through a sieve or colander, to take out the stones and skins. Add half a lb. of sugar for each pint of pulp, boil slowly, stirring well to prevent burning, until it is a smooth, thick paste. Excellent marmalade is made by mixing the sifted pulp of wild plums and crab apples.

LEMON CHEESE CAKES.—Beat up equal parts of (say ½ lb.) of sugar and butter, the yolks of two and the white of one egg, with the finely-grated rind and the strained juice of two lemons; line some patty pans with puff paste; fill them with the mixture, and bake in a moderate oven.

BREAD OMELET.—Put a cupful of bread crumbs into a saucepan, with about as much cream, salt, pepper and a very little nutmeg. Let stand until the bread has absorbed all the cream, then break six eggs into it, and beat together; turn into a pan with a little melted butter, and fry like other omelets.

AMBROSIA.—Peel some sweet oranges, slice them and lay them in a glass dish with alternate layers of grated cocoanut and sugar to taste, putting a layer of cocoanut on top, and pouring over the whole a glass of good sherry. Place on the ice till needed, and serve very cold.

HOW MOLD CAN BE PREVENTED ON PICKLES.—Cut horse-radish roots into thin slices lengthwise, and lay half a dozen or so of these pieces on the top of each jar of pickles, allowing them to remain until all the pickles are used. Grated horse-radish will not do, as it soon loses its strength and then ferments.



DEWEY & CO., Publishers.
A. T. DEWEY. W. B. EWER.
Office, 208 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.
ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$5.00
Half inch (1 square)..... \$1.00 \$3.00 7.50 24.00
One inch..... 2.00 5.00 14.00 40.00
Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, November 20, 1880

TABLE OF CONTENTS.

EDITORIALS.—Southdown Sheep; Hats From the California Fan Palm; California Meat Products; Cotton Growing, 321. Political Education, 325. The Week; The Need for New Outlets; To the Readers of the California Horticulturist, 328. The Mold of Bread; Cross Fertilization of the Almond, 329.
ILLUSTRATIONS.—Ham of Southdown Breed—The Famous Mutton Sheep; Removing Cinchona Bark by the Musing Process, 321. Growth of Bread Mold as Seen by the Microscope, 328.
POULTRY YARD.—Fatal Turkey Disease; Geese; Dressing Poultry, 322.
THE VINEYARD.—Tuolumne County Grapes; The European Phylloxera Congress, 322.
THE APIARY.—Foul Brood, 322-3.
SHEEP AND WOOL.—The Wool Trade, 323.
THE STOCK YARD.—A New Stock Farm in Tehama County, 323.
THE SWINE YARD.—Col. Curtis' Pig Party, 323.
THE STABLE.—The Horse Epizootic, 323.
PATRONS OF HUSBANDRY.—The Grange and its Work; Grange Notes; Resolutions of Respect, 324.
AGRICULTURAL NOTES from the various counties of California and Colorado, 324-5.
NEWS IN BRIEF, on page 325 and other pages.
HOME CIRCLE.—Work and Wait (Poetry); Presence of Mind; Home Adornment; Mountain Top Letters—No. 11, 326. Chaff; The Governor's Thanksgiving Proclamation; Furnish Your Boys with Tools, 327.
YOUNG FOLKS' COLUMN.—Mr. Martin's Leg, 327.
GOOD HEALTH.—Health in the Schools; The Use of Grapes; To Render Cod-Liver Oil Tasteless; Coffee Fumes a Powerful Disinfectant; Freckles, 327.
DOMESTIC ECONOMY.—Cake Basket; Orange Sauce; Carrots a la Creme; Plum Marmalade; Lemon Cheese Cakes; Bread Omelet; Amhrasia; How Mold can be Prevented on Pickles, 327.
QUERIES AND REPLIES.—Vine Fertilizing; Names on Country Gates; Triangle; Stockbridge Chief; Grapevine Mildew, 328.

Business Announcements.

Percheron Horses.—M. W. Dunham, Wayue, Ill.
Winter Styles.—Butterick & Co., S. F.
Seeds.—Sevin Vincent & Co., S. F.
Auzerals House.—Chas. E. Pearson, San Jose, Cal.
Pepper's Nurseries.—W. H. Pepper, Petaluma, Cal.

The Week.

Next week will bring Thanksgiving day and its old-time reunions, rejoicings and thanksgivings for manifold blessings which have been showered upon us during the year now drawing to its close. We expect next week to give our readers a little something extra in the shape of a Thanksgiving edition of the RURAL PRESS, enlarged in number of pages and to be filled, we trust, with text and illustrations of especial fitness to the occasion, together with articles of intrinsic worth and interest to those engaged in the various specialties of our agriculture. In order to reach our readers by Thanksgiving day, we expect to go to press one day earlier next week. Tuesday evening then will be the time for closing our forms, and those who have commendable designs, either upon our reading or advertising columns, will please bear this fact in mind.

There has been much blow this week. Northerners have ruled the day and the night as well, and they have given a most sad and wintry appearance to our gardens. Frosts of considerable severity have occurred, and tender plants have wilted and blown away. The grapeleaves in some parts have disappeared, and indications on nearly every hand declare the season closed. The rains have long delayed, and nearly all are crying for their approach. The delay has, however, been attended with such great benefits, in giving opportunity to gather in belated crops, that few have found heart to seriously pine for rain. There is no occasion to anticipate a lack of water from the lateness of its coming, for the record shows years when rain was delayed much longer than it has been thus far this year, and yet there was a heavy aggregate in inches before the spring time. As northerners in large amount usually yield to southerly winds bearing rains, so, perhaps, we may ere long find these present gales giving way to floods of tears when the gentler mood pervades the skies.

The Need for New Outlets.

We have often emphasized the need of freer outlet for our produce and the necessity for constant effort to maintain healthful competition between carrying companies or rival avenues of commerce. It is an old theme, but it comes with redoubled force every time there comes a fresh turn of the screws by existing transportation kings. The present grievance is a severe one in many ways. Just as the wool was moving from grower to buyer in considerable quantities, and the improved condition in the Eastern centers was leading buyers to be rather more generous in their bids, there came suddenly the announcement that the railroad had advanced the freight on wool from 2½ cents to 2½ cents per lb., a rise of ½ cent. This action on the part of the railway authorities was altogether unanticipated, and has come at a most unfortunate time. It is right in the midst of the trade in fall wool, which is rather late this year because of a temporary lull in the Eastern demand. The effect is not only to disarrange the calculations of the Eastern buyers, who were figuring on very large shipments, but it has thrown a wet blanket upon the trade interest, which was just awakening finely. It is difficult to look upon a movement of this kind without feelings of indignation, and a certain sensation of surprise, although there are reasons enough why one should not be surprised at any such action on the part of the company. From the railroad point of view it was simply that wool was advancing a little, buyers were taking it freely, and they must ship it; the ships were scarce and ocean freights high, hence there could be little danger of water competition; the trade could stand a little heavier burden, or at least they could not escape it, and the increased rate was inflicted. The protests of the Wool Exchange of this city availed nothing; the indignation of the wool growers will avail nothing. Wool was evidently doing a little better, and the railroad proposed to enjoy the benefit of it. That is probably all there is of it.

There is decency in all things, or at least there should be, and it would seem to dictate to a great organization, claiming to be serving the general good and the development of the coast, that it is not decent treatment of one of our leading interests to strike such a blow just at the time that the market seemed to be gaining a little strength. It matters not if it can be shown that wool has been carried too cheaply. We do not know whether such claim is made or not, but if it were, the rate should not have been changed in the midst of large transactions, when the whole business would be demoralized by it. There is a time for all things, and the present was evidently not the time to advance the rate on wool.

There seems to be two ways by which the public interest can be saved from such strokes on the part of transportation companies. One is the measure which has long been urged, and that is some government control of railways, which shall prevent such arbitrary actions. This movement on the part of the people is constantly gaining strength, and it may result in salutary results. In Chicago, last month, there was held a farmer's convention, which was attended by over 600 delegates from several States to take some action upon the great railroad question, and the following resolutions among others were adopted:

"We demand of Congress that it shall place the rail roads of the country under Government control, enacting laws that will certainly protect the producer from the terrible extortions under which he has so long suffered, and that we will hold our Representatives in the National Legislature to a strict accountability for their action in the premises, pledging ourselves and our constituency to exert ourselves to defeat the re-election of any man to any legislative or executive office who does not actively favor, in his official capacity, the subjugation of railroad corporations to the will of the people."

We demand of our respective political parties that hereafter they shall nominate for the State Legislature and for Congress only such men as are in sympathy with industrial and commercial interests, and who, if elected, will work and vote to place the producer upon an equal footing with monopolies of every character, and to this end oppose all class legislation; and if our respective parties refuse to do this, we pledge ourselves to use every honorable means to defeat the candidate which they present for our suffrages."

These resolutions embody truths which should be promulgated everywhere and discussed in the light of the fullest information which can be obtained.

Another escape from the selfish action of a monopoly is to favor the growth of competition. Every day makes it more and more apparent that the producers of the Pacific coast would gain immensely by the realization of an isthmus canal project, for this would bring the water route into a more even contest with the rails. It is encouraging to note that the various canal projects are being pushed energetically, and it seems indisputable that one or more must be speedily constructed. The Nicaragua route, which is certainly the favorite one with Americans, is gaining headway, and will doubtless take definite shape at the coming session of Congress. It is to be hoped that it will go forward, and any influence which Pacific coast producers and shippers may have, should certainly be exerted to that end.

It is admitted that the cattle imported from America into England last summer did not have the Texas fever, but merely suffered from confinement. An attempt will be made to modify the restrictions on cattle importations.

To the Readers of the California Horticulturist.

We welcome to the circle of our readers those who have heretofore been subscribers of the California Horticulturist. The Horticulturist has been transferred to Dewey & Co., publishers of the PACIFIC RURAL PRESS, and the former publication will be merged in the latter. During the two years of his editorial connection with the Horticulturist, Mr. Chas. H. Shinn has shown much devotion and talent, and placed the magazine upon a high plane of interest and excellence. The publishers, Messrs. Carmany & Co., contributed freely to the mechanical needs of the publication and gave it handsome form and features. Both editor and publishers desiring to devote their time to their other work, offered us the Horticulturist on acceptable terms. We should regret the suspension of the Horticulturist were it not that we feel confident that all the interests it served are already embraced in the aims of the RURAL PRESS, and that by the consolidation of the two there can be no better work done than either has accomplished hitherto.

We extend a cordial welcome to all subscribers of the Horticulturist to come in and abide with us and aid us by their support to carry forward the work of improvement and the attainment of greater usefulness toward which we always labor in the RURAL PRESS. Those who contributed their experience, their observation and their thought to the columns of the Horticulturist, we earnestly invite to continue such favors to the RURAL PRESS, and we trust the much wider circle of readers whom they may henceforth address, will repay the effort by eliciting more general response and appreciation.

MORE ROOM FOR WHEAT.—Evidence accumulates to enforce the truth of the position we have been maintaining for the last three weeks, that there will be much more wheat needed abroad this year than early estimates promised. This will of course be the surety of the maintenance of prices. They cannot be expected to be very high, neither can they fall so low as would unfortunately have been the case if early reports of the great preponderance of supply over demand should have proved true. Among late exchanges from New York is the Shipping List, of Nov. 6th, a commercial paper of high rank. It says: "The outlook of the wheat market is regarded as being more promising to farmers and dealers than it was two months ago, for the reason that the requirements of Europe are much greater than was deemed probable or possible while the harvest was in progress. So far as the yield in the United States this year is concerned, the minimum estimate of the Agricultural Bureau is 485,000,000 bushels. The same authority estimates that for home consumption there will be needed some 300,000,000 bushels, while the United Kingdom will require of foreign grown wheat at least 125,000,000 bushels, and France 90,000,000 bushels." The article then goes on to show that the crops of Germany, Austria and Russia are short, the latter country not long ago having had a larger export grain trade than the United States. It is not anticipated that Russia will have much surplus wheat to export this year, and "it was probably a knowledge of this fact that caused the recent stiffening in prices." The article in question goes on to state: "The one important fact appears to be that the shortage in cereals of European production is much greater than was anticipated earlier in the season. This shortage runs up to many million bushels beyond the early figures. Most of this deficiency must be supplied by the United States. And it would seem that the entire surplus grain of this country would not be much more than sufficient to make up for the deficiency, which is not only set down as apparent, but a reality."

CALIFORNIA FRUIT IN NEW YORK.—The New York Times has the following notes on California fruit: The almost total failure of the California pear crop has been severely felt, since for the past several years California pears have been making at this season of the year the most attractive portion of the market exhibits; but although the Golden State has failed to contribute her usual quantity of pears, she has done far better than ever before with grapes. During this week some of the very finest California grapes ever sent East will arrive here. These grapes are exceedingly tender, of delicate flavor, and generally very large. Perhaps the most attractive of all the varieties which come from that State is the Black Morocco. As its name indicates, it is very dark-colored, and it is generally of very large size.

GREAT BRITAIN GOING TO GRASS.—We have noted from time to time, the constantly decreasing area in Great Britain devoted to cereal crops. The agriculture of the country is gradually changing from grain growing to stock feeding and dairying. From the invaluable agricultural returns of Great Britain, just published by Mr. Giffen, it appears that since 1870 there has been an increase of 2,500,000 of acres in permanent grass.

QUERIES AND REPLIES.

Vine Fertilizing.

EDITORS PRESS:—Is barn-yard manure a good fertilizer for Mission grape vineyard? Is there any better? Would it increase the growth of the wood to the detriment of the grapes?—E. S., Sacramento.

Barn-yard manure is a somewhat uncertain quantity when applied directly to vines. We know of cases where a moderate quantity, properly composted with bones and house-wastes, produced a good result, but the application to vines as manure is usually applied to other plants, does not, as a rule, yield satisfactory results. Husmann, in his "Grape Growing," the latest book published upon the subject, says: "Should the vines show a decrease in vigor, so as to indicate the need of stimulants, they may be manured with ashes, bone dust, compost, or better still, with surface soil from the woods or prairies. This will serve to replenish the soil which may have washed off, and is more beneficial than stable manure. When the latter is employed, a small trench may be dug in the middle of the row just above the vines, the manure laid in and covered with soil. But an abundance of fresh soil drawn around the vine is the best of all manures."

A recent California experiment, with the use of different fertilizers on the vine, was lately described in a letter to the Healdsburg Enterprise, written by the experimenter himself, the essence of which is as follows: "The vineyard is an old one, most of the vines being from 12 to 16 years old. It has never had an ounce of manure of any kind on it since the vines were planted, until the last year, and then only a few vines have been experimented on. It lies on a gentle slope to the south, and a small portion on an abrupt rise facing the south; there is a very great difference in the flavor of the grapes in the lower and upper portions. A few vines from each portion were selected and manured as follows: 1st, with barn-yard manure well rotted; 2nd, burying dead chickens from my yard; 3d, liberal supplies of ashes; 4th, liberal supply of bones; 5th, mixture of bones and ashes; 6th, chip manure from wood pile, well decomposed. It is impossible to give an estimate of the full effect of these manures yet, but this year—i. e., the year the manure was applied—the result is as follows: The vines manured with barn-yard manure looked well, and the growth of cane is large. The grapes, however, did not correspond, and every vine so manured mildewed. Those with animal manure—i. e., the dead chickens around them—are in better condition, but the yield does not attract attention. The ashes and bones each have given strong canes, a good yield of grapes and the vines are very healthy. Combined they have had an extraordinary effect—the vines are loaded. The chip manure has acted well, but not equal to either bones or ashes, singly or combined. One vine, manured with ends from the wash tub, yields well, but the leaves look sickly and white."

Names on Country Gates.

EDITORS PRESS:—I have just traveled about 1,500 miles through your State, and have often been much troubled in getting directions as to the road. I beg to suggest, through your valuable and widely-read paper, that every farmer put upon his gate-post his name. This would facilitate travelers in finding the house they need and in many ways be of great service. There is more need of name-plates in the country than on private houses in the city.—S.

The convenience would certainly be great, especially where houses are far from the highway, and the time required in making inquiries is great. We should also like to see a much wider posting of direction and distance boards at the cross roads. In some counties this is well done, but in others neglected. It costs little to help the traveler in this way, and the benefit is very great.

Triangle.

EDITORS PRESS:—Can you give directions for making a steel triangle to serve in place of a bell? I mean the size of the bar, quality of metal, the length of the side, etc. How far would certain sizes sound under favorable conditions?—S., Santa Barbara.

Doubtless some reader can give us a letter on this subject, as the music of the triangle is welcome at the dinner hour. Will some one give directions for making, etc.?

Stockbridge Chief.

EDITORS PRESS:—Will you, or some of the many readers of the PRESS, tell us something of a fine stock horse, owned in San Francisco, called Stockbridge Chief? It was some 10 or 12 years ago, I think, that he was there. I would also like some information concerning the Shakespeare steeple; were they trotting stock or not?—Scribbler, San Luis Obispo.

We shall be glad to hear from those having information on these subjects.

Grapevine Mildew.

EDITORS PRESS:—What is the best preventative of mildew on grapes?—Reader.

The best remedy is powdered sulphur applied to the leaves before the appearance of the mildew, say early in May, and repeated once or twice afterward if there is any sign of the fungus.

A MEETING of brewers was held in New York Saturday, to take action against the passage of the bill now pending before Congress to increase the duty on barley now imported from Canada.

SOME horses belonging to a farmer near Martinez were found last week to have glanders and faicy in their worst form, and were killed.

The Mold of Bread.

With a view of interesting our readers who may have microscopes, but have not done much in the study of microscopic fungi, we shall give a chapter or two concerning the structure of some cryptogamic plants which one meets with most often. Among these are the molds which form upon foods, upon the walls of damp buildings and upon many other objects. One of the most common of these is the mold of bread which we choose for illustration and description upon this page.

The name of this mold is *penicillium crustaceum* and it belongs to the order of fungi called *Hyphomycetes*. The predominant feature in the structure of this order, according to Cooke, consists in the development of the vegetative system under the form of simple or branched threads on which the fruit is generated. One of the large genera under this order is one which includes the black molds which are seen on decaying wood and the like, and another is the *Mucedines* or molds on food, etc., to which we would especially refer.

In the engraving, *a*, is the bread mold as it appears to the naked eye when full grown. It is trite to say that such a patch of fungus would look like a forest if examined with a microscope, and how far this is true may be learned from Fig. *b*, which shows the mold as seen with a moderate magnifying power. It is plain from this that the mold is really composed of minute plants. The manner of its growth is by the ramification of minute filaments (called the mycelium of the plant), and from these, here and there, there arise thread-like stems which branch at the top and throw out rows of spores like strings of beads. As these spores ripen they fall, as shown at *c*, where the ripened spores are represented as dropping from the plumed top of the stem. This figure is magnified 420 diameters, a power which can only be satisfactorily attained with a compound microscope. The same fruit-bearing stage of the fungus is seen still more enlarged at *d*, merely the apex of the fruit stem being shown and magnified 620 diameters. A single chain of spores is still more enlarged at *e*, and the spores are seen to be perfectly formed spherical bodies or cells, but slightly attached to each other. As they ripen this slight attachment gives way and the spores are free. They go hither and thither and when they fall upon a favoring substance they send forth sprouts as seen at *f*, and thus new patches of mold are quickly formed and spread so fast that the substance is quickly enveloped in the coating.

It is often asked, whence comes the mold which quickly attacks food left exposed in a damp atmosphere. It has been demonstrated that the minute spores are carried everywhere in the air. They are so minute and so light that their transportation is easily effected. As the seed (as it were) of the fungus is thus ever present, it needs but the proper conditions of heat and moisture to develop the perfect plants when a proper foster substance is exposed. These fungus spores have been gathered from the atmosphere and identified by the microscope.

Molds may be guarded against by freeing the apartment from moisture. Thus, opening the windows and admitting the sunlight, will arrest the formation of mold upon the walls of a damp apartment. A similar result can be attained in cloudy weather by building a hot fire in the room and drying the air thoroughly. In cellars and the like, the fungus can be arrested by a free use of powdered sulphur, or by occasional whitewashing. Such precautions should always be taken, for an atmosphere which favors the formation of mold is not favorable to health and bodily comfort.

THE HAY MARKET.—There seems to have been quite a "deal" in hay this year. We are informed that most of the hay in the nearest producing regions was purchased long ago by San Francisco speculators at something like \$8 per ton and permitted to stay in the country until called for. When the proper time came the speculators began to apply the screws to the market, and the price for the best wheat hay has already ascended to \$15 per ton, and other sorts in proportion. Everything will favor those who have hay this year. The production was comparatively light, for the price has been low for a long time, and there was a better disposition to grow grain than hay. This determination was favored by the nature of the season, which in its freedom from rust encouraged farmers to let their fields stand. A threat of rust would have turned thousands of acres into hay at once, which finally stood for the reaper. Another favorable thing for hay prices is the lateness of the season. There is no rain yet, nor any immediate promise of rain. Usually there is some green feed starting by this time of the year, but now there is none, therefore the consumption of hay must continue for some time. In some of the foothill counties, however, hay reaches its highest prices. In Tuolumne county, for example, where there was much grain grown this year, there was proportionately less hay, and it has already been quoted at \$25 per ton.

ANGORAS.—They seem to want Angora goats in Mexico. We read of a shipment from Kentucky to Mexico, via New Orleans, of five head of ewes at \$50 each.

In the Southern Counties

Visitors to our southern counties seem to return laden with information concerning the spirit of advancement which is now nerving the arms of our friends in that part of the State. We had a pleasant chat on Tuesday with J. M. Hixson, of Hixson, Justi & Co., of this city. Mr. Hixson has just returned from an extended tour through the counties of Santa Barbara, Ventura, Los Angeles and San Bernardino, taking special notice of the fruit interest but awake to all indications of progress. Mr. Hixson speaks of a great change in the tenor of affairs, the general disposition being toward earnest effort and confidence in the success which all indications are now foreshadowing.

This year's orange crop Mr. Hixson believes will be a good one, more extensive than last year's, perhaps about as large as the crop of two years ago, but the quality will be as a rule much finer. Of the growth of deciduous fruits in the southern counties Mr. Hixson saw abundant indications that the success of many varieties of these is far greater than any one foresaw—in fact



GROWTH OF BREAD MOLD AS SEEN WITH THE MICROSCOPE.

the growth and quality of apples and pears, peaches and apricots is a surprise. That grand apples should be produced in an orange country is somewhat opposed to all preconceived notions drawn from the growth of these two fruits elsewhere. Mr. Hixson was one of the judges on apples at the Los Angeles fair, and as there were something more than 100 distinct exhibits to be tested he had a good opportunity to judge of quality. He finds in the southern California apples a high, true flavor, as marked as in the best Oregon apples, and the size of some varieties is remarkable. He gave his opinion freely when asked, to the effect that he had never seen at the State fair such a good display of deciduous fruits as were shown at Los Angeles, and he has attended every State fair since 1858.

The growth of the apricot in Santa Barbara county and the splendid canned specimens received from that town have been noticed several times, and the public has decided to give Santa Barbara due rank in that regard. It seems, however, that Ventura county is to contest the apricot supremacy. Mr. Hixson says some dried apricots produced by Mr. Day, of Ventura county, were the finest he ever saw. They were sold in this city for something more than 26 cents per lb.

Prunes too are showing their adaptation to southern California conditions, and many trees are being planted. The old idea that the plum does not succeed in that part of the State is giving way before the evidence of the fine samples already produced in some parts. These and many more notes of success, which have been brought to notice by our correspondents in southern California, Mr. Hixson pronounces to be true achievements, and they are all having their due effect in the enlivening and advancement of that part of the State. There is certainly testimony on every side that the southern counties are going forward.

THE ARTHROZOIC CLUB.—The Arthrozoic Club of this city held its regular meeting on Wednesday evening in the rooms of the Viticultural Society. After the regular business had been transacted, the members were entertained by remarks from Drs. Kellogg and Bleasdale. Speaking of his trip to Owens valley, Dr. Kellogg wished to draw attention to two things which he witnessed there and thought they might be turned to practical account by agriculturists. The first related to the mode employed by the Indians of taking worms from the *Pinus ponderosa*, which they collect and prepare for food. They first carefully scoop out a little trench around the root of the tree—say six inches deep—then by burning under the trees such stuff as will make a thick smoke, when the worms make webs and come to the ground in search of pure air. The banks of the ditch being composed of loose sand, the worms cannot climb it, and, therefore, are unable to reach the tree again. By this means the Indian serves a double purpose—provides himself with food and preserves the seed of the tree. The second related to a natural process of dwarfing trees. The *Pinus Jeffreyi*, whose

Cross Fertilization of the Almond.

A very interesting feature of California experience in almond growing is now coming into considerable prominence, and it is notable that almond growers in widely separated parts of the State seem to have arrived at about the same conclusion at about the same time. In brief, it is simply this: That the Languedoc variety, for some reason not demonstrated, does not set its fruit well if grown by itself, but if there are trees of the bitter almond, or seedlings of the bitter almond (and perhaps trees of some other varieties), adjacent to the Languedoc, there will be a good setting of nuts and a satisfactory yield. It is idle to speculate upon the exact reason why this cross fertilization becomes necessary to the Languedoc, until more facts are ascertained, but it is interesting to cite items of experience of different growers upon the general proposition.

Mr. A. T. Hatch, who made the fine display of more than 30 varieties of seedling almonds at the last meeting of the State Horticultural Society, considers the point as thoroughly established in his experience. His Languedocs are untrustworthy and unsatisfactory except where bitter trees, or seedlings therefrom, are near to them, and in such situations the yield is satisfactory. Mr. B. D. T. Clough, of Niles, an almond grower of long experience, holds about the same doctrine, and believes he has lost a great deal of money and given a great deal of poor advice to planters, because he did not earlier learn the facts which he now maintains. We have conversed with other almond growers, among them Mr. Curtner, of Harrisburg, who do not see in their experience the proof of the need of cross fertilization, and yet they acknowledge that if they were setting new almond orchards, they would not fail to put in a certain number of the natural trees to ensure themselves if the experience of others should at any time be their own.

From the southern part of the State there comes the announcement of similar observations on the behavior of Languedoc trees. A few weeks ago, A. R. Meserve, of Pomona, wrote us a letter giving his experience on this matter, and describing his success in introducing King's paper-shell almond to the neighborhood of his Languedocs. It is worth while to reproduce a paragraph from Mr. Meserve's letter, in case some may have overlooked it. He wrote: "Three years ago a few of King's paper-shell almond trees were put out adjacent to one of the Languedoc orchards, making a little over half a row. This year the 17 Languedocs, in immediate contact with the paper-shells, are loaded with nuts; the next adjoining 17 have about one-third as many, while the 34 have more than the combined remaining portion of an orchard of 400 trees. This fact has been investigated by several experienced and intelligent horticulturists, who invariably pronounced the same verdict of fertilizing property from King's variety to the other. A redemption suggests itself for old non-productive trees by budding or grafting one limb upon each Languedoc to the paper-shell. In two years a full crop can be reasonably expected, with previous condition similar to mine. The King are on the windward side of the orchard for the prevailing summer breezes."

This matter is worth investigating farther, and we should be glad to have the experience of all our almond growing readers upon it. Indications approving or disproving the points advanced, are worth considering, as tending toward a better understanding of the subject in all its relations.

LESS THAN SEVEN PER CENT.—It is an item of some general significance that the Los Angeles *Herald* announces that J. W. Mackay, the Bonanza prince, has offered L. J. Rose, the well known San Gabriel grape grower and horse breeder, a loan of \$100,000 at less than 7% per annum. The affair had something of a personal character, it is true, for Mr. Mackay had partaken of Mr. Rose's hospitality, and had become interested in his agricultural operations. And yet it is of general interest that the money bag element possesses the quality of conviction, and can be led away from the engrossing schemes of the stock market into an appreciation of the nobler arts of agriculture. There are many promising agricultural enterprises in this State which can be fostered and promoted by the loan of capital at favorable terms, and when capitalists consent to this use of their money, they contribute to the progress and prosperity of the State. The subject is referred to the men who hold the money.

LARGE PEAR.—H. F. Buckley brings us from his place at Hopeton, Merced county, a pear of magnificent proportions, to wit: Weight, 4 lbs.; longitudinal circumference, 22½ inches; horizontal circumference, 17½ inches. It is a notable fruit, and has attracted much attention as displayed in our business office. Although of the race of the giants, it is not so large as some of its predecessors, for there was found in Sacramento in 1870 a pear which weighed 4 lbs. 9 ounces, and which was pronounced by Col. Wilder, of the American Pomological Society, to be larger than anything recorded in pear annals. It is interesting to remember that 4 lbs. 9 ounces is the greatest weight thus far found in a pear, and if any one finds a sample exceeding this bulk it should be made known.

Debris Work.

Completion of the Yuba Dam at Marysville—A Success Predicted.

The Marysville Appeal contains an interesting account, in detail, of the debris dam across the Yuba, at that point, which was completed on Nov. 3d. After sketching the origin of the work and its early progress, the Appeal says:

Turning the Yuba river and filling the gap in the otherwise completed dam, through which the river has been permitted to run, was looked upon as one of the most difficult portions of the work, and it has proven so. The hydraulic mining companies along the Yuba, in order to reduce the volume flowing to the dam, ceased, on Saturday, the running of water into the river, and have been holding back all they could by means of their reservoirs. The effect was noticed at the dam Sunday evening. It was expected that the gap could be closed on Tuesday, and the companies above were not to restrain the river after that day, but the work not being sufficiently advanced, they were then notified to hold the water until to-day. On Tuesday, the construction of a brush wing-dam across the river a quarter of a mile above the gap was commenced. Its object was to turn the river northward over certain high land to the low land on the north side. Another large force was kept filling the gap with brush and staking it down for foundation for the mattress. The force was kept at work during the night.

Yesterday the wing-dam had been effective enough to turn a portion of the river in the desired direction. This stream going across the sands struck the brush-dam about 10 o'clock, at a point about half a mile from the wing-dam and one-third of a mile from the gap. The heavy north wind kept driving the water back toward the channel, but the wing-dam was increased in height, and faced with sand bags that forced the water to cut its way northward to the low land. By the middle of the afternoon half the river was running that way, and the volume increased steadily until night. Where it struck the dam there was a strong current that did no harm and ran along the scraper ditch to the low places, which began filling. There was no seepage, and it was apparent that there must be several ft. of water piled up against the dam before there could be seepage or percolation through the brush. Seepage is what is expected, and will do no harm. The force worked last night, and to-day every man will be busy. It is expected that the gap will be crossed with brush and mattress, and some layers of logs be put on to-day, and the work be finally completed to-morrow. At noon to-day the water will probably have filled all the low places, and will begin to make its way through the brush at the north end of the dam. This stage of the proceedings will be watched with interest.

It is claimed for the dam that when the water is at flood height, it will slip through the dam and flow over it all along the crest at a depth of not more than one ft., and the fall will be broken by the lower ends of the logs. It is calculated that the water coming into the still pool will lose its velocity and deposit the material which it carries into the reservoir, and passing down the river will be able to cut out the channel below the dam. Much debris will pile up against the dam and gradually raise the bed of the reservoir to the height of the dam, but at the same time a new grade proportionately high will form and extend back up the river for miles, and all the addition thus made to the dam only increases its strength and solidity, and reduces the pressure on the slope of the dam proper, and it will form a solid hill in the river. The area of the reservoir, it is roughly calculated, is sufficient to hold 75,000,000 cubic yards of silt, and be from one to three years in filling. On top of this dam and the earth that will in time fill up to the crest, another dam, when necessary, can be constructed, it is said, at one-fifth of the cost of the present one, because the main cost was in the excavations and heavy foundations that will not be needed next time. Then, too, by condemning a valley south of the reservoir, it is claimed, by good authority, the storage capacity could be increased more than three-fold. At any rate it is a matter of congratulation that the work has been about completed under favorable auspices. The test will come this winter.

A dispatch to the Call yesterday says that the river was turned into its former channel late last night, and satisfactory progress is being made to complete the dam. No fears are entertained, but that the dam will be a perfect success.

FALLING WATER.—Water in falling is subject to the same laws as other falling bodies, passing through one ft. in one-fourth second, four ft. in one-half second, nine ft. in three-fourth second, etc.; hence its velocity flowing through the side of a reservoir, bulkhead or any vessel, is the same as that of a heavy body falling freely from a height equal to the distance between the middle of the aperture or hole to the surface of water below.

SAWS.—A saw just large enough to cut through a board, will require less power than a saw larger, the number of teeth, speed and thickness being equal in each. The more teeth, the more power, provided the thickness, speed and feed are equal. There is, however, a limit, or a point where a few teeth will not answer the place of a large number.

H. H. H. Horse Medicine.

Stockton, February 4, 1880, H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired.

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

SAVE YOUR HORSES! Safety, Security and Economy.

Haggard & Brown's Wagon Tongue Support.

The undersigned has the agency for this coast. For trade price list or exclusive territory, address,

W. E. LIVERMORE, Los Gatos,

Santa Clara County, Cal.

CANDRALL SPRING SKELETON BUGGY.

LIGHTEST AND EASIEST RUNNING.

Cannot be upset by cramping or sudden turning. Will pass over the roughest roads or car tracks without jolting. Especially adapted for mountain roads. Warrented for two years.

A. MERSEREAU,
No. 1927 Mission St., Manufacturer

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with holly Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-keepers' Text Book, \$1;—Pacific Rural Hand-book, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes' Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

Engraving

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MIXING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT

Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned and run in babitted boxes. Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order new, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,



HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.

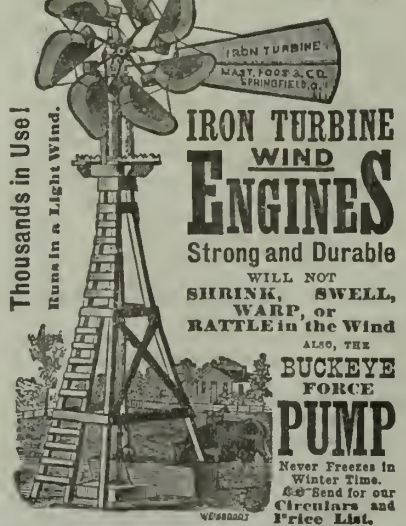


With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by

THOS. POWELL, Stockton, Cal.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE

WIND

ENGINES

Strong and Durable

WILL NOT SHRINK, SWELL, WARP, OR RATTLE in the Wind

ALSO, THE

BUCKEYE

FORCE

PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880.

To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

THE GREAT INSTRUCTION BOOK!

Richardson's New Method

FOR THE PIANOFORTE.

By Nathan Richardson.....Price \$3 25-

It is generally conceded that this is the most perfect, as well as the most successful Pianoforte instruction book ever published, having been many times revised, it may be considered as entirely free from errors. Having been repeatedly enlarged, it is remarkably full and complete. Many thousands of Teachers have used the book for years, and still continue to use it, as the best. Sales are constant and very large.

RICHARDSON'S

New Method for the Pianoforte

Is the title, order it by the whole title, and accept no other book, since this is the original and true "Richardson."

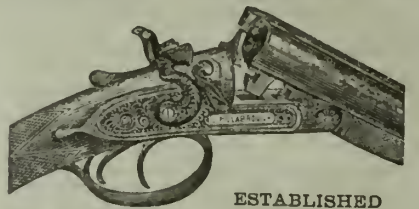
Sold by all the principal music dealers and Booksellers of the United States and Canada.

MAILED, POST-FREE, FOR \$3.25.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price can not be excelled, if equaled, on the Pacific Coast. Also, importers of Gun material, Breach loading Implements, Ammunition, Fencing Folds, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks, Card's Rotating Glass Ball Traps and Glass Balls.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Roadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address BYRON JACKSON, Prop'r.



DO NOT FAIL to send for our Price List for 1880. FREE by any address upon application. Contains descriptions of everything required for personal or family use, goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

M. COOKE R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

GILES H. GRAY.

JAMES M. HAYES.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.00 per gallon. For directions and testimonials apply to FALKNER, BELL & CO.

Sole Agents, 430 California Street, S. F.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive

Farms at fair rate of interest. Money also advanced on

Wheats. Apply to

A. SCHULLER,

209 Sansome St., S. F.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

PETER SAKS & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by imported Grand Prince of Lighburne, and cows of the Dutchess of York family; heifers being by the imported Bull Sheriff, a Seraphin Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal. Proprietor of Cahilan Herd. The foundation of the Cahilan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxforde, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland Cal.

R. J. MERCELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulten, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 418 California St., S. F.

POULTRY.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magpie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Belinda, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

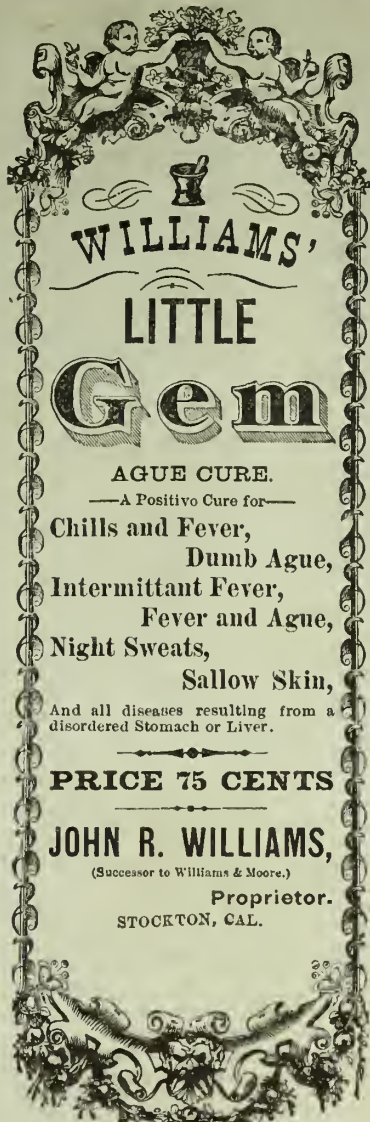
ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular

ISAAC B. MILLINGTON & CO., Chester, Pa.

A. AITKEN. F. N. FISH. AITKEN & FISH, Premium Pioneer Marble Works, 617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittent Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

70,000 SOLD YEARLY.

The growing popularity and usefulness of CABINET or PARLOR ORGANS is shown by the fact that SEVENTY THOUSAND are sold yearly in the United States. The best are the

MASON & HAMLIN ORGANS

Which have been awarded Highest Distinctions for Demonstrated Superiority at every one of the GREAT WORLD'S Industrial Exhibitions for thirteen years, without one single exception.

NEW STYLES

Are ready for the season with important improvements FOR LARGE CHURCHES, splendid organs, with great power and variety, at \$70, \$100, \$300, and less prices; FOR SMALLER CHURCHES, SCHOOLS, &c., \$84 to \$200 and upwards. SUPERB DRAWING ROOM STYLES at \$200 to \$510, and upwards; A GREAT VARIETY OF SMALLER ORGANS of equal excellence, though less capacity, or in plain cases at \$51 to \$300 and upwards. Also, furnished for Monthly or Quarterly payments, \$5 and upwards. These organs are certainly unrivaled in excellence, while the prices are not much higher than those of very inferior instruments.

Before purchasing any organ send for latest ILLUSTRATED CATALOGUE (32 pp. 4 to), containing full descriptions and prices, including new styles, and much useful information for the purchase of any organ, which will be sent free and postpaid. MASON & HAMLIN ORGAN CO., 154 Tremont Street, Boston; 46 East 14th Street, New York; 149 Wabash Avenue, Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, DEWEY & CO., Office MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome Street, S. —1880.

AGENTS WANTED Everywhere, to sell the **Best Family Knitting Machine** ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.**, 409 Washington St., Boston, Mass.

Adams' Patent Pillow Sham Holder

Prices reduced. Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. **G. W. WAGGONER**, 408 Tenth St., Oakland, Cal., Gen. Ag't for Pacific Coast.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samuels 10c. Conn. Card Co. Northford, Ct.

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.

BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00.
Pamphlet on Cure of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents. Please send stamp for Price List to

M. EYRE, Napa Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR**, 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

CRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
L. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masouic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

PATENT

CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental. To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St. S. F.

ADJUSTABLE

SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 10° is required to overturn. Address, TAYNTON & DERRICKSON, Clayton, Contra Costa County, Cal.

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 10 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,

Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation. Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and thousands of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,

Santa Cruz, Cal.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR WEEK ENDING OCTOBER 20th, 1880.

233,653.—GATK.—J. M. Cheney, Sonoma, Cal.
233,692.—WATER WHEEL.—L. A. Pelton, Camptonville, Cal.
233,638.—TAP AND FAUCET.—P. F. Gardner, Hills Ferry, Cal.
233,697.—COAL HOD.—W. M. S. Ray, S. F.
233,617.—STIRRUP.—H. E. Woehle, San Jose, Cal.
233,740.—LUNO AND FAUCET.—F. Engleken, Brooklyn, Cal.

FOR THE WEEK ENDING NOVEMBER 2d, 1880.

233,905.—STEAM GENERATOR.—D. Abell, Carbon, Nev.
233,923.—WINDMILL.—D. C. Harrie, Borden, Cal.
234,036.—STORER CAR.—C. G. James, Petaluma, Cal.
234,058.—KNOS-ROSE.—J. F. Peacock, S. F.
234,076.—BED-PAN.—W. M. Searby, S. F.
NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

WATER WHEEL.—L. A. Pelton, Camptonville, Yuba county, Cal. Patented Oct. 26, 1880. No. 233,692. This device relates to certain improvements in that class of water-wheels known as "hurdy gurdy" wheels, which are driven by the momentum of a stream of water delivered into buckets, on the periphery of the wheel, through a nozzle and under a high pressure. When the water is delivered upon flat or flat-bottomed buckets in this class of wheels, it splashes and reacts against the bottoms of the succeeding buckets, thus retarding the wheel. Buckets having pointed and other shaped bottoms, have been used to overcome the difficulty named, and with some success. In this invention a wheel is constructed having a flat face, and upon this face peculiar-shaped buckets are secured which are adapted to receive the stream from the nozzle and divide it so that the two parts of the stream are directed into the curved bottoms of the two halves of the bucket, and by means of the inclined or flaring sides the two streams are caused to react and escape smoothly at each side, so that the whole reactionary force of the water is utilized, and the water is discharged clear of the wheel and the following bucket.

DOUBLE-WALLED GLASS FISH GLOBES.—G. P. Ross and P. Valljo, Bristol, Nev. Patented Oct. 19, 1880. No. 233,435. This invention relates to certain improvements in the construction of globes or transparent vessels which are intended to contain gold or other ornamental fish; and it consists of a double-walled chamber, having an intervening space or spaces within which various colored fluids may be placed, so as to give a peculiar or attractive appearance to the contents of the globe or vessel. By this construction the globes may receive any tint desired, either to correspond with or contrast with the tint of the room in which the fish are to be kept, and the fish or other contents of the globe or vessel will be tinged with the color used by being seen through it.

WATCH CASE.—Ferdinand Ephraim, Bodie, Cal. Patented Oct. 19, 1880. No. 233,405. This invention relates to an improved construction of watch cases by which dust and moisture may be prevented from entering the case and injuring the works of the watch. Much damage is done in a very short time to watches, carried by persons engaged in occupations where there is much dust, by fine particles of dirt which get between the cases and gradually reach the operative parts of valuable watches, and in a short time destroy the usefulness of the time-piece. This device consists in making a rim to which the cases are hinged, so that a groove is formed around the periphery of the cases outside, and this arrests the dirt and prevents it entering the watch.

FARM GATE.—John M. Cheney, Sonoma, Cal. Patented Oct. 26, 1880. No. 233,658. This invention relates to certain improvements in that class of farm gates which are constructed in such a manner that they may be opened and closed without the need of the driver of a team leaving his wagon to move the gate. The improvements consist in a peculiar combination of cords or chains and rollers applied to a gate, suspended on rollers and moving in a horizontal plane, said cords and rollers being adapted to be moved by crank from either side of the gate, whereby the gate is readily and smoothly opened and closed.

PROCESS OF PURIFYING FATS AND OILS.—A. W. Winter, San Francisco. Patented Oct 19, 1880. No. 233,453. This process relates to bleaching, refining and purifying of tallow, lard, oil, stearic acid and other dark animal oils and fats, and also of certain vegetable oils, in an economical manner, without the use of acids or any poisonous or deleterious chemicals

COAL HOD.—W. M. S. Ray, No. 12 Market street, San Francisco. Patented Oct. 26, 1880. No. 233,697. In the shipping of light, bulky articles considerable cost for freight is entailed by reason of the space occupied, and coal-hods with their flaring bottoms and the projecting side-handle could not be economically packed. If they are shipped in the knock-down or incomplete form, they cannot be janned or finished; would be spoiled in putting the hod together. This invention is intended to remedy this, and enable coal-hods to be packed or nested so that a dozen complete hods may be packed in a space not larger than would ordinarily be occupied by two hods, by forming the projecting parts separately, and providing means for nitting them without the aid of skilled labor after they arrived at their destination.

CAN FILLER.—J. West, Westport, Oregon, and R. D. Hume, San Francisco, Cal. Patented Oct. 19, 1880. No. 233,449. This invention relates to certain improvements in that class of apparatus which is employed to mechanically pack and fill the cans in which meat, fish or other solid substances are hermetically sealed for the markets; and it consists in the employment of a carrying-belt, operated by an automatic pawl and ratchet whereby the material is carried forward into a chute, through which it is led to the shaping and compressing cylinder; and in combination with this chute, the employment of a pair of curved shearing knives, which cut the material to the exact cylindrical shape necessary to enable it to enter the can.

PIPE COUPLING.—Engene Riley, San Francisco. Patented Oct. 19, 1880. No. 233,434. This device consists in the formation of a hollow cylinder of wood of such an exterior size as to fit within a sleeve, and having an interior diameter which will just admit the size of the pipe to be used. These cylinders may be burned or otherwise formed at the shop in quantity, and delivered at any point where pipes are to be laid, while the pipes and the exterior sleeves may be delivered at the same point in their ordinary condition, and without any previous preparation.

A GOOD PLACE TO STOP.—With the majority of people who visit San Francisco, it is the desire to find a home-like, comfortable stopping place, where the prices are moderate, and at the same time the accommodations are good. To such, the American Exchange Hotel, corner of Sansome and Halleck streets, offers superior inducements. While in these days of colossal caravansaries, it cannot claim to be the first-class hotel of San Francisco, as it was in early days, it still does claim to be the best family hotel in the city, containing 200 rooms, well ventilated and neatly furnished. The table is well supplied with the best the market affords, and here, as elsewhere, mine host Bryan seems to have an eye single to the satisfaction of his guests, and to cheerfulness, neatness and comfort. The location of the hotel is good, being in the great business center, directly opposite Wells, Fargo & Co.'s express, convenient to the leading places of amusement—nearest hotel to all Oregon, southern and other steamers—and having street car connections with Woodward's Gardens and all quarters of the city, every two minutes. A barber shop, laundry and bath-rooms are connected with the house. The American Exchange coach is found at all boats and trains ready to convey passengers to the house free of charge. T.

AUZERALS HOUSE IN SAN JOSE.—This well-known hotel in one of our most beautiful interior cities has long been a favorite resort to both those traveling for business and pleasure. It has been the Mecca for bridal parties for half the State, and we do not wonder at it when we remember the quiet elegance and taste in the apartments and the excellence of the table. It is interesting to note that the Auzerals House has now passed under the management of Chas. E. Pearson, himself a popular landlord and brother of H. H. Pearson, who is at the helm of the Baldwin in this city. Mr. and Mrs. C. E. Pearson are qualified, both by kindly natures and long experience to make their guests comfortable and satisfied. The hotel has been thoroughly renovated by the new manager, and will be kept in first-class style in every respect. We are assured that prices will be moderate and every attention given. The citizens of San Jose should be pleased that their well-known hotel has passed into such competent hands, and certainly the traveling public will not forget that Pearson may be found at the Auzerals House, San Jose.

Attend to This.

Our subscribers will find the date they have paid to printed on the label of their paper. If it is not correct (or if the paper should ever come beyond the time desired), be sure to notify the publishers by letter or postal card. If we are not notified within a reasonable time we cannot be responsible for the errors or omission of agents.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CAVERT, Prop.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

Forward your subscriptions, and pay for the "Rural" a year in advance at \$3.

In the Whole History of Medicine

No preparation has ever performed such marvelous cures, or maintained so wide a reputation, as **ATKINS' CHERRY PECTORAL**, which is recognized as the world's remedy for all diseases of the throat and lungs. Its long continued series of wonderful cures in all climates has made it universally known as a safe and reliable agent to employ. Against ordinary colds, which are the forerunners of more serious disorders, it acts speedily and surely, always relieving suffering, and often saving life. The protection it affords, by its timely use in the throat and chest disorder, of children, makes it an invaluable remedy to be kept always on hand in every house. No person can afford to be without it, and those who have once used it never will. From their knowledge of its composition and effects physicians use the **CHERRY PECTORAL** extensively in their practice, and Clergymen recommend it. It is absolutely certain in its remedial effects, and will always cure where cures are possible.

FOR SALE BY ALL DEALERS.

The Prescott House,

Corner of Kearney St. and Montgomery Avenue, is certainly one of the best for the price in S. F. A good table is set, and the accommodations for lodgers are comfortable and commendable. The waiters are attentive, and their courtesy is exceeded only by that of the hospitable proprietor, Mr. Becker, who is obliging and attentive to all his patrons. The hotel is well situated, both for the convenience of business men in the city and visitors from the country. The latter will find it especially so, as the hotel is situated near the business center of the city, but yet in rather a quiet locality. Horse cars pass by the door every few minutes, which transfer to all parts of the city. A free coach to the Hotel. Give the house a call, and without doubt you will get your money's worth and continue your patronage.

ANDERSON SPRINGS.—These celebrated hot and cold sulphur, iron and soda springs are situated in the midst of a pine and spruce forest, in Lake county (a distance of 19 miles from Calistoga, and 10 miles—by an excellent road—from the Great Geysers; the nearest and most accessible pine grove to San Francisco and Sacramento), beside a living trout stream and surrounded by splendid mountain scenery; in the most invigorating and health-giving climate in the State. Good attention is given to the health and enjoyment of all visitors. Prices are very reasonable. Address Anderson Springs, Lake Co., Cal.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and ornamental life. The number of sea lions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

SAMPLE COPIES.—Occasionally we send copies of the paper to persons who we believe would be benefited by a perusing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

It will be a special favor to us if subscribers will forward their subscriptions at this time. Remember our terms are \$3 a year if paid in advance.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Nov. 17, 1880.

There is now much life and activity in trade. Wheat, Barley and Oats are showing more life. The Hay gamblers are putting up the rates on what they cornered long ago. Coal is pushed up \$3 3/4 ton, and there is apparently not much of it. There are many thence to engage the attention of the trading fraternity on the low ground, and soon the holiday trade in fancy goods will set the upper streets in a whirl of motion.

The foreign wheat market continues in good heart. A Liverpool dispatch yesterday says: "Good to choice California Wheat, 9s 11d to 10s 3d. The market is firm for export and cargo lots, and off coast cargoes are quoted at 47s."

Freights and Charters.

There is much activity in charters. Vessels coming in under charter are rechartered at a great advance. On charter holder made about \$4,000 by a transfer of this kind on a single ship. The rate now for iron ships seems to be about £3 17s 6d. There are but few vessels now in, but there are a number due to arrive.

The Foreign Review.

LONDON, Nov. 16.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "The weather is mild but rainy, but altogether a large proportion of the wheat-sowing has been accomplished under very favorable circumstances. The deliveries of English Wheat show a very indifferent condition. Good samples of English Red are sold comparatively readily. Values have been relatively higher in the provinces than in London. At the beginning of the week prices were higher in many of the provincial markets, but the tendency was weaker at the close. Inferior samples were of heavy sale. The same may be said of foreign wheat. Floating cargoes of American improved 9d to 1s on Tuesday and Wednesday and East India at 1s, but at the close of the week American had lost the advance, and the cargo trade was

generally weaker. The quantity of breadstuffs on the passage, and that which is being shipped for the United Kingdom, shows an increase in the last week. There were on Friday still 50 wheat-laden vessels overdue. As they arrive off the coast the trade weakens. American advices also have a weakening tendency. English Flour was in small supply and prices were well supported. The prices of foreign Flour were also well supported, but the supply was better. Barley was slow, except for the best malting samples of British, which were very scarce. Barley cargoes were steady. Oats are firmly held, but quieter at the close. Maize on the spot advanced 6d, but was less firm at the close. Maize on the passage advanced 3d to 6d early in the week, but the advance was lost on Friday. Sales of English Wheat during the week were 43,771 quarters, at 43s 6d per quarter, against 39,635 quarters, at 43s 9d during the corresponding period of last year. Imports into the United Kingdom for the week ending November 6th were 970,890 cwt Wheat, and 242,319 cwt Flour.

Eastern Grain and Provision Markets.

NEW YORK, Nov. 15.—The markets are fairly active. Wheat is 1/2 to 3/4 higher, but dull. Barley is dull and higher. Pork easier and neglected. Lard 5c lower and dull.

CHICAGO, Nov. 13.—The markets of this week have been fluctuating, with a stronger tendency in Grain, and weakening in Provisions. Sales for the week were: Wheat (December option), \$1.03 1/2 @ 1.04 1/2; Corn, 40 1/2 @ 41 1/2; Oats, 30 1/2 @ 31 1/2; Pork, \$12.07 1/2 @ 12 1/2; Lard, \$7.97 1/2 @ 8.17 1/2. Closing cash prices were: Wheat, \$1.04 1/2 @ 1.05; Corn, 42; Oats, 30 1/2; Rye, 8 1/2; Barley, 89; Pork, \$13 1/2 @ 14 1/2; Lard, \$8.07 1/2. Closing December prices were: Wheat, \$1.05 1/2; Corn, 42 1/2 @ 43 1/2; Oats, 31 1/2 @ 32 1/2; Pork, \$12.20 @ 12.25; Lard, \$8.02 1/2.

CHICAGO, Nov. 16.—Wheat, weak; easy, \$1.05 1/2; cash; \$1.05 1/2 December, 1.00 1/2 January. Corn, weak; easy; 42 1/2 cash; 42 1/2 January, 40 1/2 May. Oats, firm; 31c cash; 30 1/2 November, 31 1/2 January. Rye, 8 1/2 @ 8 5/8. Barley, 90c. Pork, weak; \$12.10 November and December; \$13.25 January. Lard, weak; \$8.05 asked cash; \$8.02 1/2 December; \$8.05 bid January. Bulk meats, easier; shoulders, \$4.60; short ribs, \$7.05; short clear, \$7.20.

NEW YORK, Nov. 16.—The markets are not over lively. Wheat opened, ruled, and closed dull and half lower, although foreign markets were stronger in cases and steady, although there was little export demand for all kinds. Barley was excited, and 3 1/2 higher. With Oswego and other markets, all of which, including the West, have been buying quietly, but freely of Canada, until the stock is reduced, and mostly out of farmers' hands, and controlled by dealers who find the crop in the West short, and a better consumption demand there since the panic. Sales: Two-rowed State, 8 1/2; four-rowed, 100; No. 1 Canada, 115; No. 1 Bright Canada, 120. Pork unsettled and weak. Lard dull and lower.

New York Dried Fruit Markets.

NEW YORK, Nov. 14.—Raisins are moving to a fair extent, but continue so irregular in price as to prevent large transactions; layers, \$2.05; loose, \$2.10. London layers, \$2.50 @ 2.60; Valencia, \$2.85; Currants of pure quality bring 5 1/2; off grade easy and dull. Prunes are unchanged. New, firm; old, easy. Figs are slow and unsettled; layers, 14 @ 14 1/2.

Wool Freight Advanced.

The *Chronicle* says: On yesterday the Wool merchants of San Francisco were once more reminded of the fact, so often demonstrated in our commercial affairs, that business may be regulated or temporarily suspended by the Central Pacific Railroad Company whenever that corporation may feel so inclined. Shippers of Wool to the Eastern market were informed yesterday, without previous intimation from any source, that the company had determined upon an advance in the freight rate of 1/2 @ 1/2, to take effect immediately. It also notified them that hereafter Wool must be baled so as to average 20 lbs of weight to the cubic ft. This abrupt announcement, of course, stopped business entirely and at once, as the present rates had only allow a margin to shippers. For the last few weeks the Wool market has been very active, but no advance in prices has taken place for the simple reason that buyers were already paying all they could afford. Holders of Wool, having tested the market thoroughly, were satisfied to accept the offered rates, and a heavy business resulted. When, therefore, the railroad company abruptly advanced the freight rate, they knew well enough that large parcels of Wool had been sold, and must of necessity be shipped. They waited patiently until the buyers had loaded themselves up, were getting their Wool ready for shipment, and then they stepped out with a demand of 1/2 @ 1/2 more. Some 4 weeks ago, when the market was just beginning to move, there was no vessel on the berth for New York in this port. Wool was being shipped in a moderate way by railroad, and care was taken to hide from them the fact that tonnage was hard to get. Two vessels were secured at a very full rate, and Wool buyers, feeling more secure, entered the market. A delegation from the Wool Exchange waited upon the powers at Fourth and Townsend Sts., yesterday, to request at least, a moderate extension of time. In order to get off some of the Wool nearly ready for shipment. All that could be obtained, however, was a promise that the new rate should not go into effect until to-day.

Eastern Wool Markets.

NEW YORK, Nov. 14.—Wool is in fair demand, and the recent advance is well maintained. Sales include 115,000 lbs Spring California, part at 18 1/2 @ 35c.

PHILADELPHIA, Nov. 16.—Wool is active and higher.

Wheat and Wool in Oregon.

PORTLAND, Nov. 16.—There are but few changes in the market for Domestic Produce to note. Quotations of Wheat markets abroad are well sustained, but the price of freight is also kept correspondingly high. There is but little advance in local trade in consequence of the disposition which seems to be put up on freights, and the disposition of holders of Wheat to wait for a further rise before selling. Receipts to-day were about 12,000 cils of Wheat and 1,500 barrels of Flour. Fair to choice Shipping Wheat is \$1 45 @ 1.47 for Valley, and Eastern Oregon is 2 1/2 @ 2 5/8 less. The improvement in price and demand for Wool, which has been noticed of late, continues. Telegraphic reports have drawn out a few lots which had been held over, and about 30,000 lbs have reached this market within the past 48 hours. Prices are firm at 2 1/2 @ 2 5/8 for Eastern Oregon, and 2 1/2 @ 2 3/4 for choice Valley.

BAGS.—The market is quiet, and there is no change in rates.

BARLEY.—There is much life in Barley, both here and at New York, as shown by the dispatch above. Feed Barley here has advanced about 5c @ cts. There are considerable sales of all descriptions. We note the following: 3,000 cks choice Bay Feed sold at 87 1/2c, an extreme price; 400 cks Coast Chevalier, 97 1/2c; 395 do do and 210 do choice Brewing, 85c; 1,700 and 300 do fair Brewing, 90c; 125 tons light do, 87 1/2c; 3,000, 500, 220 and 200 cks choice Coast Feed, 25c; 500 and 230 do Coast Chevalier, 85c; 150 do good Feed, 82 1/2c; 700, 500, 400 and 300 do fair do, 80a @ cts.

BEANS.—There are several fluctuations noted in our list of prices.

BUCKWHEAT.—Buckwheat has dropped to \$1.45.

CORN.—Corn is quiet and unchanged; 100 cks Small Round Yellow sold at \$1.12 1/2.

DAIRY PRODUCE.—Butter prices are still upward bound, and some fancy lots are selling at 47 1/2c. The supply is small, and the advantage is plainly on the side of the sellers.

EGGS.—Oboles California Eggs have kept pace with

fancy Butter, and are worth 47c for the best, but there are very few of them. Large lots of Eastern Eggs are arriving by rail, and there is full 20c @ 25 difference between the prices of Eastern and choice California Eggs. Prices in the table.

FRUIT—The variety is still contracting. Grapes are quiet and unchanged. Supplies are not excessive, but there is enough. New California Oranges are beginning to arrive, and have sold at \$40 to \$60 @ M, and pretty green at that.

HOPS—There is much life in the New York Hop markets. Telegraphic dispatches are as follows:

New York, Nov. 13.—Hops are in lively demand from shippers, and for prime and choice prices are firm. A car-load of choice California sold at 22c, supposed to be for export.

New York, Nov. 16.—Hops very firm under free orders from Europe. Sales choice at 23, and cash Brewers 24 @ 25.

The local market is in better tone.

OATS—Oats are doing better—say about 10c per cti—but there are not many called for. We note sales: 300 sks choice feed, \$1.35; 600 do fair do, \$1.22½, and 300 do poor do, \$1.15.

ONIONS—Onions are scarce, and both Reds and "Silverskins" are advanced from 25 to 50c per cti.

POTATOES—There is not much change, except a slight reduction in some sorts.

POULTRY AND GAME—Hens are a little higher. Ducks and Turkeys have declined a point. Wild Game is abundant and prices about the same as last week.

VEGETABLES—There are but small changes. Marrowfat is more abundant and lower, but Summer Squash is higher. Cucumbers and Carrots are also doing better, and Tomatoes will soon vanish, as the frost has killed most plants on the low grounds.

WHEAT—Shippers are taking large quantities and are less sharp about prices if they can get large lots of good quality. We note sales: 500 and 300 tons choice Ship. ping and 1,800 sks do Milling, \$1.52½; 10,000 sks No. 1, Port Costa delivery, \$1.51½; 300 tons and 10,400, 7,000, 1,000, 600, 500 and 500 sks do, \$1.50; 250 tons and 1,000, 500, 600 and 200 sks do, \$1.47½; 350 tons No. 2, \$1.46½; 130 tons and 1,100 sks do, \$1.45; 80 tons and 800 sks off grade, \$1.40; 400 sks Coast, \$1.30, and 300 do, \$1.20.

WOOL—The trade was proceeding at quite a brisk rate until the announcement of a rise in freight was flung at the hushness by the railroad company. The prices here are not materially changed from last week's quotations, but a rise would have been chronicled had it not been for this interference. The Eastern markets are strong, as shown by the dispatches above.

GENERAL MERCHANDISE.

[WHOLESALE.] WEDNESDAY M., Nov. 17, 1880.

CANDLES.	
Crystal Wax.....	12 @ 17½
Eagle.....	12 @ 17
Patent Sperm.....	25 @ 30
CANNED GOODS.	
Assorted Pie Fruits.....	2 @ 25
2 lb cans.....	2 @ 25
Tahle do.....	3 @ 50
Jams and Jellies.....	3 @ 75
Pickles, br gal.....	3 @ 25
Sardines, qr box.....	1 @ 25
Ht Boxes.....	2 @ 50
Merry, Paul & Co's.....	1 @ 40
Preserved Beef.....	2 @ 30
2 lb doz.....	3 @ 50
do Beef, 4 lb doz.....	6 @ 50
Preserved Mutton.....	2 @ 30
2 lb doz.....	3 @ 50
Beef Tongue.....	5 @ 25
Preserved Ham.....	2 @ 50
2 lb doz.....	5 @ 50
Deviled Ham, 1 lb.....	3 @ 20
do doz.....	3 @ 20
do Ham, 4 lb doz.....	3 @ 20
Boneless Pike Feet.....	3 @ 50
2 lb.....	2 @ 75
Spiced Fillets.....	2 @ 50
Head Obeese.....	3 @ 50
COAL—Jobbing.	
Australian, ton.....	— @ —
Oos Bay.....	— @ —
Bellingham Bay.....	— @ —
Seattle.....	12 @ 100
Cumberland.....	12 @ 100
Mt Diablo.....	4 @ 75
Lehigh.....	11 @ 120
Liverpool.....	6 @ 60
West Hartley.....	13 @ 150
Sooth.....	— @ 100
Soranton.....	— @ —
Vancouver Id.....	— @ —
Wellington.....	13 @ 150
Charcoal, sack.....	75 @ —
Oake, bush.....	60 @ —
COFFEE.	
Sandwich I L B.....	— @ —
Oosta Rica.....	15 @ 15
Guatemala.....	15 @ 15
Java.....	24 @ 25
Manilla.....	15 @ —
Ground, in ea.....	25 @ —
FISH.	
Sac to Dry Cod.....	— @ —
do in cases.....	— @ —
Eastern Cod.....	7 @ 75
Salmon, bbls.....	7 @ 75
Ht bbls.....	3 @ 40
1 lb cans.....	1 @ 13
Plid Cod, bbls.....	— @ —
Ht bbls.....	— @ —
Mackerel, No 1.....	— @ —
Ht Bbls.....	9 @ 100
In Kits.....	1 @ 15
Ex Moss.....	3 @ 40
Plid Herring, bx.....	3 @ 40
Boston Smkd H's.....	65 @ 70
LIME, ETC.	
Plaster, Golden.....	3 @ 35
Gate Mills.....	3 @ 35
Land Plaster, tn 100.....	12 @ 50
Lime, Sta Cruz.....	— @ —
bbl.....	1 @ 15
Cement, Rosen.....	2 @ 25
Portland.....	4 @ 40
NAILS.	
Assorted sizes, keg.....	— @ 50

RETAIL GROCERIES, ETC.

WEDNESDAY M., Nov. 17, 1880.

Butter, California.....	25 @ 45
Choice, lb.....	18 @ 25
Cheddar.....	25 @ 30
Eastern.....	25 @ 30
Lard, Cal.....	18 @ —
Eastern.....	20 @ 25
Flour, ex fam, bbls.....	20 @ 90
Corn Meal, b.....	24 @ 30
Sugar, wh, crshd.....	12 @ 134
Light brown.....	23 @ 35
Coffee, Green.....	25 @ 30
Tea, Fine Black.....	50 @ 100
Finest Japan.....	55 @ 100
Candles, Adm'te.....	15 @ 25
Soap, Cal.....	7 @ 10
Rice.....	8 @ 12
Yeast Pwdr, doz.....	1 @ 50
Onion's doz.....	2 @ 30
Syrup, S F Golden.....	75 @ 100
Dried Apple, lb.....	10 @ 10
Ger. Prunes.....	12 @ 15
Figs, Cal.....	9 @ 14
Peaches.....	11 @ 10
Oils, Kerosene.....	50 @ 60
White, Old Port.....	3 @ 50
French Claret.....	1 @ 50
Cal, doz bot.....	3 @ 50
Whisky, O K, gal.....	3 @ 50
French Brandy.....	4 @ 60

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Nov. 17, 1880.

BEANS & PEAS.	
Bayo, cti.....	90 @ 100
Butter.....	12 @ 100
Castor.....	25 @ 30
Red.....	95 @ 100
Pink.....	95 @ 100
Sm'l White.....	90 @ 100
Uma.....	35 @ 40
Field Peas, bbl.....	25 @ 30
do, green.....	10 @ 15
BROOM CORN.	
Southern.....	14 @ 2
Northern.....	24 @ 3
CHICKEN.	
California.....	4 @ 43
German.....	63 @ 7
DAIRY PRODUCE, ETC.	
BUTTER.	
Cal Fresh Roll, lb.....	42 @ 45
do Fancy Brands.....	45 @ 47
Pickle Roll.....	37 @ 40
Firkin, new.....	35 @ 35
Western.....	— @ —
New York.....	— @ —
CHEESE.	
Obeese, Cal, lb.....	13 @ 15
N. Y. State.....	18 @ 20
EGGS.	
Cal fresh, doz.....	42 @ 47
do, poor to good.....	40 @ 42
Ducks.....	— @ —
Oregon.....	— @ —
Eastern, by exprs.....	26 @ 27
Pickled bere.....	— @ —
Utah.....	37 @ 40
FEED.	
Brn, ton.....	— @ 150
Corn Meal.....	23 @ 240
Hay.....	10 @ 15
Middlings.....	— @ 200
Oil Cake Meal.....	30 @ —
Straw, bale.....	40 @ 50
FLOUR.	
Extra City Mills.....	5 @ 25
do, Country Mills.....	4 @ 25
do, Oregon.....	4 @ 25
do, Walla Walla.....	75 @ 100
Superfine.....	3 @ 25
FRESH MEAT.	
Beef, 1st quality, lb.....	5 @ 54
Second.....	— @ 43
Third.....	— @ 34
Mutton.....	3 @ 34
Spring Lamb.....	4 @ 44
Pork, undressed.....	4 @ 44
Dressed.....	62 @ 7
Veal.....	— @ 81
Milk Calves.....	54 @ 52
do, choice.....	7 @ 74
GRAIN, ETC.	
Barley, feed, cti.....	82 @ 85
do, Brewing.....	92 @ 95
Chevalier.....	15 @ 21
do, Coast.....	85 @ 105
Buckwheat.....	— @ 45
Corn, White.....	— @ 92
Yellow.....	62 @ 61
Small Round.....	19 @ 121
Oats.....	1 @ 20
Milling.....	1 @ 20
Rye.....	— @ 52
Wheat, No 1.....	47 @ 52
do, No 2.....	42 @ 45
do, No 3.....	12 @ 15
Choice Milling.....	— @ 52
HIDES.	
Hide, dry.....	13 @ 13
Wet salted.....	10 @ 10
HONEY, ETC.	
Beeswax, lb.....	22 @ 25
Honey in comb.....	12 @ 13
do, No 2.....	— @ —
Dark.....	5 @ 6
Extracted.....	64 @ 7
HOPS.	
Oregon.....	15 @ 16
California, new.....	14 @ 20
Wash. Ter.....	15 @ 17
Old Hops.....	— @ —
NETS—Jobbing.	
Walrus, Cal.....	9 @ 10
do Chile.....	7 @ 9
Almonds, Cal.....	8 @ 10
Soft sh.....	14 @ 15
Brazil.....	14 @ 15
LEATHER.	
WHOLESALE.	
WEDNESDAY M., Nov. 17, 1880.	
Sole Leather, heavy, lb.....	30 @ 32
Light.....	25 @ 23
Jodot, 8 to 10 Kil, doz.....	35 @ 45
11 to 13 Kil.....	50 @ 50
14 to 16 Kil.....	65 @ 70
Second Choice, 11 to 15 Kil.....	40 @ 65
Simon Ulmo, Females, 12 to 13 Kil.....	52 @ 65
14 to 15 Kil.....	51 @ 65
16 to 17 Kil.....	60 @ 70
Simon, 18 Kil.....	61 @ 64
20 Kil.....	— @ 65
24 Kil.....	70 @ 73
Kips, French, lb.....	1 @ 1 3/4
Cal, doz.....	48 @ 54
French Sheep, all colors.....	12 @ 15
Eastern Cal for Backs, lb.....	1 @ 1 25
Sheep Hides for Topping, all colors, doz.....	3 @ 100
For Linings.....	6 @ 100
Cal Russet Sheep Linings.....	3 @ 5 50
Root Legs, French Cal, pair.....	— @ 4 50
Good French Cal.....	— @ 4 50
Best Jodot Cal.....	4 @ 5 25
Lathe, Harness, lb.....	25 @ 40
Fair Bridle, doz.....	45 @ 60
Skirting, lb.....	33 @ 37
Welt, doz.....	30 @ 36
Buff, doz.....	17 @ 20
Wax Side.....	19 @ 20
BAGS AND BAGGING.	
[JOBBER PRICES.]	
WEDNESDAY M., Nov. 17, 1880.	
Eng Standard Wheat, 9 @ 14.....	45 inch..... 24 @ 24
California Manufacture.....	40 inch..... 24 @ 24
Hand Sewed, 22x36.....	9 @ 94
22x40.....	12 @ 124
22x40.....	13 @ 134
Machine Swd, 22x36.....	9 @ 94
Flour Sacks, halves.....	9 @ 104
Quarters.....	54 @ 6
Eighties.....	34 @ 4
Hessian, 60 inch.....	— @ 24
LUMBER.	
WEDNESDAY M., Nov. 17, 1880.	
PINE AND REDWOOD.	
CARGO RATES.	
PINE.....	16 @ 20
Rough.....	16 @ 20
Flouring & Step, No. 2.....	24 @ 30
REDWOOD.....	16 @ 20
Rough.....	16 @ 20
Flouring & Step, No. 2.....	24 @ 30
RETAIL RATES.	
PINE.....	20 @ 20
Rough.....	20 @ 20
Flouring & Step, No. 1.....	30 @ 30
REDWOOD.....	20 @ 20
Rough.....	20 @ 20
Flouring & Step, No. 1.....	30 @ 30

FRUITS AND VEGETABLES.

[WHOLESALE.]

WEDNESDAY M., Nov. 17, 1880.

FRUIT MARKET.	
Apples, box.....	50 @ 1 25
Bananas, unch.....	2 @ 40
Blackberries, chst.....	8 @ 1100
Citrus, Cal, 100.....	— @ —
Cocoonuts, 100.....	7 @ 800
Cranberries, bbl.....	11 @ 130
Figs, black, bx.....	10 @ 100
Grapes, common.....	25 @ 30
Corichou.....	50 @ 60
Muscad.....	40 @ 50
Rose Peru, bx.....	40 @ 50
Bl'k Hamburg.....	40 @ 50
Tokay.....	40 @ 50
Limes, Mex.....	15 @ 160
do, Cal, box.....	1 75 @ 2 25
do, large, box.....	5 @ 700
Lemons, Cal, bx.....	3 @ 300
Sicily, box.....	8 @ 900
Australian.....	5 @ 500
Oranges, Cal, M.....	20 @ 500
do, Tahiti.....	— @ —
do, Mexican.....	— @ —
Pears, box.....	1 @ 200
Pineapples, doz.....	8 @ 900
Plums, bx.....	50 @ 1 25
Prunes, German.....	75 @ 100
Quinces, bx.....	75 @ 100
Capberries, chst.....	12 @ 1400
Strawberries, chst.....	— @ 1000
Sugar Cane, bble.....	— @ 250
DRIED FRUIT.	
Apples, sliced, lb.....	7 @ 8
do, quartered.....	5 @ 7
Apricots.....	20 @ 22
Blackberries.....	25 @ 30
Citron.....	9 @ 10
Dates.....	9 @ 10
Figs, pressed.....	7 @ 8
do, loose.....	4 @ 6
100.....	— @ —
VEGETABLES.	
Asparagus, bx.....	— @ —
Beans, String.....	— @ 4
do, Lima.....	— @ 3
Cabbage, 100 lb.....	40 @ 100
Cantaloupes, crt.....	— @ 150
Carrots, sk.....	30 @ 50
Cauliflower, doz.....	— @ 50
Chile Peppers, sk.....	— @ 50
do, Bell.....	— @ 50
Cucumbers, box.....	60 @ 75
Egg Plants, bx.....	50 @ 75
Garlic, New, lb.....	3 @ 35
Green Corn, bx.....	60 @ 100
Green Peas, lb.....	3 @ 34
Lima Beans, lb.....	10 @ 10
Mushrooms, lb.....	— @ 1
Parsnips, lb.....	— @ 1
Horseradish.....	— @ 10
Rhubarb, bx.....	— @ —
Squash, Marrow.....	5 @ 800
fat, tn.....	5 @ 100
Summer box.....	75 @ 100
Tomatoes, lb.....	50 @ 85
Turnips, cti.....	75 @ 100
White.....	75 @ 100
Watermelons, 100.....	— @ —

Signal Service Meteorological Report.

SAN FRANCISCO.—Week ending Nov. 16, 1880.

HIGHEST AND LOWEST BAROMETER.	
Nov. 10	Nov. 11
30.233	30.274
30.108	30.191
30.233	30.233
30.291	30.291
30.475	30.475
30.475	30.475
30.104	29.825
MAXIMUM AND MINIMUM THERMOMETER.	
Nov. 10	Nov. 11
59	61
49	49
63	63
51	48
63	58
44.5	45
MEAN DAILY HUMIDITY.	
Nov. 10	Nov. 11
56.7	33.3
28.3	29
43	05.3
PREVAILING WIND.	
Nov. 10	Nov. 11
W	N
158	136
136	92
100	100
STATE OF WEATHER.	
Nov. 10	Nov. 11
Clear	Clear
Fair	Fair
Clear	Clear
Fair	Fair
RAINFALL IN TWENTY-FOUR HOURS.	
Nov. 10	Nov. 11
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

Commission Merchants.

DALTON & GRAY,

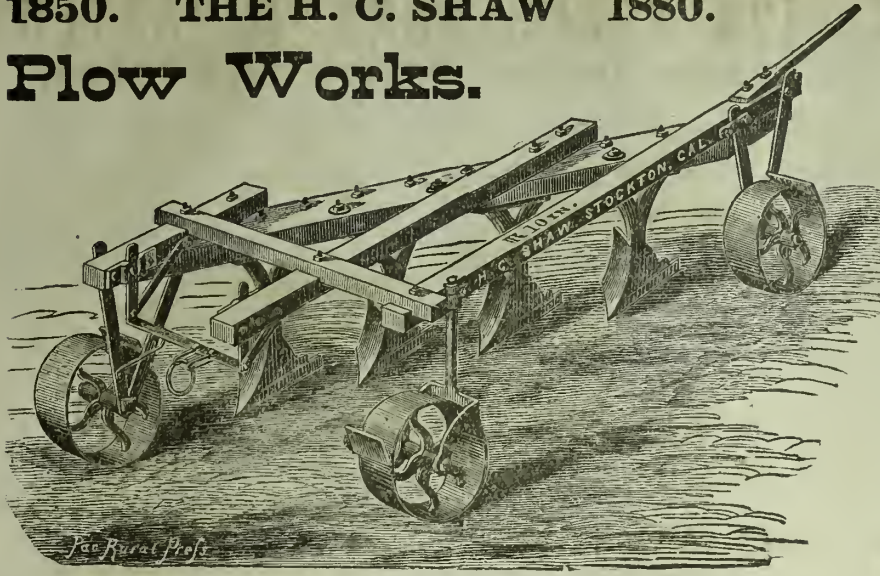
Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

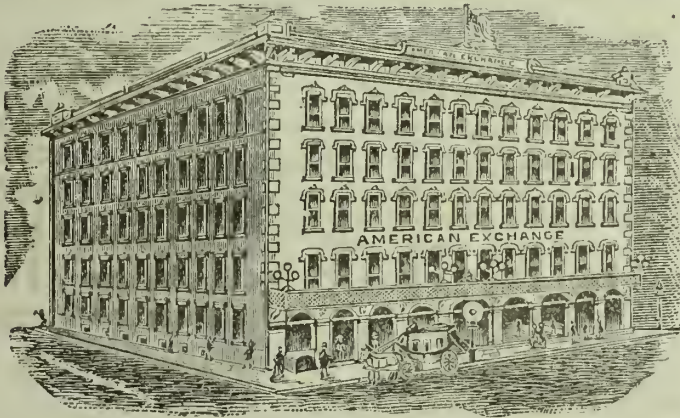
Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

The American Exchange Hotel.

SAN FRANCISCO, CAL.,

Is situated on Sansome street, next adjoining Bank of California, and is in the very center of the great city.

Sansome Street is one of the finest and principal business streets in S. F.



The Hotel is situated within two blocks of the U. S. Land Office and U. S. Surveyor General's Office; also within two blocks of the City Hall, Supreme Court and all the District Courts; within two blocks of the Postoffice and Custom House. All places of amusement are convenient to the Hotel. Street cars for all parts of the city pass the Hotel every minute.

THE AMERICAN EXCHANGE HOTEL

Having been recently renovated and refurnished throughout in every respect the BEST FAMILY HOTEL in San Francisco. It has Two Hundred Rooms, well ventilated and neatly furnished, and being easy of access, fire-proof and sunny, is decidedly the Hotel for comfort and convenience for the traveling public.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUMMIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags.

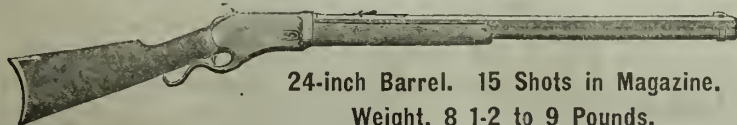
Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

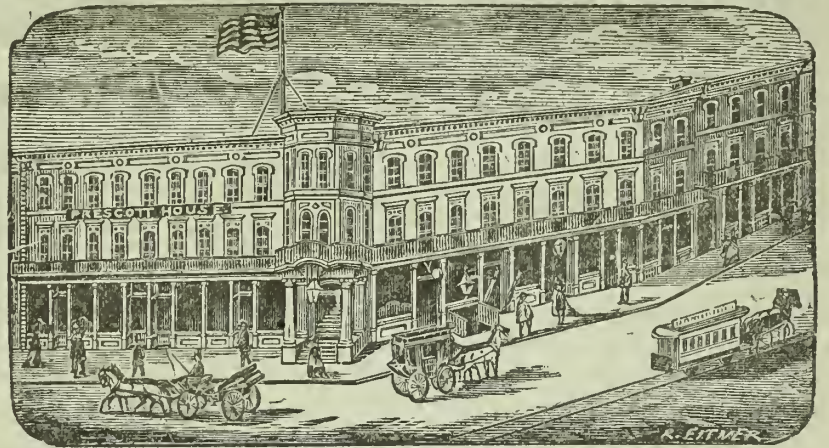
ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

THE NEW MODEL

PARKER SHOT GUN.



Shooting Qualities

UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

In consequence of Spurious Imitations of

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crose and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

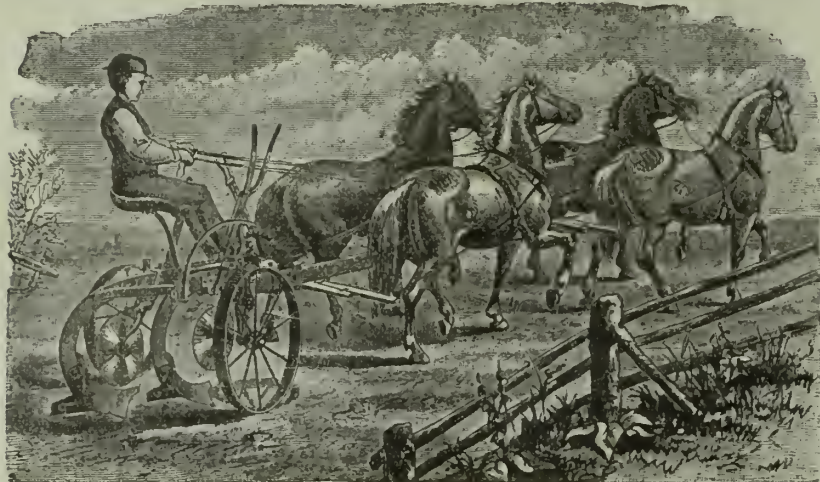
LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apia, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.
SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,
No 327 Market Street, - - San Francisco.

SECURE PATENTS

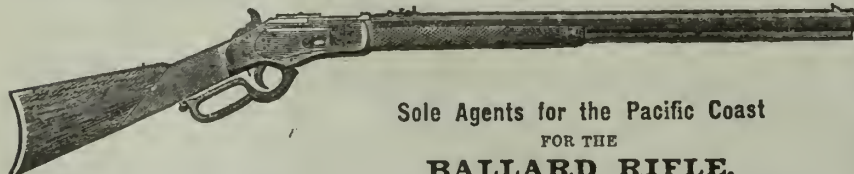


Through Dewey & Co.'s Scientific Press Patent Agency.

OUR U. S. AND FOREIGN PATENT AGENCY presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library containing official American and foreign reports, files of scientific and mechanical publications, etc. All worthy inventions patented through our Agency will have the benefit of an illustration or a description in the MINING AND SCIENTIFIC PRESS. We transact every branch of Patent business, and obtain Patents in all countries which grant protection to inventors. The large majority of U. S. and Foreign Patents issued to inventors on the Pacific Coast have been obtained through our Agency. We can give the best and most reliable advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior. Advice and Circulars free. DEWEY & CO., PATENT AGENTS.
A. T. DEWEY. W. B. EWER. GEO. H. STRONG.

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,
C. D. LADD & CO., Branch House, 49 First Street, Portland, Or



Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds. Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

AUZERAIS HOUSE,

Santa Clara Street, San Jose, Cal.
CHAS. E. PEARSON, Proprietor.
Strictly First-Class and Moderate Charges.

Auzerais House Coach and Carriages in attendance on arrival of Trains.

WINTER STYLES—BUTTERICK & CO.'S
Celebrated Paper Patterns. Send Stamp for Illustrated Catalogue. Address H. A. DEMING, 124 Post St., San Francisco, Cal.

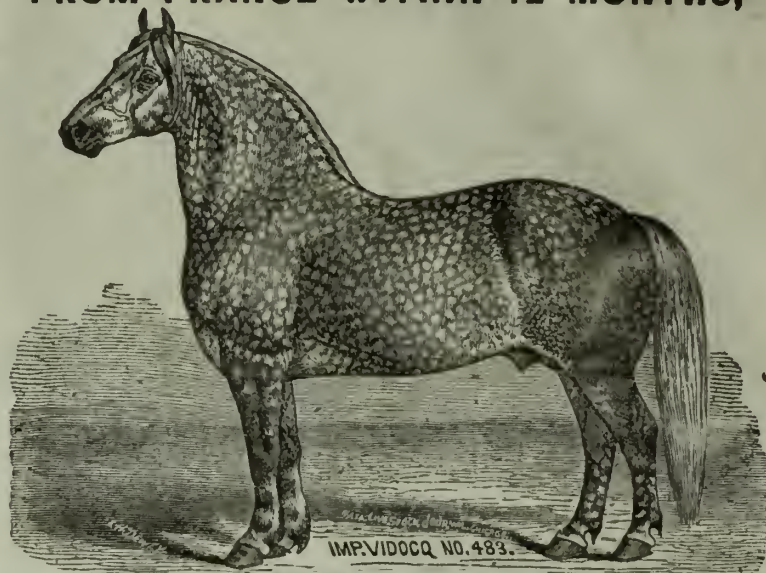
REMOVAL.

H. N. COOK,

Manufacturer of LEATHER BELTING & HOSE.
Has removed from 415 Market Street, to 405 Market Street, corner of Fremont.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.

126 PERCHERONS IMPORTED FROM FRANCE WITHIN 12 MONTHS,



At the Head of Oaklawn Stud.

25 MORE ARE ON THE WAY,

BEING

MORE than the TOTAL IMPORTATIONS of ANY OTHER MAN or FIRM during their entire business career,

FOR THE FARM OF

**THE GREAT PERCHERON HORSE BREEDER,
M. W. DUNHAM,
WAYNE, DU PAGE CO., ILLS.**

35 Miles West of Chicago, on the Galena Division of the C. & N. W. R. R.

The 78 head which arrived from France August 15th, is by far the largest number ever imported at one time, and, added to the number already on hand, they make the greatest and finest collection of Draft Horses ever owned by one man. Nothing like it in magnitude and completeness can be found elsewhere in the World.

Over 300 of the choicest specimens of the Percheron Race, and among the number nearly all the Prize Winners of the Great Shows of France during that time, have been added to the Oaklawn Stud by importation direct from France, since 1872.

Stock of all ages for sale. Come and see for yourselves. 100 Page Catalogue, with 41 illustrations of Stallions and Mares, sent free on application.

N.B.—All imported and native pure-bred animals are recorded in the Percheron-Norman Stud Book.

SEVIN VINCENT & CO.,

Importers, growers of, wholesale and retail dealers in



Field, Grass, Flower and Tree Seeds.

CLOVER, ALFALFA,

BULES, FRUIT, ORNAMENTAL TREES, ETC.

We call the attention of farmers and country merchants to our unusually low prices. Trade price list on application.

We issue the most complete guide to the Vegetable and Flower Garden ever issued upon this coast. It is handsomely illustrated, and contains full descriptions of Vegetables, Flowers, Grasses, Trees, etc., with full instructions as to their culture; mailed free on application.

SEVIN VINCENT & CO.,
607 Sansome Street, S. F.

H. S. SARGENT,

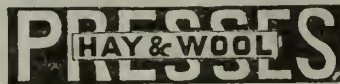
Importer, Breeder and Shipper of
Thoroughbred Stock.

Poland China or Magie Pigs
from Imported Stock.

Thoroughbred Jersey Bull.
Also two Jersey Bull Calves,
Strictly thoroughbred, for sale cheap.

Bronze Turkeys for sale, bred from
Imported stock.

Address H. S. SARGENT, Stockton, Cal.
(Care Grangers' Union)



EAGLE HAY PRESS, Old Style, - \$200.
EAGLE HAY PRESS, Improved, - \$250.
PRICES' PETALUMA HAY PRESS, \$450

All kinds of PRESSES MADE TO ORDER, to put
TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

**Baling
Fencing
Telegraph
Telephone
Galvanized**

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel,
Bessemer, spring, copper, brass
and galvanized—on hand
or Made to Order.

Note the
Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.
SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order.

AT AUCTION!

Fine Sheep or Dairy Ranch,
IN MENDOCINO COUNTY.

Known as the "Shearer Ranch," consisting of 2,040 acres (U. S. Patent) of the best grazing land in Mendocino county, 6 miles from Ukiah and 18 miles by wagon road to shipping point. The place is thoroughly watered, having 40 springs and two streams running its entire length. There is not a hill upon the coast that offers a finer variety or greater quantity of feed. It will keep 3,000 head of sheep, or will dairy 200 head of cows, in a warm belt, and the absence of bugs and pickers makes the price of wool 2% higher than that from the southern counties. Has a good dwelling, a barn, outbuildings, corals and 10 miles good fencing. The above place, if not sold at private sale, will be offered at PUBLIC AUCTION at UKIAH CITY, Mendocino county, on SATURDAY, NOVEMBER 27TH, at 2 o'clock, P. M. For price, terms or other particulars apply to D. L. FARNSWORTH, 100 California street, S. F., or N. W. SCUDDER, Petaluma, Cal.

PEBBLE SPECTACLES.



Muller's Optical Depot,
135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.

PACIFIC RURAL PRESS

THANKSGIVING EDITION—24 PAGES.

Volume XX.]

SAN FRANCISCO, SATURDAY, NOVEMBER 27, 1880.

Number 22

Meetings of Farmers and Legislators.

EDITORS PRESS:—Please announce in your paper that there will be a meeting of the farmers of Alameda and Contra Costa counties and their representatives and senators to the next Legislature, at Palace hall, Livermore, on Saturday, December 11th, at 10 A. M., for the purpose of discussing a squirrel law, road law, and such other legislative matters as are of peculiar interest to farmers.—F. R. F., Livermore, Nov. 18.

We are glad to make the announcement, and we hope the meeting will be a full attendance and free expression of experience and belief. It would be well if the month of December were well marked by such meetings in all parts of the State. There are many interests of the agriculturists which demand legislative treatment, and if the representatives of the people are brought directly into contact with a general meeting of their constituents, they will be furnished with facts and ideas which will be of real service to them when they reach their seats at the capitol. After the legislator reaches Sacramento, he is so beset by men with axes to grind, and pitched hither and thither by the representatives of conflicting interests, that he is apt to be sadly befogged unless he is an old hand at law-making. Therefore we say appoint meetings, as our Livermore friends have done, and let there be a full discussion of the many things which it is now quite essential should be wisely handled at this winter's session.

Besides the vermin and road laws which are mentioned in the Livermore announcement, there are other important matters which should not be overlooked. In the southern parts of the State especially there is a great need that something be done to secure an irrigation system. The State Engineer and his associates have been making a thorough study of local conditions, and there promises to be fuller data to work upon this winter than any former Legislature has had. Now what shall be done with it? One can easily foresee that unless some general law is framed and adopted, there will be a world of conflict concerning rights and privileges, which may endanger the prosperity of some of our most flourishing neighborhoods. Probably a generation of litigation would occur to arrest the progress and development of the country, unless some early relief is had. What such relief shall be can only be determined by uniting the wisdom of the State upon the solution of the problem. It is plain that there will be a conflict at Sacramento when this matter is broached, and the representatives of the agricultural districts should be fully fortified with facts and impressed with the need of their constituents before they come to the forum at Sacramento.

Another evil which should be met is the increase of noxious insects, which bids fair to seriously endanger our horticultural progress unless some measures shall be devised to arrest it. In this matter, as in the use of water, there are legal points which must be rightly adjusted. What protection shall the insect fighter have against the careless man who does nothing to prevent their growth and spreading? This is a live question. It should be discussed, and all

light possible thrown upon it. But first must come the proof of the danger and the need of measures to meet it. Legislators can be duly impressed with this by a meeting with the fruit growers.

Let each district call together its legislators and its farmers. More can be done in a few hours' discussion at home than can be accom-

CINCHONA CONSUMPTION.—Those who are alarmed lest the supply of cinchona should run short, will do well to consider the following: Mr. Ferguson, in his "Ceylon Directory," estimates the total consumption of cinchona bark for the world at 12,624,000 lbs. A writer in the Colombo Observer says: "I do not think I am over-estimating the number of cinchonas that

Peace and Plenty.

The forms of beauty and of richness which appear in the engraving upon this page, are fitting symbols of the tranquillity and prosperity which dwell within our borders at the present time. Lovely flowers and delicious fruits have been accepted as types of the world's best deeds for man since Eden's trees blossomed and cast down their treasures. We cannot, therefore, select more fitting emblems to emphasize the occasion for Thanksgiving than those which our frontispiece presents.

In California such a view of loveliness and abundance has special pertinence, for in our State, Thanksgiving tables can be arrayed in flowers and laden with nearly all kinds of fruit, all grown without the intervention of sheltering glass between them and an angry sky. It is true that in parts of the State many flowers have disappeared before the stern north winds and sharp frosts, and in other parts there is now nothing green save the constant conifers; but still, within wide California, there are blooming flowers untouched by frost, and tender berries still finding in November suns enough of warmth to elaborate their sugar. At such a time, therefore, we can all horror the treasures of our most favored regions, and call their genial November ours, while we unite in a tribute of Thanksgiving for our glorious commonwealth.

The engraving may also be taken as expressive of our horticultural awakening, which is more general, and our horticultural outlook, which is brighter than ever before in our history. The year 1880, the first of a new decade, will be a year to reckon from in many lines of our horticultural progress. Never before has so much of our fruit gone forth, both in its natural and preserved forms, to refresh the outside world. It is reported that Chicago will take nearly a million dollars worth of California fruit this year, and this is but a fraction of the amount which has gone overland. It is evident that the horticultural interest of our State is to be one of our leading industries, and the problem of outlets, which has heretofore vexed producers, seems to be gradually solving itself in the largely increased shipments of fresh fruit, and in the greater amounts, both canned and dried, which are going out. The whole business of fruit growing seems to be coming upon a more systematic basis, and the result is seen in the splendid prices, which, as a rule, have prevailed this year for everything which was skillfully marketed. Therefore, whether the engraving be taken as symbolic of general plenty, or literally as a horticultural achievement, it befits the condition of California at the Thanksgiving of 1880.

And while we speak of abundance and prosperity in our own State, it is gratifying to remember that our whole country is similarly blessed. Prosperity seems now to be the word most frequently spoken in all parts of the nation,



NATURE'S THANKSGIVING GIFTS—"WHOSE VOICELESS LIPS ARE LIVING PREACHERS."

plished by a ton of letters or an army of delegations sent to Sacramento. Therefore let the Livermore meeting be well attended, and let there be many others like it. We shall be glad to give prominent announcement of all such meetings, and hope our friends will send us reports of any discussions which may be held. Thus good results may be more wide-reaching.

will be planted in 1880 throughout the island at 20,000,000; allow 5,000,000 for failures and add 5,000,000 for plants planted in previous years and now alive, and it will give you 20,000,000 cinchona trees, which in five years will yield, either by taking strips and mowing, or by the shaving process, about 10,000,000 lbs. of dry bark a year."



CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents. —Eds.

Items from Kern and Tulare Counties.

EDITORS PRESS:—A few items collected during visits this summer and fall to Bakersfield, will be condensed for your readers. In all, some 50,000 acres have been more or less irrigated within 30 miles of Bakersfield, this year, by water from Kern river. Most of this has been accomplished by 20 or more large and small ditches on the south side of Kern river, and the Calloway ditch, averaging 100 ft. in width, and now completed in a northwest course, 35 miles in all its windings, or one mile beyond Poso creek. The water is conveyed across the bed of the latter stream by a strong wooden weir, 300 ft. long, at a point 15 miles southeast of Tulare lake. This weir not only takes the water of the Kern across the wide bed of shifting sand, but diverts, according to demand, all or part of the water of Poso creek, or, as it was formerly called, Posuncula river, so that it can be used to supply each extension of this large and efficient canal as is proposed in future.

But a specially interesting plan for irrigation, that has proved highly successful, by raising water from the Kern to land fully 25 ft. above its surface, is worthy of record. Your correspondent intended to refer to it in a letter some months since, but other matters intervened. The successful experiment referred to is

The Irrigation by a Water Wheel.
On the Rio Bravo ranch of Mr. John Barker, on Kern river, about 10 miles northeast of Sumner. The location is where the river issues from the foothills of the Sierra Nevada. Mr. Barker's water wheel is 30 ft. in diameter. The face of the wheel and its paddles are 12 ft. wide. It delivers water some 27 ft. above the river surface. At one revolution per minute, this wheel delivers 360 gallons, or at the rate of more than 500,000 gallons every 24 hours. Assistant Engineer J. D. Schuyler, estimates that this will be water enough to irrigate 80 acres of land. But this is not his only means of irrigation. He also has a private ditch eight ft. wide at bottom. The river here is 100 yards wide, yet the fall of the land surface is so rapid that by a deep cut 300 yards long, the water reaches the surface. From these two sources he irrigated, by flooding, last spring about 300 acres. This includes 50 acres wheat, 25 of Egyptian corn, 3 of chufas, 4 of Amber cane, 5 of potatoes, 10 of orchard, 20 of vineyard, 20 of Indian corn. His pomegranates fruited this summer from cuttings planted 18 months before. He has 400 or 500 orange, lemon and lime seedling trees four years old. So far, the orange trees have not been injured by frost. The lemons have been slightly touched by the coldest spells, the limes still more affected, but not killed. In a distance of two and one-half miles above the Rio Bravo ranch the fall of the surface is 193 ft. The rain gauge of the State Engineer's department showed there last winter a total rainfall of 11.25 inches, though the amount was much less at Sumner and Bakersfield.

The Haggin & Carr Ranches
Have brought from 15,000 to 20,000 acres on Kern island, and adjoining it, into a highly improved state of cultivation. On a body of something like 500,000 acres of valley and mountain lands, these boss farmers have already expended more than \$3,000,000. Of course, as they have concluded to go so largely into the ownership and cultivation of land, this mode of employing their great wealth is far preferable to many other ways in which capital is used in our day. They are unquestionably developing a very dry region much more thoroughly and rapidly than could possibly be done with the expenditure of less means, and few men combine both will and means, as they do, to make such valuable developments and experiments. They give employment through their system of renting, which is much like the English tenant system, to a large number of most intelligent, enterprising and skillful men. Not only are they now raising large numbers of the very finest grades of stock, which they are constantly seeking to improve, and a large acreage of grain, having now stored some 8,000 tons of wheat, from their various ranches, in warehouses at Bakersfield, Sumner and Poso station, but valuable experiments are being tried this year with Cotton, Jute, Sorghum and Sugar Cane, either by them or their renters.

On the Bellevue ranch, 60 acres of cotton, and on the Poso ranch, on the Calloway ditch, 33 miles from Bakersfield, 18 acres are doing about as well as any cotton in California has ever done, and this means that it is first-class in yield, as well as in length, fineness and strength of staple. Planted from April 5th to 14th, it was irrigated three times every three weeks or so, by flooding, as all irrigation in Kern county is done, except for trees, vineyards and gardens. Its last wetting was about Sept. 1st. The height of plants is from two to six ft., and they have from 20 to 100 bolls each. Chinamen are picking from 100 to 140 lbs. apiece daily, at \$1 per day. The probable

yield will be between 300 and 400 lbs. of lint cotton, which it requires from 900 to 1,200 lbs. of seed cotton to make, after it is ginned. Probably 1,000 acres will be planted in cotton on the various ranches here next spring. As mill men offer 14 and 15 cents per lb. for this cotton, it is grown at a profit.

The cotton on the Poso ranch will yield well, though not perhaps quite so much as that on Bellevue ranch, as it was planted later. Its first picking, however, from the 18 acres produced 5,500 lbs. of seed cotton. These experiments with cotton are certainly encouraging.

The Jute on Bellevue Ranch
Has done very well, but as it was planted later than that near Hanford, it has grown less and seeded later. Both Amber and Imphee sorghum have produced finely there. The cane on the McClung ranch reported as the Louisiana cane in several papers, proves to be the Georgia "ribbon cane," a good upland variety of *Saccharum officinarum*, grown in considerable quantities about Macon, Georgia. Some 25 plants at Col. McClung's have from 10 to 15 stalks each, from one to two inches through at the ground, the cane about six ft. high; entire plant 9 or 10 ft. The joints are only two to six inches long. Were it a full success, the stalks should be twice as long, and so should the joints. Something here interferes with the full growth of the plant, and it is probably our uniformly cool nights in summer.

The General Yield of Wheat
On the ranches irrigated by Calloway ditch varies from 17 to 20 bushels. An 80-acre piece that was flooded once last year and twice this season, averaged 37 bushels per acre. This is the first year any of these ranches have been cultivated.

For six weeks this summer, a flat-boat 15x40 ft. was run with entire success a distance of 33 miles by water on the Calloway canal. Two horses easily towed it up and down stream from its head gate near Bakersfield to Poso ranch. The east levee of this canal, being unbroken by head gates or cuts of any kind, was used as a tow path. By this means 200 cords of willow and cottonwood was economically transported from Kern river to Poso ranch, to burn brick for a good store and warehouse; the latter 60x240 ft. at Poso station, on the Southern Pacific railroad.

From the Poso Creek country, your correspondent continued his horseback ride 23 miles north through Delano to the Deer Creek or Saucelito district, of which the post-office is Noradell.

Some 1,200 acres, irrigated by a ditch constructed by about a dozen farmers on the north side of Deer creek, produced fine wheat and barley wherever the water flooded it in time. It yielded generally per acre of wheat 20 to 25 bushels, barley 40 bushels, and one 80-acre piece averaged 40 bushels of wheat. The soil is a good stiff sandy loam. The well-improved places of Mr. Collins, Mr. Fowler, Mr. Raymond, Mrs. Rice and Mr. Savage are especially worthy of mention. Your correspondent having enjoyed the hospitality of Dr. Thornton, Mr. Swain and Mr. Creasy in the Kern country, was kindly provided for by Mr. Collins, on Deer creek, and by Mr. Potter, near Herrick's cross—a long-time subscriber and friend of the RURAL PRESS. From Mr. Potter I learn that on the South Side ditch, brought from near Plano, on the south bank of Tule river, the grain crops were unfortunately light, from the failure of farmers to flood their lands early in the spring, when they could have done so, but relied on the April rains as sufficient. Their general average was only 12 bushels of wheat per acre. With proper irrigation, they have a productive soil and a desirable country to live in. Near Woodville, on south side of Tule river, wheat has yielded finely. I saw the last threshing going on there Nov. 1st. They threshed out from 25 to 52 bushels per acre, as their land got a good wetting last spring. Here now, cold weather has set in. This morning on George Hobler's place, near Hanford, the temperature at sunrise was 17° Fahr. We have had ice nearly one-half inch thick already.

J. W. A. W.

Hanford, Nov. 15th.

A Flourishing Neighborhood.

EDITORS PRESS:—Thinking that brief notes from our little neighborhood might aid you in your thanksgiving sheet, I endeavor to give you a hint how we have prospered in the past few years. A few short years ago the grape culture was at a standstill, and the producers in this section were on a standstill too, but somehow the enterprise sparkled and the vine interest spread, and to-day we ought to be a thankful people. I will give you a few items of our products to enable you to judge as to our situation. In the first place, we have 20 wine manufactories within a space of four miles, and you may wonder how we can raise grapes enough to distribute amongst so many. I will tell you how we furnish them all. For example, one little piece of land of seven acres of four-year-old vines has yielded 53 tons; another of 26 acres, 250 tons; another of 11 acres, 12 tons per acre. Mr. Williams, of our neighborhood, gathered 22 tons from an acre and a half on a small part of his vineyard. Mr. Chas. Wheeler gathered 22 tons and 900 lbs. from less than one and one-half acres. Mr. Hall gathered 90 tons from almost 17 acres. Three-year-old vines have produced three and one-

half to four tons per acre; two-year-old vines have this year produced one ton to the acre; six-year-old vines have produced a fraction over 15 tons per acre. That is the way we supply the vast number of manufactories. I only give you a small portion of our enormous yields. Our prices, too, have been thankfully large, the prices ranging from \$22.50 to \$30 per ton.

We raise also corn, wheat, oats, barley, potatoes, vegetables of all kinds, but not with the profits of the grape culture. Our land is too light or dry to raise good vegetables or potatoes unless irrigated, except early in the season. We raise good corn and wheat, hay, etc. We also raise all kinds of fruit; apples, pears, plums, peaches, etc., and all kinds of small fruits—the very finest of raspberries, blackberries, strawberries, etc. We also raise the orange, lemon, persimmon, Japanese plum, and in fact almost anything we endeavor to plant, and take good care of. We have pleasant surroundings, good buildings, good climate, healthful location, and I will leave it to you to judge whether we ought to be a thankful people or not.

FARMER.

Pine Station, Napa county.

A Series of Articles on Land Reclamation.

EDITORS PRESS:—Referring to your invitation to contribute to the pages of the PRESS a series of articles on "Land Reclamation," it will afford me pleasure to do so when the press of work that I have now in hand shall have sufficiently subsided to afford the leisure that a proper consideration of the subject would demand. You will the better understand my excusing myself just now when I say that at the present time I have 200 horses working on levees, besides a considerable force of men, both here and in Marin county. In addition to this I am considerably occupied with two dredging machines I am having built. These machines differ materially in their construction, and as the application of machinery cannot fail to have an important bearing on future reclamation works, I shall be happy to report to you on their behavior. Should you presently be contemplating an article on "Reclamation," there are two or three points that have recently impressed themselves upon me as especially demanding consideration that may appear to you worth embodying. First, the desirability of making reclamation districts as small as the natural features permit; great ill has resulted from the inevitable clashing of opinions consequent on too many owners having conflicting views of the steps necessary. Too great importance has been attached to the advantage of the smaller charge per acre for first cost of works on a large reclamation than on a smaller one. The watchfulness required for efficient maintenance of levees is so great, and necessarily for uniform strength, so much better attended to by one man in a district, that there should be a limit for safety to the length of the levee under his care. This suggests the great advantage of retaining one man as constantly as possible in the position of levee foreman, as he becomes familiarized with local peculiarities in the behavior of the water that may escape an unaccustomed eye, and long familiarity trains him to recognize any indication of weakness or danger.

Second, the great importance of having works properly and thoroughly laid out before commenced. This is not merely a question of accurately setting grade and slope stakes, though even in this owners scarcely realize the saving in cost in having their work accurately and fully laid out before making a start to move earth; but more particularly to have the location of every yard of the proposed levee thoroughly considered and determined on by men of experience in the work. I know it is quite common for owners to congratulate themselves on their ability to "save the cost of an engineer" by laying out their works themselves, but I am certain in most cases no more false economy exists. There are now competent and painstaking men to be found in the State who have made careful study of the subject and who have reasoned both from the failures and successes of the past, and the small percentage of their fees on the cost of a work bears no relation whatever to the gain of having work done under such qualified supervision. I trust to be able to return to the subject at no distant date. JOHN W. FERRIS.

Stockton, November, 1880.

[We are glad to have this assurance of a series of articles on this important subject. The writer whose assent we have secured in the above note is well prepared both by his thorough training as a civil engineer and his years of actual engagement in reclamation in different parts of California, to give our readers a very valuable and practical review of the subject. We shall await the series on this subject with much interest. —EDS. PRESS.]

HANGING GARDENS.—To make a hanging garden, take a white sponge of large size and sow it full of rice, hemp, canary, grass, and other seeds. Then place it in a shallow dish, in which a little water is constantly kept, and as the sponge will absorb the moisture, the seeds will begin to sprout before many days. When this has fairly taken place, by means of cords the sponge may be suspended in the window where a little sun will enter. It will thus become a mass of green foliage, and should be refreshed with water daily so as to be kept moist.

THE SWINE YARD.

Notes on the Care of Swine.

EDITORS PRESS:—If proper food be placed where suckling pigs can taste it, one will be surprised to find how young they will learn to eat. While sows are suckling pigs, one of the most important articles of food is wheat bran, fed in the form of bran mash, or mixed with swill. Bran, though worthless to make fat, will produce more milk in proportion to weight, than any other grain product.

Green food is essential to the health of both sow and pigs. I am quite partial to pumpkins, artichokes and alfalfa. Fresh water, the purer the better, should be at all times within reach. For young pigs, I mix up a slop of ground barley or corn, mixed with bran or shorts from the mill. I feed also corn and barley that has been soaked in water for from 24 to 48 hours. In warm weather do not let it become too sour.

Feed three times per day, and at regular intervals. I lay great stress upon regularity in feeding all kinds of stock. It is well to nail strips across the top of feed troughs, so as to partition off the feeding room for each pig. In feeding, give each pig a chance for its share. Do not pour swill in one end of a trough and expect that a portion of your pigs will get their supply from the other end. Never feed your pigs on the ground when it is either muddy or dirty.

Cooked or steamed food I believe will amply pay for the cost and labor of producing it, though I do not use it. Milk is a very desirable food for pigs or poultry.

If suckling pigs are troubled with a diarrhoea, give the sow sulphur in small quantities, mixed with her food. If the pigs have been weaned, then use the sulphur in their feed.

Treatment of Breeding Swine.

Were I raising my pigs for pork instead of for breeders, I would feed them somewhat differently from what I now do, and I am satisfied they would weigh as much at six months as they now do at nine months. But my stock are for breeders, and I am quite sure that a course of "pushing," with the most adaptable and richest food, would injure them for that purpose.

To grow pigs successfully and profitably, requires that they should have a good appetite, good digestion and strong assimilating powers, which cannot be found in any breed without vigorous health. If a pig is kept for a considerable time in a cold, wet, dirty pen, on bad food and short allowance, until the character and quality of the secretions are changed, and the general growth of the pig is checked, that pig will not make a good breeder. By subsequent good care and feed, this pig may grow to be a fine-looking hog, and as a breeder, may not show the check it has received, but the abuse will be pretty sure to crop out in its offspring, causing late maturity, deficiency in size or fattening qualities.

I am opposed to allowing pigs to breed under eight months, and I much prefer that they should be 10 or 12 months old. To in-and-in breeding and too early breeding may be attributed many of the ailments, barrenness and want of thrift to be found in numbers of our swine herds.

Care of the Sow.

Many persons yearly sacrifice their gains in swine raising, by improper care of the sow, and unsuitable places and surroundings for littering. It is very essential to feed light and on light food for a few days before and after pigging. A week or ten days before the time, separate a sow from the rest of the herd, and see that she is provided with a suitable bed and a place for herself and pigs to eat. Sows generally go 16 weeks, with but little variation. With proper food, quiet, and a little care at the proper time, a very small per cent. will be lost in breeding. It is best to insist on everything and everybody being quiet about your breeding pens.

A Condition Mixture

As a preventive of disease and for all general purposes of health, I recommend the following mixture:

Take 1/2 bushel charcoal, broken in small pieces; 1/4 bushels wood ashes; 1/4 bushel slacked lime; 1/4 bushel salt; 1 pound Spanish brown; 2 1/2 pounds sulphur; 1 pound saltpeter; 1/2 pound copperas.

Pulverize the last two thoroughly; mix all in a box or barrel, and keep in an open trough, where the hogs can have free access to it, and see that it is well moistened with good swill or milk. If you have a small herd, or lack a sufficient amount of some of the ingredients, then mix smaller amounts of each in the same proportion. Make it a point to keep these articles on hand at all times, and do not neglect their use; for they contain certain chemical elements which are wanting in every hog predisposed to disease.

I have never had but one sick pig, and that one recovered. I think it met with an accident. If a part of the time spent in studying how swine diseases may be cured were devoted to ascertaining how they might be prevented, the results would be much more satisfactory than at present. I am a firm believer in the familiar adage, that "an ounce of prevention is worth a pound of cure."

WILLIAM NILES.

Los Angeles, Nov. 16th, 1880.

HORTICULTURE.

Best Fruits to Grow.—No. 5.

EDITORS PRESS:—In considering this subject there are many things and conditions to take into account, and the first thing to be considered is, what is your location best suited to grow, and your facilities for getting to market. In my last article on this subject I mentioned several kinds of fruit that might be grown to advantage if the location were suitable, but sometimes we incur considerable expense, and waste much "precious time" before we learn what kind of fruit will do best with us. But thanks to those who have been growing fruit before us, and have shown us by their mistakes, sagacity or good luck, and to those who have taken pains to investigate, compare and give us the benefit of their experience and investigations so that we may select such fruits to grow as we may think will pay best.

Let us consider this subject in a business light. A neighbor asked me the other day what kind of apples he had better grow for the San Francisco market, provided his location would grow such variety; and he wanted to gather the entire crop at one gathering, and grow enough to make it an object for fruit dealers to pay some attention to him. He said he had a place for about 1,000 trees, and now what would you plant? "Newtown Pippins," I said. "Well, when I get room for 1,000 more what shall I plant?" "Well," said I, "if you are satisfied that 1,000 Newtown Pippins will do well, fill up the other lot with Newtown Pippins also."

But why plant Newtowns? Because they are regular and prolific bearers, long keepers and the most salable apple in market in the latter part of winter, selling readily in the San Francisco market at from \$2 to \$3, and sometimes as high as \$4 per box. "But," said another person present, "supposing that I want employment for my family of boys and girls, so that they may have something to do all the season, what had I better plant?" This is more difficult to answer, but suppose your place will grow cherries, peaches, apricots, plums, prunes, apples, pears and many kinds of berries (as thousands of places will do in this region) and grapes, too, to a good degree of excellence, then we may select such kinds and varieties as will come into market in regular order, so that when one has ripened and gone, another is ready for use. In that case we may commence with early cherries and run to the latest; then with peaches in the same way; then with plums and prunes; then with early apples and pears and apricots, and so on with fall and winter apples and pears.

But now comes the question again, "what shall we plant?" I will tell you what kinds of fruit do well in this region of country and find ready sale, and, if you are similarly situated, you may grow the same. We can grow raspberries and strawberries for early fruit; and for orchard fruit we can grow May Duke, Gov. Wood and Black Tartarian for early cherries, and Napoleon Bigarreau for late ones. For early peaches we can grow Brigg's May, Alexander, Amden's Fine, Hale's Early, Crawford Early and Strawberry; and, for late ones, we have not been able to determine yet what we can grow, but think we have some seedlings that will do pretty well. For apricots we will grow Early Golden, Royal, Hemskirk and Moorpark, where it will do well, the other three do well generally. For plums we will grow Imperial Gage, Bradshaw, Columbia, Yellow Egg, Jefferson and St. Martin. For prunes we will grow Petite de Agen, German, Fullenberg and Hungarian. For pears we will grow Bartlett, Seckel, Beurre Hardy, Fall Butter, Winter Nellis and Beurre Easter. For apples, the Early Horneet, Red Astracan, Alexander, Granestein, Skinner's Seedling, Johnathan, Rhode Island Greening, Yellow Bellflower, Baldwin and Newtown Pippins.

The foregoing kinds and varieties of fruits are also well suited to family use; but do not get too many of the earlier kinds, as they may go to waste before you can use or market them, unless they can be dried to advantage. If you intend to dry fruit you will not find anything that will do better than the Petite de Agen and St. Martin prunes. The St. Martin ripens after the Petite, and is one of the richest prunes in this region, and is excellent for drying and using green.

Now, consider what you want to do with your fruit, what kind you can grow best, how much time you want to put in with cultivating and marketing it, your facilities for drying or marketing green, etc.—then set your orchard accordingly. Some grape growers have told me that they would like to grow some kinds of summer fruit that would pay well, in order to have employment for hands they would necessarily want in the grape season, so that they could keep a few steady hands the year round.

Get good, sound trees from reliable sources, so you will get what you call for; and get your ground in order as soon as it rains enough, and put your trees out as soon as you can, and they will do much better than they will set late.

M. P. OWEN.

Soquel, Cal.

Blackberries.

EDITORS PRESS:—I am investigating the subject of blackberry culture, and as to which is the best blackberry for California. I am trying to find a berry that will be sufficiently productive for all purposes, and still have a good flavor, such as the wild berry of the Western States has. The Lawton, in my judgment, is a poor berry to eat. The Kittatinny is better, but still not equal to the wild berry. I see a good many kinds, some new and some not new, but of limited cultivation, described in catalogues in California and in the East. The list comprises the Dorchester, Missouri, Mammoth, Snyder, Holcomb, Duncan's Falls, Wachusett, Thornless, Hoosac, Thornless, Taylor's Prolific, Western Triumph, Warren, Wallace and Agawam in the East; and the following in our State: Deering seedling, Vina seedling, Mammoth Cluster, Early Cluster and Crandall's extra early.

I think the readers of your excellent paper would take an interest in this subject. Would you have any objection to permit a discussion of the merits of small fruits in the columns of your paper?

J. H. LOGAN.

[We should like very much to have a full discussion of small fruit culture—both methods and varieties. Will not all who have experience with the growth of any of the varieties named, write us the facts about them and the treatment given them? Small fruits should have a good discussion in the RURAL. Who will take part in it?—EDS. PRESS.]

SHEEP AND WOOL.

The Wool Interest of California.

EDITORS PRESS:—In perusing your valuable paper from week to week, we notice a reticence among California flock masters to give their ideas upon the subject of wool growing and sheep breeding. Seldom do we see an article upon this branch of California industry, and when we do it is generally short and copied from some Eastern authority.

In making the rounds of the agricultural fairs this season, we found their management characterized by a marked indifference in this, as compared with other departments of live stock on exhibition. In some instances, premiums were cut down until the whole list would scarcely pay for the axle grease requisite to be used in hauling the sheep to and from the fair. All the sheep on exhibition at the Golden Gate and State fairs were raised and owned in Alameda county, because there was not sufficient interest inspired to draw them from a greater distance. At the San Joaquin Valley fair not a single fine wool sheep was on exhibition, and we found the pens in a dingy, dilapidated condition, while the roof over the judges of the horse races was indicative of wealth—a canopy worthy to cover kings and potentates. We do not refer to these things exactly in a fault-finding spirit, and yet it is to be regretted that all classes of breeders and wool growers do not make a more special and concerted effort to improve and elevate this branch of industry, that brings into the State annually over \$6,000,000. An industry of this magnitude and one that yet may be doubled without increasing the number of sheep in the State, demands at the hands of those directly interested some well organized and intelligent safeguard—some beacon lights to guard against mistakes and illumine the channels leading to success.

To achieve desired ends and give this important industry a recognized standing in the scale with others in the State, more elevated than it now occupies, it is absolutely necessary that the intelligence and energy connected therewith should, at an early date, organize a wool-growers' association. This association should represent all those who are directly or indirectly interested, and acting in union, they should devise the means for eradicating the scab disease, which infests most flocks, and proves the bane and curse of wool growing in California. Oregon has a good anti-scab law which it would be well to examine, amend and adapt to the requirements of this State.

Some sheep owners are now very guarded and thorough in their efforts to keep at bay the ravages of this disease, and with the aid of a good law would be entirely successful. The loss to the State, under the present condition of things, in wool and mutton amounts to one-half million dollars annually. This amount would more than pay for selling and transporting all the wool to the Atlantic seaboard; or in 60 years would pay for constructing another railroad across the continent.

We have ventured the assertion that the quantity of wool produced in the State might be doubled without increasing the number of sheep. To some this may appear extravagant and improbable, but it is not so. It is only a prophecy which the record of the past makes certain of fulfillment. Twenty years ago the sheep in this State averaged only 2½ lbs of wool per head. Now the annual average weight of fleece is nearly 6 lbs, while there are many flocks in

the State (graded) that yield 12 lbs of wool a year per head. This rapid increase in quantity implies a corresponding improvement in quality, and to the enquiring mind, unacquainted with the history of wool growing in this country, might suggest the question, How and by what means has this desired end been gained? The answer is this: By careful and judicious breeding. Principally, however, by infusing warm blood from the thoroughbred Merino families.

Some of the best talent and keenest intellect in the United States has been engaged in the subtle and mysterious effort of improving the Merino sheep. Success in the last 50 years has been very marked and wonderful. Within the memory of the writer, the quantity of washed or cleaned wool has been doubled without increasing the size of the carcass. The owner of a graded flock to-day can purchase for a small sum the concentrated improvement of 50 years, and thereby is enabled to make a greater improvement in one year by a single cross, than formerly could have been made in 10 years. He who makes two blades of grass grow where but one grew before is a national benefactor. Apply this truth to the breeders of sheep.

Few engaged in the rearing and management of graded flocks fully appreciate the talent and painstaking it has cost to produce the thoroughbred of the present age. Few can understand how difficult it is always to make like produce like, with a little improvement added. As a rule, this principle in nature holds good, but there are many exceptions—so many abstract conditions and influences to contend against, that the breeder oftentimes meets with results wide of the mark, and his sore disappointment is only ameliorated in the hope and assurance that "perseverance conquers all things." But I will reserve this interesting part of the subject and the influences of feed and climate upon the animals in question for another paper.

E. W. PEET.

Haywards, Cal.

THE APIARY.

Beginnings in Beekeeping.

EDITORS PRESS:—As a beginner in beekeeping, I have been waiting week after week for some further valuable instructions from our brother apiarist of Carmel Valley, who, on the 26th of July, had got so far as to discover that "the literature of the profession was very wordy, but not over-lucid;" for it is just the man who is able to discover defect that we look to to find a remedy, especially if he is experimenting. The plan he gives for removing bees from surplus boxes is the one often used with the old style of boxes, but it is not always a success, as I found after handling bees a few months; for often the queen, if a good layer, will go up in the old style boxes and deposit eggs there, in which case the plan of putting in a larger box will only result in making a nucleus, and if there are enough bees they will build a queen cell, and in 16 days be ready for operations on a larger scale. The usual plan now is to use 1-lb section boxes, 8 of which are placed in a 2-in. wide frame, which frames fit so close together that only space is left large enough to let a worker bee go up into them, and to get rid of the bees when taking off the surplus honey we fish out each lb and brush it off with a wing; or if the whole top be set over an empty hive, they will go out at night, as there can be no brood to detain them. If friend B. will send for a sample number of *Gleanings in Bee Culture* to A. I. Root, Medina, Ohio, he will find some literature lucid enough for him.

I hope in the future, as he is very handy with the pen, he will not fail to give us the results of some of his mistakes, as well as successes, in bee culture, for by the latter we may learn as much, or more, than the former. I have had one which has not proved so severe a loss as if it had happened earlier in the season. It was placing the hives too close together, because of not having shed room. The bees, during the rush of getting in the crop of golden rod honey, made often the mistake of getting into the wrong hive, from which they were brought out dead by the hundreds. As that happened so late in the season, I will have plenty of time to build up again for the next crop; but if it had been in the spring, the loss would have been heavy. Another consolation is, that as the workers only live a few months at most, those old chaps would have all given place to young bees at any rate before spring, they will now need more care and comfortable quarters. The hives were only two feet apart, and nearly alike, and they should be six feet, and have different colored fronts.

We work here almost entirely for extracted honey, and the barrel extractor I built last spring, after reading the good suggestions made by one of your correspondents on the subject, has given splendid satisfaction. I sent to Mr. Root for gearing for an L frame, broke off the part of the casting that bolts to the extractor, then bolted or screwed the casting down to a strip which was nailed across the top of the cask. The inside gearing is made of inch boards, like a box, about 18 in. long and 12 in. wide, with top and bottom off, and resting one end on a post set up in the middle of the cask, kept in its place there by the end taken from a window-curtain roller, one part secured on the post the other on the box. The top has a piece

of 3-in. thick iron bolted on it, with a square hole for the rod from the gearing to fit into. The strip is not nailed across the cask until the extractor inside (or box), properly covered with wire cloth, is put in; then the strip, being nailed down, holds all together.

Who will give us information as to the best way to get barrels for shipping honey? and why do not beekeepers hold their convention in the winter, when it would seem they would have much more time to attend and discuss preparations for the next summer's work?

I have some hopes of being able to take a run in the express-wagon with our most industrious and extensive beekeeper down into Los Angeles county during the winter, to talk over points in regard to shipping, etc., and would be pleased to see any of our friends there or north of us who wish to consider the questions that pertain to bee culture.

ISAAC B. RUMFORD.

Bakersfield, Cal.

THE DAIRY.

Opening the First California Silo.

This event, of the promise of which we have had items in recent issues, duly occurred on Saturday, November 13th. The Hollister *Advance*, of which we have received an advanced copy, says: "The opening of the silo at J. W. Green's Springbrook farm, last Saturday, was witnessed by about 50 persons, the greater part of whom were stock men greatly interested in the success of the new system of preserving feed. The system is highly spoken of by all who witnessed the feeding of the ensilage to stock. A magnificent dinner was spread by Mr. Green and his estimable lady, and partaken of with an evident relish by all the guests."

There was an address prepared for the occasion by Dr. H. Crepin, of Hollister. The doctor was unable by illness to deliver his address, but it is published for the general benefit, and we extract the following portions as most directly bearing upon the present California test of ensilage. He said: It is not my purpose in this short address, to discuss the best mode of farming, the kind of crops which should be raised, and the multiple subjects connected with that greatest of sciences. I have been requested by Messrs. J. W. Green and L. M. Ladd to explain to you to-day what is a silo, what is ensilage, and what good its introduction among you is going to do. These enterprising gentlemen have ventured to make this experiment, and to-day we are gathered here to witness the result. The history of the silo and ensilage cannot be related without paying to the inventor, Mr. Goffart, the greatest tribute of admiration and gratitude. Mr. Goffart is a man who has devoted his life to the benefit of his fellow man; a man who has done as much, if not more than any other man, to elevate the moral and physical condition of the tiller of the soil; a far better subject for admiration than he who devastates and depopulates the land. I am sensible to the compliment paid to me by Messrs. Green and Ladd in thus choosing me to pronounce the eulogium on my illustrious countryman.

I will now quote from Bailey, the definition of a silo and of ensilage:

"A silo is a cistern or vat, air and water tight on the bottom and sides, with an open top, constructed of masonry or concrete. It may be square, round or oval in shape, with perpendicular sides, used to store in their green state forage crops, such as corn, sorghum, rye, oats, millet, Hungarian grass, clover, and all the grasses. This forage is cut and taken directly from the field, run through a cutter which cuts it into pieces less than half an inch in length, trampled down solidly into the silo, and subjected to heavy and continuous pressure. The structure is the silo, which may be above ground, or partly or entirely below the surface of the ground. The fodder preserved in silos is ensilage."

This silo is entirely above ground; it is built of concrete; the thickness of the wall is 2 ft., its dimensions 27½ ft. long inside, 12 ft. wide, and 17 ft. high. It will store 130 tons of corn fodder. The building was begun on the 27th of August; on the 16th of September, they commenced to fill it. On the 20th, at 9 A. M., 80 tons were stored. It was then covered with planks and a heavy weight placed on them to give an equal pressure. Having nothing else at hand, large boulders were used. It is to-day the 13th of November; as you see, a door has been opened in the lower part of the silo, you see the ensilage. It is a fodder, juicy, sweet, emitting an odor not unlike that of malted grain. It evidently possesses all the nutritive property of the corn-stalk in its milky state. You have seen with what avidity the stock feed upon it. Of all this you have now an ocular demonstration. It remains now for me to tell you why this ensilage is preferable as food for cattle, hogs and sheep, to dry hay and corn-stalks. I will avail myself of the long experience and studies of Mr. Goffart—study ending over 30 years. I will also glean from Mr. Bailey, of Massachusetts:

It has been my lot to witness in the earlier years of my life, some of the first experiments which were made to preserve the pulp of sugar beet after the greater part of its juices had been extracted. In the part of France where I was born, the manufacture of sugar from beets was beginning to supersede all other industries with the exception of coal mining and foundries. Previous to that time the majority of the peasantry eked a precarious existence by working in

[CONTINUED ON PAGE 354.]

PATRONS OF HUSBANDRY.

The Grange Birthday.

Fitting to the Thanksgiving season are thoughts of the birthday of our Order. For its life and work there are thousands who should give earnest and glad thanks. Its birth gave to the agricultural interest of the country an agency to awaken, to unite and to strengthen the trust and confidence of the farmer in his calling, in his own endeavor, and in his fellow farmers. The history of the Grange has been attended by noble deeds for the spread of intelligence and the fostering of a true social spirit among those whose lives have heretofore been as far apart as their isolated homes. The anniversary of the founding of the Order of Patrons of Husbandry should be celebrated as often as the day comes round, and as it will always be closely linked with the national Thanksgiving Day, the two events will naturally be observed together. It seems to us appropriate to the occasion to introduce a few facts concerning the history of the Grange, as they will turn the mind to the subject we have introduced. The following review is from the *Grange Bulletin*:

Nearly 15 years ago, Mr. O. H. Kelley, of Itasca, Minn., who was employed in the Department of Agriculture at Washington, D. C., was authorized by the Commissioners of Agriculture to go South and collect as full and reliable information as possible concerning the agricultural needs of that section. It was at this time that the necessity of an organization like that of the Patrons of Husbandry occurred to him. It was not, however, until the 15th of November, 1867, that the first formal meeting took place at Washington, D. C., when the preface to the Constitution and the names "Patrons of Husbandry" and of "Grange," for its constituent bodies and their places of meeting were adopted, and at an adjourned meeting, held December 4th, officers were duly elected. Bro. Wm. Saunders was elected Master, and Bro. O. H. Kelley, Secretary. The motto of the Order at that time was "*Vis unita fortior*," (power united is stronger), which was afterwards changed to the present motto "*Esto Perpetua*," (may it be perpetual). The 4th day of December is therefore the birthday of the Order, and as such it is or by rights should be universally observed by the subordinate Granges as a day for the annual re-union of the members of the Order.

The first subordinate Grange was also formed at Washington, D. C., on the 7th of January, A. D., 1868. The growth of the Order has been as follows: The first Grange was organized in 1867. In 1868, 11; 1869, 39; 1870, 38; 1871, 125; 1872, 1,362; 1873, 7,668; 1874, 11,941; during which year 24 State Granges were organized. In 1875 885 new Granges were organized. At this time the weeding out and consolidating process began, and Secretary Kelley in his report at the 10th annual session of National Grange, held at Chicago, November 16, 1876, says: "885 new Granges have been organized during the last fiscal year, and 24,800 since the origin of the Order. Of the number, 650 have surrendered their charters, 550 have had their charters revoked at the national office, 7,000 are known to be delinquent in payment of dues to their respective State Granges for one quarter or more, 800 have consolidated with other Granges, leaving 1,800 paying subordinate Granges and a total paying membership of 550,000 in the United States."

At the eleventh annual meeting, held at Cincinnati, 160 new Granges were reported to have been organized, and at the 12th annual session, held at Richmond, Va., 69 new Granges. Notwithstanding the great decline in the number of new Granges organized, the Order of the P. of H. is much the largest secret organization in the United States, having a paying, working membership of fully 500,000 men and women, who are faithfully working to render agricultural pursuits attractive to themselves, and what is so more important, attractive to the rising generation.

Guard Against the Conspirator.

"They hold a dark caucus while workmen sleep, They spread their vile nets where the gold dust is deep, They measure this beautiful land by their power, And tax us all till want enters our door. Oh, dire are the evils that loom up aear, Filling our hearts with a dread boding fear, Tuning up voices that muddle men's brains, While shysters are reaping their harvest of gains."

The lines quoted above express a true conception of the venturesome misdeeds, in a business way, of monopolists, political demagogues and wild-cat speculators, who are opposed to the Grange and all other organizations that co-operate for mutual protection. Now, it is impossible that farmers and Patrons must be continually reminded of such sterling truisms that should long ago have become axiomatic with them. Read the lines o'er and o'er again until it is impossible to erase them from memory, dear; then, perhaps, you will fully realize the mountains of truth in their meaning.

"They hold a dark caucus while workmen sleep," etc., should tingle in the ears of every farmer and mechanic who is alive to his own inherent rights and interests, and arouse him to repel the threatened warfare upon those inherent rights and interests by this "dark caucus"

of indolent, speculative vampires in farming and industrial communities. In view of this fact, and when we contemplate the grand success and noble purposes of the Patrons of Husbandry, insuring, as it does, such exalted and beneficial results, and in its practical workings the most just and legitimate, we wonder at any lack of zeal or flagging interests in its members—we mean those members who leisurely saunter to the meetings of their subordinate Granges and perform the work of the meeting in a listless, perfunctory way, and then to move to adjourn as early as is unreasonably practicable. If such Patrons would only fathom the true meaning of our quoted lines, we would have exalted hopes for increased activity in Grange work everywhere.—*Grange News*.

Grange Notes.

THE Grange asks nothing but what is just and right.

WHAT is your Grange doing to promote the good of the Order?

THE Grange will prosper in proportion as the farmer becomes educated.

PROMPT action should now be the watchword in every subordinate Grange.

PATRONS should ever keep in mind the sacred obligations they have taken.

AS AN Order, "we are not the enemies of capital; but we oppose the tyranny of monopolies."

OUR Order is bringing the people together, not as partisans, but as Patrons and patriots.

THE Grange by its precepts of charity, good will and fraternity in its organization covering the entire country, is the heaven that will change political and sectional hatred to peace and fraternal love.

THE evenings are now getting longer, the hurry of the work will soon be over, the leisure time cannot be put to better use than attendance at Grange meetings, and renewed efforts in the good cause. Let every member look around and see in what manner he or she can promote the interests of the Order and help to spread its principles throughout the land. Without the Grange, farmers would be again under bondage. Through its beneficial influence we are taking a stand intellectually and financially among the other classes of the community. We are learning our position, asserting our rights and applying our thoughts to the welfare of our occupations.—*Journal of Agriculture*.

AGRICULTURAL NOTES.

CALIFORNIA.

FRESNO.

HEAD GATES.—*Expositor*: From the time that irrigation was first introduced to the present, those who have made use of it have been much annoyed, and their patience has been severely tested by the expensive and awkward boxes or gates by which the water was let out of the ditch onto the land to be irrigated. The boxes or gates which have been in vogue have cut the bank of the ditch from top to bottom, and it mattered not whether the square or bevelled wings were used, they were liable to wash out, and when in their best running order it has been found impossible to let the water through them in such a manner as to prevent its force from digging unsightly and inconvenient holes in the ground in front of them. To counteract the different currents which occur, barley sacks without number have been used, and "cuss words" have been thrown in to aid the operation, regardless of expenses. A short time ago Mr. Noletton, the business manager of the "Barton vineyard," placed the work of engineering and leveling, which was in progress upon said farm, in charge of J. S. French who, as soon as he was installed in his new position, put his wits to work to study up much needed improvements, and in regard to gates or boxes he has already met with gratifying success. His plan is to make a square box of two-inch lumber, and from 8 to 12 inches in the clear inside, and sufficiently long to extend from the center of the ditch to a point clear of the outside of the outside of the bank. Into the upper side of the ditch end he places a square or round valve, through which the water passes into the box, and which is operated by a pump handle or brake attachment from the back of the ditch. In the upper side of the center or check end he leaves a hole of three or four times the capacity of the valve, through which the water passes out of the box and flows off upon the land without the least cutting or sluicing. The building of the old style boxes was stopped upon the first trial of the new at the above named vineyard. Mr. French will take pleasure in showing a head-gate in actual operation to any person who will take the trouble to call on him. He has other important improvements which he has studied up and has equal confidence in, which he proposes to practically demonstrate as soon as he deems the times and seasons propitious.

THE YUBA DAM.—Patent 171,522, hydraulic process for leveling land, issued to our townsman, Thomas R. Lowe, in December, 1875, consists: 1st. In putting levees wherever necessary around the tract of land desired to be leveled. 2d. In putting in boxes with stationary gates in said boxes in the levees aforesaid, the top of said stationary gates to be just as high as the mud will build up on the lower levees when the land inside is leveled. 3d. Then a stream of water under pressure is used

for the purpose of washing down the higher portion of ground to the low place, the water being allowed to escape through the boxes and over the stationary gates. The bay papers announce the completion of the dam on the Yuba river for the impounding of the debris from the mines: Now, when the miners above commence hydraulicing, our inventor claims that they and the dam-builder together, will not only be infringing upon his patent, but will be adopting it in its entirety. That the brush dam on the Yuba serves the purpose and is a mechanical equivalent for the boxes with stationary gates is unquestionable, and that the banks of the Yuba and the operations of the miners in the hills answer the other two counts is self evident. The inventor has called the attention of Captain Eads and the Drainage Commissioners to his claim, all of whom very carefully "sat down upon him," and now his patience is rapidly being exhausted at this neglect. For particulars reference is made to the Patent Office at Washington, where a copy of patent can be obtained by anyone who sends for it.

HUMBOLDT.

THE OUTLOOK FOR THE COUNTY.—*Eureka Standard*, Nov. 13: The business outlook for Humboldt has a solid bottom and an encouraging prospect. Some who have left our county have done well by emigrating to the southern country, but most of those who have taken a trip for the purpose of bettering their fortunes have returned content to remain. The fact is, Humboldt county is slowly improving, and slowly recovering from her depression by reason of the startling developments and enterprise put forth on the lower Pacific; and perhaps no point on the coast will respond more quickly to the wonderful progress of that section than will Humboldt. The almost incalculable amount of lumber which the new market will consume must be supplied, in the main, from the northern coast, and Humboldt will reap her full share of the harvest.

LOOKING FOR A SHEEP RANCH.—L. J. Hall, one of the wealthy farmers of Sonoma county, and who is also extensively engaged in wheat raising in Colusa county has been here the past week looking up a sheep ranch. Mr. Hall is an old Californian and this is his first visit to Humboldt. He is both surprised and pleased with the grazing land here and says it exceeds his expectations by far, and thinks we have the richest pasture lands in the State. He expects to purchase several thousand acres of land and seems best satisfied with Elk ridge and the vicinity of Garberville.

KERN.

THE NEW DITCHING MACHINE.—*Californian*, Nov. 20: Mr. W. T. Standard has completed his job of enlarging the Stine canal, using the ditching machine before referred to in these columns, and has given perfect satisfaction. F. H. Colton has purchased the one in use and is now using it on other works. Mr. Carr expresses himself highly pleased with the invention. Mr. Standard has returned to the Mussel Slough country with the design of using his machine in the work of a grading contract on the Graugeville and Antioch James single-track railroad.

LOS ANGELES.

THE WIND.—*Santa Ana Herald*, Nov. 18: The north wind that visited us yesterday morning and continued during the day was the severest blow that has been experienced in southern California within the past 20 years. The wind wrecked the railroad engine house so that the engine could not be gotten out, making it necessary to telegraph to Los Angeles for another, which arrived and departed with the train at 9:15. The windmill at Hickey & Dawson's stable was toppled over. Some orange trees, recently irrigated, were blown over. The young trees and shrubbery were twisted and broken to a considerable extent. Corn was blown down and pretty well stripped of leaves. The greatest damage done in this section is to the orange crop, a great deal of the fruit being blown off. The dust, of course, was blinding, and business generally was suspended in town for no one would venture out. Blacksmiths and other smiths refused to light their forges and furnaces as a guard against firing the town. Yesterday was a day of rest in Santa Ana, and will be remembered as "the day the wind blew."

SHIPPING BEES TO NEW ZEALAND.—*Herald*, Nov. 20: Mr. N. Levering, whose apiary is in the Cahnenga, yesterday shipped four colonies of bees, intended for New Zealand. Each colony is accompanied by an Italian queen, including the one that took the prize at the recent fair. They leave San Francisco per steamer next Saturday. The boxes in which the bees make their long journey are about two ft. in length by a foot and a half in height and breadth. Each one is supplied with an attachment on one side containing a sponge, and bearing directions that fresh water shall be applied to it every day. This furnishes the bees their drink and keeps the atmosphere within the hive sufficiently humid. The matter of ventilation is provided for by means of several auger holes in the bottom of the hive and an aperture in the top, fitted with wire cloth and closing with a slide so that the current of air may be regulated to suit the weather. At one end of the hive there is arranged a compartment covered externally with wire cloth, where the bees may go for an airing should it become too warm inside. Each hive is provided with several frames of honey, to furnish feed on the way.

GRAPE CROP.—Mr. W. H. Workman has gathered from 25 acres of his vineyard this sea-

son 250 tons of grapes, an average of 10 tons per acre. From 50 selected vines in the same vineyard he gathered one ton, an average of 40 lbs. per vine. The grapes are of the Mission variety. This portion of his vineyard is about 60 years old and is located on the rich bottom of the Los Angeles river.

NAPA.

FALL WOOL TRADE.—*Register*, Nov. 20: The fall clip of wool this year compares favorably with that of other years, both in quantity and quality. The firm of B. F. Sawyer & Co. is the only one in town that carries on any business in wool, buying and shipping the article directly to their Boston correspondents. So far this season they have purchased and shipped about 150,000 lbs., about 50,000 lbs. of which were obtained in Lake county, and the remainder from various portions of this valley; that purchased in Lake county being the cleanest and finest in every respect. By the close of the season the firm will have shipped nearly 250,000 lbs. The prices paid this year are from 13 to 16 cts. for burry and seedy, and from 16 to 23 cents per lb. for free. In their tannery, this enterprising firm has recently enlarged its business, tanning 1,800 skins a day where they formerly tanned but 1,000. We are glad to be able to report such increasing prosperity at Napa's largest manufacturing establishment.

PLACER.

RAIN DESIRED.—*Auburn Herald*, Nov. 20: Farmers in the valley are generally busy putting in their summer fallow. They proceed in this work under great difficulties, in consequence of the very dry and hard condition of the ground. A little rain just now will be welcomed by all classes.

SACRAMENTO.

THE RAIN.—*See*: The rains will be late this season, unusually so in fact. Here it is the 15th of November and we have not had even a sprinkle in Sacramento, and nowhere in the State have more than a few drops fallen. In 1850-51, though, only a few sprinkles occurred before January. In 1849-50, no rain at all fell in November and December, but a little over an inch in September and October, and yet the fall for the season was 36 inches. In 1862-63, but 3-10 of an inch fell before December. In 1870-71, but 1/4 of an inch up to the same time. In 1869-70, 7-10 of an inch, so that though the rains are late, still there have been other years when they were later. It may be then that we will have plenty of natural irrigation before the season is over.

LAND BURNING UP.—*Dixon Tribune*, Nov. 20: J. T. Wallace and J. S. Garnett returned Thursday from the Sacramento river region, and report that a ground fire has been burning on Brannan and Andrus islands for a week past. On the latter island it has burned over 600 or 700 acres, and on Brannan island, where it started, much more. It turns down in the sod to the depth of a foot and a half in some places. A potato patch was burned over, and there were left several acres of finely cremated murphies. It is a queer kind of a farming land that is liable to burn up, crack open to immeasurable depths, and flood out every winter.

SAN BENITO.

LAND IN REQUEST.—*Hollister Enterprise*, Nov. 20: About every foot of tillable soil in this and neighboring valleys, yea, and way up on the hills, not worked by the owner, has been rented. Those who want to lease land for next season in this county, may set it down that they are too late. Low prices or drought do not deter grain raisers from taking hold of land in this section, and the demand is growing every year. From these circumstances we infer there must be something in it. Nearly all ranchers and renters are now ready and waiting for rain to fall, when they will commence turning up the soil. Appearances indicate, should the season be favorable, the sowing of a larger area to grain the coming season in this county than ever before.

SAN JOAQUIN.

IMPROVING THE SAN JOAQUIN RIVER.—*Independent*, Nov. 18: Work has already, or will shortly, be commenced in expending the appropriation of \$20,000 made the last session of Congress for improving the navigation of the San Joaquin river. The contract has already been let by Col. Mendall, and a corps of engineers attached to his department have been taking soundings and making the surveys necessary for the work. This corps is now quartered in an ark at Lone Tree point. The work which has now been undertaken is the cutting off of two bends—one at Lone Tree bend, and the other Burns' bend. This, when completed, will shorten the navigation some two miles. The cut at Lone Tree bend will probably be 400 ft. in length, and the cut at Burns' point some 600 ft. The land for the former has been purchased for the purpose by the California Steam Navigation Company, through Capt. Walker, the president, from H. Barnhart, at the rate of \$10 per acre, and Mr. Barnhart conveys the land for the cut at Burns' point to the Government free from cost. The cuts are intended to be about 13 ft. deep, or one foot above high water mark. The earth excavated in making them is to be thrown on the bank so far as to form a levee on Barnhart's land. It is probable that the first cut will be completed within 40 days after the work is commenced, and the second as soon thereafter as practicable. The cuts above referred to will lessen the time of making the trip down or up the river by steamers at times of low water at least one hour. It

is expected that when the cuts are made the old channels will gradually fill up with the sand brought down the stream. At the most the new cuts can only make a difference of about an inch in the depth of the water, while the removal of the bends, affording a straight passage for the flood tide, will probably increase the depth of the water in the flood tides. These two bends are about seven miles below Stockton, and are perhaps two of the worst impediments in the navigation of the river.

DISPUTED LAND.—*Lodi Review*, Nov. 20: Surveyor General Shanklin and Colonel Von Schmidt were in Stockton last Thursday looking after the title to 160 acres of land, now in the occupation of Mr. Thurston, situated between Lockeford and Waterloo. The testimony taken concerning the land in question will be forwarded to Washington for a decision by the Land Department. As near as can be ascertained, Mr. Thurston claims title under the State as swamp and overflowed land, and Mr. Harrington has either filed, or given notice of filing, a pre-emption claim as government land, contending that it was never listed to the State as swamp and overflow, or that if it was, the same was improperly described. The land in question is represented as being worth about \$10,000, so that there is considerable depending on the result.

NEW HOPE.—*Herald*, Nov. 20: Notwithstanding the great destruction of property and the total loss of this year's crops on the low lands lying between the Mokelumne river and the South Fork of the Mokelumne, the farmers in that section are undaunted, and as full of courage and energy as ever. In fact their misfortunes of last spring seem only to spur them up to greater efforts and to inspire them with a determination to overcome all difficulties and render their lands absolutely secure against high water. Large sums of money have been expended on the levees, which are being raised and strengthened so as to give perfect security against all floods. The farmers, whose crops were swept away, are now busily sowing the same lands again, and adding to them hundreds of acres of lands never before plowed. A prominent and successful farmer of that section states that the area of wheat that will be sowed there this year will be largely in excess of that sowed in any previous year.

SIERRA.

GRASSHOPPER EGGS IN SIERRA VALLEY.—*Reno Gazette*: Farmers in Sierra valley say there were more grasshopper eggs laid last summer than ever before, and they are not in nests, but scattered all over the whole valley. It is hoped, however, that they are not of a destructive species. Those most common last year were much less voracious than the swarms of the two previous. Large crickets were seen in different places last fall, coming from no one knows where. It is said that crickets follow the hoppers in almost all cases. Theo. Winters says that the hoppers ate everything in Wa ho valley in '57 and '58, and in '59 the crickets came in great black armies. They were very destructive, but could not fly, and so a ditch or trench would turn them and save a field.

TUOLUMNE.

EDITOR'S PRESS:—The "last rose of summer" is not blooming alone, for the frost has been so strong and persistent that nothing green or beautiful out of doors has escaped its influence. To-day I gathered the last of the fig crop. The few remaining looked so dilapidated that I took pity upon their forlorn condition. The glass ranges from 28° to 30° before sunrise. Said sun rises persistently upon rainless skies. It is to be hoped that winter may shed a few tears before 1880 comes to grief. The dry weather is not without its advantages. The crops are secured which otherwise would have suffered. The stock has had a good chance to arrive safely from the high Sierras. The fruit crop has also felt better for the dry weather. Much more fruit has been dried by sun than if rains came early. There is a general hope also that the rains may continue later in the spring of '81. As the floods must come some time, "better late than never." Hay is rising as drouth continues. We may expect to see it command \$40 or \$50 per ton. Barley must soon feel the effects of a scarcity of hay, and rise accordingly; barley is now the cheapest food. On the whole this has been a good and prosperous season for all producers and willing hands to work. If 1881 finish up with such a clear record we will have nothing to say reflecting upon the planet's eccentricities.—JOHN TAYLOR, Mt. Pleasant.

State Board of Agriculture.

The State Board of Agriculture held a meeting this week, the session mainly being with closed doors, and the work in hand was the auditing and settlement of the financial affairs of the State Agricultural Society and the overhauling of the accounts of the clerks. The Board has about completed its report to the Governor, and it will soon be sent to print.

The Board resolved, in order to encourage the breeding of valuable horses in this State, to open a permanent annual trotting stake for three-year-old colts and fillies, and in consideration of the donation to the Society in aid of this object by Governor Stanford of \$2,000 won by his horse "Occident" from the Society some years since, and other material aid from Gov-

ernor Stanford, have named the stake "The 'Occident' Stake." To this stake it has invited the attention of stock men and solicited their entries in the first two stakes opened, as follows:

First—The "Occident" stake for 1881. Trotting stake for foals of 1878, to be trotted at the California State Fair of 1881. Entries to close January 1, 1881, with I. N. Hoag, Sec'y, in Sacramento; \$25 to accompany nomination, and to be forfeit; \$25 to be paid April 1st, and \$50 30 days before the race; "Occident" gold cup, of the value of \$400, added by the Society; best two in three; first colt, cup and six-tenths; second colt, three-tenths, and third colt one-tenth of the stake.

Second—Precisely the same for 1882. The entries are to close January 1, 1881, at the same time as in the first instance.

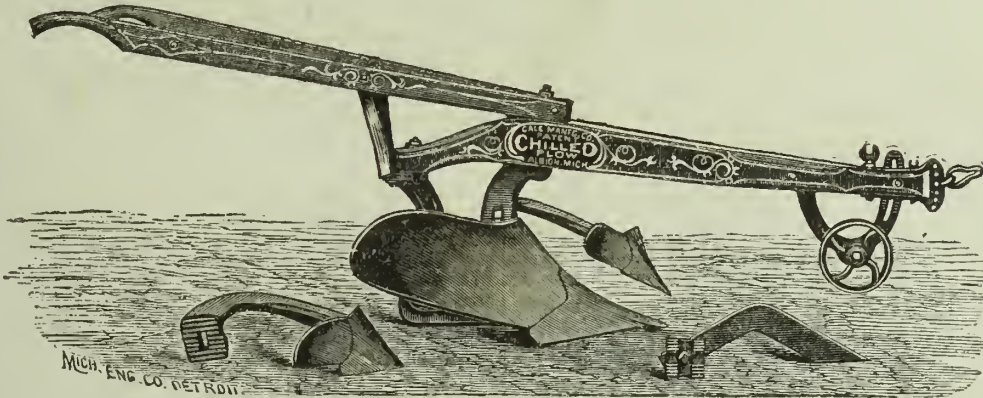
The board has confirmed the awards of gold medals for 1880 as follows: Department No. 1, live stock, to Coleman Younger; department No. 2, machinery, implements, etc., to Baker & Hamilton; department No. 3, textile fabrics, etc., to Capital Woolen Mills; department No. 4, mechanical products, to Main & Winchester; department No. 5, agricultural products, to John Bidwell; department No. 6, horticultural products, to P. H. Murphy; department No. 7, fine arts, etc., to William Hahn; also special gold medal to Sacramento Business College for display of penmanship, pen drawings, etc.

The board resolved to request the directors of all the district agricultural societies to meet in convention with the State Board in Sacramento on the second Monday in January, 1881, at 7 P. M., at the pavilion. The object is to consult on many matters of interest concerning the State and district annual exhibitions, to the advancement of all the societies and the extending of their influence.

The board allowed a number of special premiums recommended by several committees, and ordered that the next annual fair shall begin on the third Monday in September, 1881. The board will next meet in Sacramento the second Monday in January, 1881.—*Record-Union*.

A New Chilled Iron Plow.

We give on this page an engraving of the



GALE'S CHILLED IRON PLOW, WITH PATENTED JOINTER AND GAUGE WHEEL.

Gale chilled metal plow, which is comparatively new and yet has shown such adaptations to California conditions by last year's tests, that it is worthy the attention of farmers. Of the general use of chilled metal for plows, it may be said that it is harder than any other plow metal, and so fine in fiber that it will receive a polish almost equal to a mirror. Its fiber does not run parallel with the surface of the casting, as with cast iron and steel, but its direction is through the thickness of the mold-board, thus bringing the friction of the soil on the end of the fiber or grain. This feature avoids all reasonable possibility of imperfections being hidden below the surface.

The engraving shows that the Gale plow has a new style of handles and beam. The beam is placed in the center of its work, thus securing a center draft under all circumstances. It is secured to the plow by two bolts; one through the slotted standard head in the center of the beam, and the other through the handle brace at its rear end. The handles are attached so as to secure ease of adjustment, and can be raised or lowered in a moment to suit the stature of the plowman.

There accompanies this plow what is called a patent jointer. The office of this attachment is to turn off from the edge of the furrow a narrow slice of the surface and with it the grass, weeds, stubble or manure thereon, so that when furrow the is inverted the lap is entirely of mellow earth with the trash in the bottom of the furrow and completely covered. It adds but little more to the draft than when a sharp steel coulter is used, and the seed bed can be prepared with about half the cost. With the jointer properly adjusted, and cutting about 1½ inches in depth, its utility is seen at once, and with it the plow is very much less liable to clog than with any other attachment. Another device is the coulter or sod knife, which is made of solid roll steel from the knee downward, and is firmly attached, by a patent device, to the standard of the plow, a method in every way superior to the old one of attaching to the beam, and especially so in the case of adjustable beam plows, which change the position of the coulter with every adjustment. The Gale plows are being introduced upon this coast by Baker & Hamilton, of San Francisco and Sacramento.

The Irrigation Problem.

EDITORS PRESS:—Your readers have been informed of the labors of Mr. Hall, State Engineer, and his assistants, in making surveys in the counties of Fresno, Tulare, Los Angeles and San Bernardino, to determine the feasibility of constructing reservoirs for the storage of a portion of the winter rains, for irrigation. His report will be looked for with a good deal of interest, and it is to be hoped that his suggestions may receive prompt and favorable attention from our State legislators at the approaching session.

I will briefly summarize the points involved for the benefit of those of your readers who are interested in the matter.

1. It is known that there is a very large area of excellent agricultural and fruit land in this State now unproductive and comparatively worthless without irrigation.
2. These lands can be greatly enhanced in value and made to produce by irrigation abundantly of many products we now import.
3. The winter rain is sufficient for the irrigation of these lands if it can be gathered and stored.
4. It is found by experience very difficult, and almost impossible for individuals or corporations to deal successfully with this matter.
5. It is suggested that it is the duty of the State to organize irrigation districts wherever needed, assume control and aid to the extent of one-half the cost in the construction of storage reservoirs. The other half of the cost to be paid by the owners of the land within the irrigating district for which the reservoir is constructed.
6. The sale of water to be made to all individuals and associations, who may construct and maintain at their own expense the necessary distributing ditches, or pipes to receive it, and the rate to be paid for water to be sufficient to keep the reservoir in repair, and pay expense of superintendence.
7. The benefit to the State at large will be

largely increased area brought under cultivation, adding greatly to the wealth and population of the State.

8. The peaceful solution of many questions now affecting the ownership of water in all irrigating districts, which if not soon equitably settled will lead to interminable litigation and expense.

9. It will to a certain extent compensate a large body of taxpayers in many counties not benefited by the "debris acts" by giving those water upon their irrigable lands, who now pay to keep the mud and water from the farms of the Sacramento and other valleys.

H. J. RUTISILL,

San Francisco, Nov. 23, 1880.

[These propositions are of much interest and importance and we commend them to the attention of our readers. A discussion of all points involved would be of much benefit and we will gladly give space to it if our readers so desire. Our own impressions upon the subject will be given at another time.—EDS. PRESS.]

A FLOURISHING HOME INDUSTRY.—Whittier, Fuller & Co., manufacturers of Pioneer white lead, Pacific rubber paints, etc., have established in our midst what is now one of the most successful home industries we have. The works give employment to a force of 80 white men, so that consumers of the goods aid in keeping our home labor employed. The Pioneer white lead is now recognized as superior in body, color, fineness and durability. It is made from lead mined on this coast and linseed oil made in this city. The lead itself is corroded in pots of California manufacture, and ground and packed by California white labor. White lead used to sell here at from 10½ to 12½ cents per lb., but since this firm began to manufacture, it sells at about 6½ cents. The Pacific rubber paint, another of their products, is sold mixed ready for use. Large quantities of this mixed paint are sold, the sales increasing every year, showing it is appreciated. Whittier, Fuller & Co. also deal in artists' materials of all kinds, brushes, valentines, varnishes, colors, glass, etc. They also manufacture mirrors of all sizes. The excellence of all the products is evidenced by the rapid growth of business of the firm.

News in Brief.

CHIEF-JUSTICE COCKBURN of England is dead. The spinners are threatening a strike in Fall River, Mass.

THREE shocks of earthquake at Los Angeles, on Monday last.

THE population of St. Louis on the first of June last was 350,915.

TWO HUNDRED prisoners in Kief, Russia, are down with typhus fever.

THE eviction of the families of miners at South Moors, Eng., continues.

THE Enterprise gun works at Pittsburg, were burned this week. Loss, \$35,000.

THE port of Todos Santos, Lower California, has been declared open to commerce.

THE agent of the Canadian government is seeking to induce Irish emigration to Canada.

THE British ship, *Mildred*, has foundered in the Atlantic. Her crew of 23 were all drowned.

A GREAT storm prevailed in Central Italy on 21 inst. A portion of Rome was submerged.

J. MORA MOSS, one of the Regents of the University of California, died on Sunday last.

THE activity of Mt. Vesuvius increases. The lava flows continually on the side towards Naples.

TOM SCOTT says the Missouri, Kansas and Texas railway will commence its extension in 10 days.

FRIENDS of Whittaker have petitioned the President to restore him to his former place and position.

CARDINAL MANNING bitterly opposes the settlement of Jesuits within his archdiocese of Westminster.

A DISPATCH from Dublin says the winter has set in severely. The whole country is covered with snow.

SINCE January 1st the sum of \$5,967,538 has been placed out on real-estate mortgages by banks in this city.

THE Directors of the Academy of Design of Chicago, have decided to build an opera house costing \$500,000.

THE roads which are participating in the cheap-fare fight, agree in reporting increased earnings even in passenger business.

It is estimated that 1,880,000 gallons of wine will be made in Los Angeles county this season. The brandy yield will be about 250,000 gallons.

THE schooner, *Abraham Lincoln*, from Baltimore, was lost on the Liberian coast in the latter part of September, with a sacrifice of 30 lives.

WILLIAM H. VANDERBILT is reported to have said that there is no truth in the report of a grand railroad combination against Jay Gould's roads.

FOR the week ending on November 20th, there were distributed 422,987 standard silver dollars, and for the corresponding week in 1879, 346,941.

THE treaty newly negotiated with China is reported to contain a clause limiting the emigration of Chinese subjects to the United States to 15 on each vessel.

THE first 15 miles of the California Southern railroad from San Diego will be put under contract within a few days, all preliminary work having been completed.

THE house of C. Bochringer, in Napa, was burned on Thursday and his two children were burned to death. The mother had left the children in the house alone.

CHRIS. SCHMIDT, the well-known proprietor of the Hock Farm, near Marysville, the early residence of the late General Sutter, died on Monday night, aged 50 years.

THE San Francisco Grand Jury have presented indictments for malfeasance in office against Mayor Kallach, Auditor Dunn and City and County Attorney J. L. Murphy.

A BERLIN correspondent says that the socialists have resolved, in view of the violent means of repression employed against them, to abstain from voting at the political elections.

THE sugar crop of Louisiana is estimated at 237,800 hogsheads, an increase of 71,000 hogsheads over last year. The molasses yield will exceed that of 1879 by 810,000 gallons.

THE new Chinese treaty is said to be satisfactory to the Government. It modifies the Burlingame treaty in formulating provisions for limiting or regulating Chinese immigration.

A MOUNTAIN fire near San Bernardino, on Friday last, destroyed the apiaries of Messrs. Segars and Kennedy. The former lost 40 stands of bees, and the latter 100 stands and his house.

FOREST fires in the region of Laguna and Green valley, Santa Cruz county, have done great damage to timber, fences, bridges, etc. Davis & Cowell have lost an immense amount of wood.

A BATTLE was fought in the new railroad town of Matto, Dakota, on Thursday night between a band of desperadoes and a company of vigilantes. Arkansas Joe, the leader of the ruffians, was killed.

THREE engines have arrived at Bakersfield from Tulare. They are a reinforcement to those stationed there that had become unequal to the task of pushing the increased freight trains over Tehachape Pass.

CAPT. JOHN ERICSSON, of Menitor fame, is experimenting in New York harbor with a most destructive engine of war in the shape of a torpedo boat, and he is reported as being confident that no vessel now afloat in the world can successfully resist the attack of this new naval battery, which will deliver its charge of 250 lbs. of dynamite seven ft. under water.



A Thanksgiving.

O'er all November's dreariness,
And all the waning year's complaint,
Through smoky haze of summer days
That fill the skies with sweet surprise
When earth in splendid verdure lies,
There comes a peace my soul to bless,
And calm me, though I faintly.

It steals upon me like a dream—
A tender dream, as softly kind
As ever blest a soul at rest;
And one by one each morning sun
Is kissing me, as it has done
With magic in its golden beam
Since Youth its garlands for me twined.

I live again each morning o'er,
I breathe again each morning's air—
Each fancy sweet again repeat;
Each gladness thrill at dreaming's will
Asserts that it has power still;
And joys that long have gone before
Another yield of pleasure bear.

Where I had sung a psalm of praise,
Again the psalm I sing;
Where sad I sighed, or moaning cried,
I sigh no more with sadness sore,
But know the fruit that sorrow bore
Is blessing all my brief to-days,
And so a psalm of joy I sing!

As one by one the days go by,
I see my Lord's dear presence near,
His touch I feel in woe and weal,
And day by day He leads my way,
From morning till the evening gray;
And gladly thankful then am I
To hear his voice of holy cheer.

I bless Thee, O thou righteous God!
That yesterdays Thou gavest me!
That they were mine, and I was Thine!
And thee I bless in thankfulness
For thee to-day that I possess;
And when the way of life I've trod
May I the past recall with Thee!

—A. A. Hopkins.

Thanksgiving and Giving Thanks.

[Written for the RURAL PRESS by JEANNE C. CARR.]

Wherever the children of New England are found, and that is wherever man can exist, they keep the festival most sacred to their fathers, not only in obedience to the official recommendation, but in memory of blessed days of their own childhood, days which have died and gone to the heaven of holiest memories.

Far down the vista of departed years I see a Thanksgiving season which I am tempted to reproduce for the readers of the RURAL PRESS whose ancestors came "the Plains across," "the Isthmus mit," or "the Horn around." My own, Carver by name, arrived per ship *Mayflower*, in Massachusetts bay about 1626, and settled at Marshfield, on land adjoining Daniel Webster's homestead; there members of the family still live and keep up the family traditions. I never saw any of them, and they never heard of me, so this claim to lineal descent from the original sources of Thanksgiving, is made only to prove the legitimacy of my description.

"Thanksgiving," from the third generation of New England householders, down to the period of modern adaptations, though appointed for the last Thursday of November, began on the Monday preceding, and lasted from one to four weeks. None of the actors in these religious domestic festivities have been able to answer the question, "Do the pleasures of anticipation exceed those of participation?" The physical and moral affections, as Cotton Mather might have put it, having been so delectably exercised and balanced during all that period.

In "forehanded" families the grand preparations commenced on Monday, the previous Saturday having been devoted to washing, ironing and cleaning. Sunday brought a welcome rest. Monday evening usually brought a foretaste of coming bliss to the youngsters who were permitted to share in the labors of paring apples, stoning raisins and the like, while the rosy maidens

"Standing with expectant feet
Where the brook and river meet,"

Took turns with brothers and lovers at the chopping bowl, where, in due proportion, suet, apples, beef, fruit and spices reached their consummation.

The ear may have caught sounds of distress from the hen-roost, for this was dooms-night in the poultry yard, when many a fat gobbler as well as pullet fell before the sacrificial axe. Many hands made light work, and before nine o'clock, New England's bedtime, the mince-meat was heaped in the shining tin pans, the chickens and turkeys dressed for the spit, were stiffening in the frosty air, the evening prayers were said, and the blessing of heaven descended upon the sleeping household.

Tuesday was oven day, full of grave responsibilities and cares. The round limbs of the apple trees cut in the spring, seasoned through all the long summer days, must now yield up their stores of heat. How it crackled and roared

within the walls of the arched chamber, and what beautiful red coals were deftly lifted from the oven floor with the long-handled shovel, and what fun it was to see the pies go in. It was almost noon before that mysterious door opened again to let out spicy odors and the pride of the housekeeper's art. Do you suppose *split wood* by any possibility could make such crust as that?

Meanwhile, there had been gratings of nutmegs, pounding of cinnamon (for there were no adulterate ground spices in those guileless markets), heating of eggs, and from the colander yellow streams of pumpkin were forced until the pumpkin pies were ready for the oven. They, in their turn, came out like orbs of old gold in frames of silver.

Once more the oven was heated—this time for brown bread and baked beans. In this company is the great loaf cake—the favorite cake of our foremothers—raised with yeast, but so interpenetrated with butter, sugar, currants and cinnamon as to stand several hours' baking, and come out light and moist as a biscuit after all.

Like the general of an army, on the eve of battle, our grandmother moved from front to rear—from oven to pantry—using her plump white hand for a thermometer in the oven, while she counted 10 for pies or 20 for cake—now turning to lift the doughnuts from the fire lest they become a shade too brown; now tossing the egg froth with even, rapid strokes, un-hasting, un-resting, never losing a moment or making a false move.

There was silver to be cleaned and table cloths and napkins to be laid out for use. Up stairs all the great feather beds had been lying naked before the open windows. Now they are to be dressed each with two pairs of sheets, flannel for those who like them, linen for looks, and all the best bed quilts and rose blankets come out of the presses and chests. Grandmother looked a little solemn as, showing me a kaleidoscopic counterpane, she said: Your aunt Nancy pieced it before she was of your age. No matter how much genealogy was quilted in, a bed quilt always left in me a painful sense of inferiority.

On Wednesday the white bread, rolls and custards were made; chickens cooked ready for encrusting. The turkey dressing was also prepared and set away in a cool room. All the paste was rolled and buttered, and laid away also; and the fine pickled which my father used to send packed in ice from our Vermont lakes, was thawed out, lined with oysters and made ready for baking.

In the evening we had more fun than work, for we sat around the great wood fire in the keeping-room and cracked hickory and butter nuts, filling the porcelain baskets with their meats. We brought from the cellar Spitzensbergs, red streaks and greenings, and sometimes my grandfather had late pears. Each side of the wide chimney there was a closet with shelves, and there we put all these dainty preparations for the morrow. By this time most of the guests had come, and every room was full. At my best grandfather's for Thanksgivings, there were open-fires in the bed-rooms until 1850, and the home was full of warmth and cheer. Of the 16 children born to him, 6 were daughters—unmarried at the period I am describing. My father's were the only grand children, and were neither petted nor indulged, but treated precisely as children of the house.

Thanksgiving Day was usually clear and very cold. There was often good sleighing, and we all rode to church. My grandmother sat at the head of the pew, as serenely unconscious of turkey which might lack basting, or chicken pie underdone in the lower crust, as if such things had never happened.

Never did religious service seem so long as that of Thanksgiving Day. The attendance was never very large, and there was a sense of chilliness, in spite of the foot-stone in the pew which I often used, because otherwise my feet had no resting place.

The moment we got home from church we experienced the tortures of starvation, aggravated by odors as from araby the blest. Grandmother allowed us but one doughnut, as even the smallest had a seat at the table. The minister frequently dined with us on Thanksgiving Day, and once the President of the college, to my regret, for we were never as merry when there were extra family guests.

We had a beautiful pair of great-grandparents away up in the nineties, who always sat at the head of the table. Great-grandfather asked a blessing on us all by name, and, though my eyes were shut, I had a hushful feeling, as if I were being introduced to God.

My father sat at the foot of the table, before him the turkey, the cranberries and jellies, mashed turnips and potatoes. Grandfather, in the center, served the fish and venison; my grandmother, on the opposite side, attacked the chicken pie. Grandpa had my two brothers at his right and left; I sat at my grandmother's right, the youngest of my aunts at the left. The rest of the family were sandwiched between. We did not sit long at table, neither did we do justice to the consummate cookery; but it would keep for a month, and was better at every re-appearance.

There was an old-fashioned sideboard in the dining-room, with cut glass decanters containing cherry rum, wine and peach brandy, but I never saw any one use them except great-grandfather, who once said to "little" grandfather, tasting a drop of the rum, "They don't make such liquor now-a-days as they used to in Old Hadley." When little grandfather told him

that was some of his own Hadley rum, he concluded it was pretty good.

After dinner was cleared away, and grandmother had made everyone comfortable, grandfather always took the family Bible and read a chapter. Then he told us what he was most thankful for in the events of the year. Once there had been a heavy sorrow in the accidental death of a promising son, and for that he gave thanks "that our beloved child had been taken painlessly to the mansions prepared." If any were sick or absent, for them he prayed most earnestly. It was beautiful to hear him thank God for sparing his dear companion to walk at his side, his aged parents, and so many of their children.

After the prayer, we sang many sweet old hymns and we children had games. But we thought the best of pleasures was to get the great-grandparents to tell stories of the burning of Hadley and the early Indian wars. Our great-grandmother had been a famous spinner, and would turn her large wheel when long past eighty years of age. She was confident that the girls of the rising generation were made of poorer stuff than the old Hadley girls.

Then we "hunted the slipper," and played blind man's buff, and many other old-fashioned games which had been handed down from the Christmas festivities of our ancestors in England, while the elders talked over their various plans and happenings. The back log gradually fell apart, and was heaped with ashes in the living-room where the Thanksgiving feast had been spread; and the young-ones were safely tucked away in the high feather beds long before the conferences around grandmother's chair had come to an end. Doubtless there were love stories told and blushing confidences shared for the first time with the good mother, for I remember that important events seemed to follow the Thanksgiving season. If by any chance there was a new face at the table, we suspected a claimant for a permanent lease.

And now, under the roof which sheltered four generations, there is no longer a great family festival, though the mossy trunks of the apple trees still remain and the old homestead is well kept by the youngest of the sixteen. In the village cemetery, the white headstones tell where the great and "little" grand parents sleep; but the graves of the others are made distant, many in missionary lands.

For all these precious lives, we humbly and tearfully give thanks to-night; for the blessing of the elders, the tender love of the little ones, and most of all for the hope of a fuller, ampler feast for these yearning human affections in Our Father's house of many mansions.

Of all that we should be thankful for at this blessed season, let us be grateful for our homes, for our domestic duties and comforts. The great privilege of life is its opportunity for love and service. It is in the family that these are most constant and beneficent. All that is of worth in the past is our inheritance; let us send it unimpaired down to those who succeed us. It has sometimes seemed to me that family ties are held more lightly in our time, and these pages of reminiscence are intended as a gentle admonition to all who are tempted to find their joys outside the sacred circle of home.

Again, a return to the dignified simplicity of life in the better class of the past and passing generation, recommends itself to the thoughtful everywhere. Let us give thanks for every bright example of noble living in those named by our name, and in all who touch us with the unconscious influence of pure lives and high aspirations.

Pasadena, Nov. 15, 1880.

Be Thankful.

EDITORS PRESS:—How like April—warm, sunshiny April—to-day, Thursday, has been:

"All day, that soft, gray mist hath wrapt,
Hill, valley, grove, and town.

There has not been a sound to-day,
To break the calm of nature;

Nor motion, I might almost say,
Of life or living creature;
Of waving bough or warbling bird,
Or cattle faintly lowing."

And yet earth has not rejoiced with the pattering drops. Such weather, now, the last of November, when the autumnal winds should be moaning around the dripping gables, and whistling through the wet branches. How long is it to last? Yet we have much to be thankful for. The granary groans, and the mow is full, while mother earth, robbed of her wealth of golden treasures, now dons her sable robes of mourning. On every hand stretch away the black, furrowed fields. There is something irresistibly cheerful about the gray hills, the smoking furrows, the leaden sky and warm atmosphere. Everyone seems happy, and there is that merry ring in the plowboy's whistle, which proves at once he whistles not for want of thought. The holidays approach, the turkeys are fattening, and all nature bespeaks "good will to man." The rains will come in their own good time. Let us not forget then, on the 25th, to thank the Author of All for the gladness he has put in our hearts, and the health and comfort he has given us.

E. F. W.

Danville, Cal.

AN American lady in Paris anxious to inaugurate a novel entertainment, hit upon the idea of a "soap-bubble party." The guests found tables furnished with soap and warm water, and clay pipes bedecked with ribbons, and they vied with each other in the agreeable pastime of blowing bubbles. The more serious business of eating and dancing followed.

Disagreeable Women.

EDITORS PRESS:—I have lived some time, and for at least twenty years past nearly every paper I have picked up has contained something about the training of girls and the duties of women. Indeed, it has become the fashion to deprecate woman's entire course. One heads an article "Disagreeable Women" (how dare he!); another, "Training Schools for Girls;" another, "Economy," and yet another—no doubt some wretched old bachelor—wails out the appalling question, "Where are the mothers of the next generation to come from?" And so I might continue in this vein until your forbearance and my own patience were quite exhausted; but when your paper arrived yesterday, containing an article headed "Agreeable Women," and signed John Taylor, I just ran right over to Miss Smith, and we sat down and talked the whole subject over.

Miss Smith has lived some time, too. Neither of us has ever been bothered much with men about, so we could watch the doings of the young folks of both sexes pretty closely; and I tell you we are not the only ones who have gnashed their teeth in silence over the "tendency of the age" in this matter of training the boys and the girls to such different vocations.

Don't you remember how, a few months ago, the whole United States chuckled because it became known that Iowa, through her Agricultural College, was training her girls to cook, clean house and economize? and how it was hoisted that those girls would have opportunities to marry in six weeks after graduating? as if man's whole object and aim in marrying was to be cheaply fed and fed well.

Well, as I was saying, Miss Smith and I just sat down and talked the whole matter over, and if ever two beings rejoiced we did to see the tide setting in another direction. Here comes a man who dares to sign his full name and tell where he lives, and holdly, yet gracefully, takes up the cudgels for woman.

"Disagreeable women," indeed! Who comes into the house grumbling and ordering about with his lord-of-creation airs, scattering his things here and there for some woman to pick up and put in order? Is it the girls? "Economy," who begins while still in petticoats to beg for spending money, and as he grows more manly forces the "gov'nor" to "fork over" more "loose change" than he can well spare to gratify the well developed love for selfish and useless indulgences, not to call it by a harsher name.

How many farms have been wasted and business houses ruined because the "old man" has been induced to pay hush money or debts of honor to shield the extravagant and dissolute sons. Who ever heard such of the girls of the family?

Who "fixes over" old dresses for purposes of economy? Who remains patiently at home assisting mother, toiling early and late by her side, assisting in all household economies while the brothers "go down town." Go down town! What for?

Where do you find your purity of words, meekness of spirit, chastity of lives? Training schools for girls indeed! Why the whole lives of most girls are training schools from the time they are large enough to rock the cradles of their exacting little brothers, to their graves.

True, she don't often go away to business college and come home in new city clothes, and smoke cigarettes, and run up a barber's bill she never can pay, and waste whole reams of paper showing her friends how difficult it is to draw birds and angels with the pen, but for every useful purpose, every day contributes its lesson. But what of the brothers? Are they so trained in morality, honesty, economy, industry and purity?

Miss Smith says that all this cry about training girls to cook and economize—those two words cover the whole demand—is so they will be fitted to support some of the lazy, selfish spendthrifts. But then Miss Smith always does speak out plain.

Train your boys; let the girls rest awhile. Train your boys to economy, to industry, to virtue, make them equal the girls in this respect, and the world will be the better.

John Taylor is the great reformer of the age. We are glad he lives in Mt. Pleasant. May he always find it pleasant. Miss Smith and I live in Idlewild. The women named it so because the men are mostly idle, and the women having most of the work out of doors and in the house to do, it looks a little wild. But if John Taylor ever comes to Idlewild, the girls here will get him up the grandest dinner he ever sat down to, and Miss Smith and I will help whether he is a married man or not.

AUNT JERUSA.

"Oh, there's plenty of time!" these people always remark. And by thinking so, the train moves off without them; golden opportunities slip by unnoticed, and in the end we fear many of them will be just a little late in securing a safe passage across the river of death, to that blissful abode prepared for them that seek early. If you would prosper in any undertaking, you must stir about lively. "Time and tide wait for no man." Remember this.

"MAYBE there isn't any God for the United States," said a Canadian mayor to Col. Robert Ingersoll, "but there is one for Canada, and you can't have any hall in this town in which to defame him."

Young Folks' Column.

School Sketches.—No. 5.

Thanksgiving and the Opening of School.

[Written for RURAL PRESS by LAURA J. DAKIN.]

We used to have only three months school in summer and three in winter; but how long the

At recess the scholars planned to go over the hill, where pussy willows grew. They were to take their lunch in their hands and start as soon as school was out at noon.

But when noontime came one of the smallest girls was sick, so I was chosen to stay with her and amuse her. The others departed with all speed; even the teacher went to his hoarding place, so in five minutes how very still the little valley was.

Vanlora and I spread out our lunch and played

"Little pig, little pig, let me in!"
"No, no," said the little pig, "I am afraid you will eat me."

"Ho, I won't eat you," said the fox, "let me in."
But the pig would not open the door, so the fox said: "If you don't let me in I'll blow your house down." And then he leaped to the top of the house and stamped, and stamped, and blew, and blew, till the house shook and cracked and tumbled down. Then the sly fox caught the little pig and ate him all up.

Now the little pigs that were left in the pen kept thinking that the one on the hill must be having a gay time, so pretty soon one of them squeaked a good bye, clambered out and ran up the hill too. It could not find the first pig,

and the first thing he did was to build a house of stones and bones and lime. The lime was mixed and daubed all between the stones and bones so as to make the house strong. And every night the pig went into his strong house and fastened the door, but in the day time it hunted for roots and herbs to eat.

At last the old fox came that way again and knocked and called:

"Little pig, little pig, let me in."
"No, I don't open my door at night," said the pig, "because some old fox might eat me."

"Pooh, you must be a coward," said the fox. "But if you won't open the door I'll open it in a way you don't think of, for I'll blow your house down."



vacation seemed, and how glad we were when school commenced again.

The winter term usually began the first Monday after Thanksgiving; so what a wonderfully exciting week the last one in November was. For there were the mince pies to be made, and as we rarely had that kind of a pie in summer time, I remember it as a special addition to our Thanksgiving feast.

How officiously we children offered our services in chopping the meat and apples, and stemming the raisins. Then we stood around the table while mother mixed the delicious compound, every one of us ready and willing to taste and help her judge if it was just right.

I can just remember when we had the big brick oven, and mother made a fire in it with nice slender sticks that she called oven-wood. When the oven was hot she raked the coals all out and swept it clean. Then she put in the mince pies, apple pies and pumpkin pies, with brown bread in one corner. When the oven door was shut how we chattered.

"What a good dinner we'll have when Thanksgiving Day comes," said one.

"And ever so much pie left to carry to school," said another.

"And turnovers! Oh, mother, won't you make some mince turnovers?"

"And fry some apple turnovers when you make the doughnuts?"

"Shall we have chicken pie?"

"When shall we kill the goose?"

Turkeys were not so plenty in those days as they are now. Indeed, I never saw a turkey till I was quite a large girl; long after our big brick oven had been pulled down and piled into nothing but a snug row of bricks along by the garden fence.

Thanksgiving Day seemed a little like Sunday, because father and the boys did not go off to work, but put on their best clothes, and some of the family always went to church.

visiting; but she could not eat much, so I soon cuddled her up and told her the story of the "Three Little Pigs." She liked it, and perhaps the very little girls now would like to hear it too; and I will venture to tell it again:

The Story.

Once there were three little pigs living with their mother in a very good pen. But one little pig was discontented and said he was going away upon the hill and build him a house of his own.

"You had better not go," said the old pig, "for the fox will come and eat you up."

But the little pig said he was not afraid, so he pushed through a hole in the wall and away he went up the hill and built himself a house of stones and bones. At night he went in and shut the door, and, sure enough, it was not long before the old fox came and knocked at the door, shouting:

but it found a heap of stones and bones; so it built a house of them, and, when it had dug some roots for its supper, it went in and fastened the door. Before it could get fairly asleep who should come knocking and shouting but the fox again.

"Little pig, little pig, let me in."
"No sir, I won't let you in; if I should you would eat me the first thing," said the little pig.

"Ho, I am your neighbor, I want to get acquainted, what should I want to eat you for?"
But the pig would not open the door, so the fox leaped to the top of the house and stamped, and stamped, and blew, and blew, till the house shook and cracked and tumbled down. And the old fox caught this little pig, too, and ate him all up.

Now the last little pig asked its mother if it might not go away and seek its fortune. And the mother said it had been such a good little pig to stay till it had some sense, she was quite willing to have it go.

So away went the pig, determined to be very sensible

So up he sprang to the house top, and there he stamped and stamped, and blew and blew, till his feet and throat were sore. But the house did not shake, or crack, or fall. Then said the fox:

"I know where there are some cherries; if you will go with me, you can have all you want."

"Very well," said the pig, "bring your baskets to-morrow and I'll go with you."

So the next day the fox came, and they started off together. When they reached the tree, the old fox said:

"You climb the tree and shake down the cherries while I fill the baskets."

"No, you go up the tree; I'm too fat to climb," said the little pig.

Then the fox climbed the tree, and shook, and shook, and shook it, so that the cherries fell very fast. By and by he called out to the little pig:

"Have you cherries enough?"

"No, a few more for me to eat," said the pig.

So he shook, and shook, and shook it again, and the pig kept crying, "A few more for me to eat," till he saw a dog coming along the road. Then the little pig ran to the dog and said in a whisper:

"Would you like a nice, large fox?"

"I woe-wow-would," answered the dog, softly.

"There is one in that tree; come, I'll call him down for you."

They went on tip-toe to the foot of the tree, and the pig called out:

"Cherries enough, the baskets are full!"

Then the fox came down, and when he was almost to the ground, the dog sprang and caught him by the throat and carried him home to his master.

The pig carried all the cherries home and had a regular Thanksgiving dinner.

That is all the story of the little pigs, and I had not thought of it for a long time, till I went to visit Mr. M. P. Owen's cherry orchard last summer; then when I stood under the trees and the large, delicious fruit kept dropping into my hand, I remembered the little pig who said: "A few more for me to eat;" and if his cherries were half as good as those Mr. Owen treated us with that day, I cannot blame the little pig so very much. The cherries were beautiful to see as well as good to taste, and the 700 trees scattered over hill and valley made a lovely picture.

But Mr. Owen almost promised something that day that would please you little folks, I am sure. He said, as I had been telling what the girls did when I was young, he had a mind

This Thanksgiving Day I staid at home with one brother and sister to keep house. Mother put a nice big pie into the little chimney cupboard for our lunch at noon. How we watched that cupboard door and the clock, wishing it would strike twelve.

About one o'clock the folks came home, and at three we had our feast. Roast goose, pudding, with raisins in it, and three or four kinds of pie. I do think that we children were thankful.

There was usually snow on the ground at this time of year; but one year there was no snow, and when school commenced we walked instead of riding in the old green sleigh, as we generally did.

to write about the boys of his school days. I wish he would, don't you?

PORTABLE DWELLING.—J. M. Moore, recently of Colusa county, having decided to take up his residence in this city during the coming winter, and finding it impossible to rent a house, has commenced work upon a frame structure 10x18, which he intends putting on wheels, a la photograph car, and living in it until spring. Should he conclude to go elsewhere then, he'll take his home with him.—Gridley Herald.

Don't buy a piano for your daughters, while your sons need a plow.



DEWEY & CO., Publishers.

A. T. DEWEY. W. B. EWER.

Office, 203 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line 25 80 \$2.00 \$ 5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 6.00 14.00 40.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. H. STRONG

SAN FRANCISCO:

Saturday, November 27, 1880

TABLE OF CONTENTS.

EDITORIALS.—Meetings of Farmers and Legislators; Peace and Plenty, 337. A New Chilled Iron Plow, 341. The Week; Something of a Thanksgiving in Wheat, 344.

ILLUSTRATIONS.—Nature's Thanksgiving Gifts—"Whose Voiceless Lips are Living Preachers," 337. Gale's Chilled Iron Plow, with Patented Jointer and Gauge Wheel, 341. Home Thanksgiving Scenes, 343. West Coast Land Birds—Thrushes, Robins and Mocking Thrushes, 345. Sitka, Alaska Territory; A View of the Bay of Sitka, 349. Percheron Stallion, "Avalanche," 353.

CORRESPONDENCE.—Items From Kern and Tulare Counties; A Flourishing Neighborhood; A Series of Articles on Land Reclamation, 338.

THE SWINE YARD.—Notes on the Care of Swine; 338.

HORTICULTURE.—Best Fruit to Grow—No. 5; Blackberries, 339.

SHEEP AND WOOL.—The Wool Interest of California, 339.

THE APRIARY.—Beginnings in Beekeeping, 339.

PATRONS OF HUSBANDRY.—The Grange Birthday; Guard Against the Conspirator; Grange Notes, 340.

QUERIES AND REPLIES.—Quackery in Dairying; Poisoning Gophers; "Heaves" and "Broken Wind," 344.

THE DAIRY.—Opening the First California Silo, 339-354.

NEWS IN BRIEF, on page 341 and other pages.

AGRICULTURAL NOTES from the various counties of California and Nevada, 340-41.

HOME CIRCLE.—A Thanksgiving (Poetry); Thanksgiving and Giving Thanks; To be Thankful; Disagreeable Women, 342.

YOUNG FOLKS' COLUMN.—School Sketches No. 5, 343.

POULTRY YARD.—The Care of Poultry, 343.

PISCICULTURE.—Habits of California Salmon, 346.

THE STOCK YARD.—Breeding Farm Stock, 346.

Stock Breeding to Diversify Agriculture, 347.

THE STABLE.—Horse Breeding in California, 344-53. Percheron Horses, 353.

GOOD HEALTH.—The Bath-room, 354.

DOMESTIC ECONOMY.—Cookies and Cakes; Efforts in Cooking; To Make Vinegar; Apple Jelly; Airing Closets; Celery Vinegar, 354.

MISCELLANEOUS.—West Coast Land Birds, 245-46. The Debris Dam on the Yuba; Railroads and Progress, 347. Peppery Pumpkin Pies; Thanksgiving in Tehama County, 348-9. Scenes in Alaska; Notes of Thanksgiving; An Englishman's View of Thanksgiving, 349-50. The Population of the World; A Season's Work in Alaska; Capt. Eads on Debris; The Rise in Coal; Primeval Man; An Illuminating Composition; Hott Bearings, 350. Jersey Belle of Scituate, 354.

Business Announcements.

Pioneer White Lead—Whittier, Fuller & Co., S. F.
Agricultural Implements—Baker & Hamilton, S. F.
Nicoli's Grand Tailoring Emporium, S. F.
Carriage & Wagon Manufactory—P. H. McGrew, Oakland.
Poultry—Albert Burbank, S. F.
Dairy Cattle—Henry Pierce, S. F.

The Week.

To all homes into which this issue shall come, let it bear the message of Thanksgiving; and from Thanksgiving may there arise joy to all hearts and strength to all hands. We have made a modest endeavor to charge our journal this week with the spirit of the glad some occasion, and we trust there may be found in it something to entertain, to enliven and to instruct. We have been nobly sustained by our corps of contributors; in fact we are disposed to look upon this issue as the best we have had for years, because there is less from the head which bends over a city desk, and more from the fresher brains which go out into the sunshine and the air. Therefore, we may praise this week a paper which is not ours, but yours—a paper you have made yourselves for yourselves. We thank you all for it.

And here come the rains. The signal service observer tells us that this (Tuesday) afternoon it is raining at Visalia, Sacramento and Red Bluff, and this means that intermediate places are being refreshed, and the storm may be called a general one. It was much needed and it is just in time. Now let the work of the new season go forward, for the people are ready for it. There never was a time in California when the people were more confident of success to be worked for, and success thus to be sought is half attained already.

SACRAMENTO COUNTY.—Our able and faithful corresponding agent, A. C. Knox, is now visiting Sacramento county in the interest of the RURAL PRESS.

Something of a Thanksgiving in Wheat

Our leading staple seems to be disposed to take on Thanksgiving humor after all. We had so much, and the price ran so low, and there were so few ships to carry it, that the material promised to be almost an embarrassment to the owner. For the last few weeks, however, a change has been gradually creeping in, and it must be acknowledged that the outlook for fair prices are now better than they have been at any time since the first reaper entered the field.

Thanksgiving week, then, brings us an advance of about 7½ cents on the best wheat; it brings us cheaper charters, for the list of grain ships is increased by continual arrivals, and the week is also quite rich in advices which seem to indicate that there is no such excess of wheat in the world as has been claimed by those who wished a low range of values.

The latest information on the subject of wheat production and requirements is derived from a publication of Bradstreet's dated Nov. 13th, at New York, and which has just reached this coast. This review of the subject shows, in brief, that two errors have been made this year. One has been in exaggerating the production, and the other by underestimating the amount which European consumers will require. There is given a table which puts these two items in their proper adjustment. The latest and most trustworthy returns regarding the surpluses and deficiencies of the wheat producing and consuming countries of the world give the following results:

SURPLUSES.	
	Bushels.
Austro-Hungary.....	8,000,000
Chile.....	3,000,000
Canada and Manitoba.....	5,750,000
British India.....	6,000,000
Egypt.....	6,000,000
Australia.....	12,000,000
United States.....	190,000,000
Danube.....	12,000,000
Turkey.....	6,000,000
Algeria.....	2,000,000
Russia.....	5,000,000
Total surplus production.....	254,750,000
DEFICIENCIES.	
Switzerland, Spain and Portugal.....	6,000,000
Italy.....	5,000,000
Great Britain.....	120,000,000
France.....	42,000,000
Holland and Belgium.....	14,500,000
Germany.....	20,000,000
West and East Indies and Central and South America.....	20,000,000
	227,500,000
Apparent surplus production.....	27,250,000

Of the above surpluses, that of India will not be marketed until April, and Chile and Australia will not sell until January; consequently, a good part of the apparent surplus is yet to be realized, and not now pressing forward. It will be noticed that Russia is put down for a small surplus, but she must buy corn and rye to take the place of all the wheat she sends out, for Russia is in most forlorn condition. The latest copy of the London Farmer says:

A great part of the population of Northern, Central and Eastern Russia are so miserably poor and so utterly incompetent that weeds and insects are conquering the crops, and homesteads decaying with the rigors of the seasons are left unrepaired. The downfall of Russia as a great agricultural power strengthens the hands of America very much, and but for India, Canada, Australia and Chile we should be virtually in the hands of the United States.

The conclusions drawn from Bradstreet's review of the statistics, we are glad to see bear out those which we have advanced, and we now trust our own position more because it is fortified by such a wide-reaching agency for the collection of true information. The apparent surplus of wheat after the world's need is supplied, is so small that, considering the probability of consumption at home and abroad increasing rather than decreasing, there is no good reason to count on declining prices. The shortness of the Indian corn crop in the United States will have some effect in sustaining the price of wheat. Again, it is not possible for prices to decline materially without speedily increasing the demand, which in turn will reach in the direction of higher prices. Having regard to all the factors entering into the present wheat situation, it is concluded that a continuance of fair prices for wheat is justified. The apparent surplus of 27,000,000 bushels in the world's wheat product is not so large as to justify fears of very low prices. There is little more (if any) than enough to supply present deficiencies for this year. At least the wheat producers of the United States bid fair to receive fairly remunerative prices for their crops.

COPPER IN PLANTS.—It has generally been held that metallic substances impregnating the soil were not absorbed by plants; that the roots possessed a species of selective power in virtue of which they rejected everything of an injurious nature. This is not strictly true, since there are exceptions to the rule. The ashes of a species of violet (*Viola calaminaria*), which flourishes on the waste ore heaps of certain of the zinc mines of Rhein Prussia, have been found to contain considerable quantities of zinc. Mr. Dieulauf, a noted French mineralogist, now adds his testimony to the inaccuracy of this opinion, by proving the presence of copper in plants which grow on rocks belonging to the copper-bearing series. In some instances he was able to obtain a distinct reaction for copper with ammonia in one grain of ash. It is not improbable that investigation would disclose the fact that other metals are also taken up by plants.

QUERIES AND REPLIES.

Quackery in Dairying.

EDITORS PRESS:—I see in the *Western Rural*, of Chicago, an article commenting on a circular emanating from "Russell & Co.," of St. Johns, Mich., wherein butter-makers are once again treated to the old story of a "butter compound," costing only a few cents, by the aid of which "the entire milk is converted into butter with 10 minutes churning." The fraud is a somewhat stale one, but its tenacity of life is surprising. A new feature in the present case, is the use of my name as the originator of the wonderful process—an honor conferred, probably, in remembrance of my being the first to denounce the imposture, when it made its appearance in Tennessee and Mississippi years ago. It is perhaps hardly necessary to warn the California public of the twofold falsehood embodied in "Russell & Co.'s" circulars, the more as they are not likely to be sent where they would come under my notice; but I hope that, through your Eastern subscribers and exchanges, the number of victims to this and similar frauds may be, to some extent, diminished.—E. W. HILGARD, University of California, Berkeley.

We solicited this statement from Prof. Hilgard, lest the glowing circulars of the impostors might find their way to this coast and that the connection with it, of the name of one who has won the confidence of our people, might lead some to invest without a thought of the palpable nonsense involved in the claims of the advertisers. There are many nostrums vended throughout the country claiming to be sovereign aids to those who are manufacturing milk into butter or cheese. Although there are some substances which can with advantage be used in certain conditions of the milk, as for example to prevent souring, etc., any substance which is put forward as a cure-all for dairy hardships, or to transmute the natural components of the material, may be set down as a quack's prescription fit to do nothing, but rob one of the money invested in it.

Poisoning Gophers.

EDITORS PRESS:—As now is the time to look out for the material, I will give my way of poisoning the gopher, which I practiced since the last two years. A gopher's habit is to come to the surface of the ground most always early in the morning, at about sunrise; and in the evening a little before sunset, for the purpose of feeding and otherwise. At such times the gopher has an open hole, which he will always shut up again. In such a freshly-made hole I place the bait, which is simply a small apple, just large enough to enter the hole. In the apple I make a cut large enough to get in a grain of strychnine. I handled the apple without gloves; a gopher don't care about that. Now, my reasons for selecting an apple are many: A small round apple will roll in and down, sometimes to his main burrow, without any effort on my part; an apple will clog up his hole and interfere with his working; and last but not least, an apple has always too much of an aromatic smell to be unnoticed or thrown out by the gopher. The best time to go after the gopher is right after the first rain has set in. Vegetation will then be scanty, and as long as the ground is moist, a freshly thrown-up pile of ground can be seen at a distance.—WM. PFEFFER, Saratoga, Santa Clara Co.

"Heaves" and "Broken Wind."

EDITORS PRESS:—Will you please inform me through the columns of your valuable paper the difference (if any) between the "heaves" and "broken wind" in horses, and decide an argument.—DAVID MITCHELL, San Luis Obispo.

EDITORS PRESS:—"Heaves" and "broken wind" are only different names for the same disease.—JNO. CASEWELL, M. R. C. V. S.

PUBLIC LAND DECISIONS.—A Washington dispatch says: The Secretary of the Interior rendered a decision of wide application and large importance, in the matter of the adjustment of the California School Land Grant, as regards indemnity selections certified prior to March 1st, 1877. In this decision Secretary Schurz holds that only defective or invalid selections, made in lieu of actual losses or deficiencies, and selections made in lieu of 16th or 36th sections, alleged by the State at the time of selection, to be lost in Mexican grants, but which since March 1st, 1877, have been, or may hereafter be, found upon the final surveys of such grants, or by approved public surveys, not to be so lost to the State, are confirmed by the Act of March 1st, 1877, commonly known in California as the Booth bill; that no more than one section (the first one) is confirmed in lieu of the designated loss or deficiency; that no selection is confirmed which was made in lieu of a 16th or 36th section, shown by survey at the time of selection to be in place or lieu of a 16th or 36th section, which by final survey of a Mexican grant or approved public surveys, was ascertained prior to March, 1847, not to be lost to the State, the State in such cases taking the 16th or 36th section, and the United States the selected land, to be disposed of to a purchaser of the State, or in case no State purchaser claims it, then to be disposed of as other public lands. The Secretary also holds that in no case can the State take the 16th or 36th sections, and the lands selected in lieu thereof; hence, that unless 16th or 36th sections, in lieu of which other lands have been illegally selected and certified, revert to the United States under said Act (which cannot be the case where the 16th and 36th sections were ascertained to be in place by surveys returned prior to March 1st, 1877), the selections are not confirmed, and the selected lands are held for disposal under the provisions to the second section of the act, as are all other selected lands, the selection of which shall be found to fail, and not to be confirmed by said act.

THE STABLE.

Horse Breeding in California.

Success of the Past—Promise of the Future.

[Written for the RURAL PRESS by JOSEPH CAIRN SIMPSON.]

The series of articles which appeared in the RURAL PRESS some time ago, was confined to the breeding of race horses in California, though the intention was to continue them until all the different grades were considered. Being so completely absorbed in matters which I had to attend to, the continuation was reluctantly given up for the time, with the hope that it would not be long before the resumption of the topic. It is a great interest now on the Pacific coast, with the promise of becoming of such importance in the near future as to warrant giving this branch of rural economy the most careful thought and close attention and study. Situated so far from the great markets, the California breeder can alone make it profitable to breed the best, and the California farmer who breeds as a part of the routine of his business, must have this in view as well as those who enter into it as a "specialty."

The breeder, *per se*, has usually a definite object, and his ventures are sustained by all the appliances necessary for success. These are beyond the reach of a large majority of farmers, and he comes in competition with the specialist at a great disadvantage. There is a large outlay for the approved strains in the progenitors, and these have to be supplemented with all the adjuncts for successful training.

A small establishment will not warrant this outlay, or the employment of the men who are required to carry it along. A farmer may make it profitable to keep a few mares of thoroughbred blood, and sell the progeny to those who race them. He may enter into this without the idea of immediate profit, but rather for the gratification of a taste which, in a pecuniary sense, he is able to indulge in. It is a source of great pleasure to many to have a blood mare or two in the pasture field, and a few of the graceful offspring in the paddocks, and like a fondness for art, gives a return which he considers satisfactory for the expense incurred. Or he may have a favorite old mare which has whirled him along the road in his journeys to the village postoffice, and he deems that a colt from her and some noted trotting stallion will recompense him for the outlay. This is all very well, but when he makes a business, or rather a fraction of his business the breeding, rearing and training of race horses and trotters, in at least nine cases out of ten, there will be a loss corresponding to the size of his operations in that line.

The large sums which animals of rare excellence have brought have stimulated an overproduction of moderately fast trotters; and the consequence is, that when a market is found the price will bear a comparatively small proportion to the cost. The country has been overrun with "breeding" stallions of the popular trotting families, and size, style, proper formation have been lost sight of in the craze for speed. Any one who has lived for half a century, and been brought up in a section of the country where horse-breeding has been one of the dependencies of farmers, can scarcely have failed to notice the changes which have taken place. Countries like Western New York, Ohio, Indiana, Illinois, etc., which forty years ago sent droves of large, fine-looking horses to the Eastern and Southern cities, have changed so much that it is difficult to find what was formerly so plenty, and in place thereof there are thousands of light, rapid roadsters which would have astonished the dealers of the olden time. There is, of course, a demand for road horses entirely different from that which existed even twenty years ago; and in the cities and large towns the trotter is in daily use by thousands who drive for pleasure. It is peculiarly an American practice, and has increased with wonderful rapidity. It finds patrons among men of every grade, from those whose means will only permit gratifying the taste in a modest way, to the man possessing millions, and who will pay a reasonable fortune for an animal which has the desired characteristics.

It may appear paradoxical to claim that men who can rear horses for the least money should be unable to compete with others in supplying this market, and that the business must be confined to establishments which are maintained at an immense expense. The rearing, when by that is meant the mere expense of feeding and breaking, is a small portion of the expense. The services of the stallion may cost more than the animal will bring when matured; but that is a small item in the account when the bills for training are liquidated. Vehicles, harness, shoeing, even the appendages of trotters in the shape of boots, bits, weights and clothing amounts to large sums, and the effort to economize by restricting the cost, renders nugatory all that has been done, and the animal which might have proven to be good, under skillful tuition, turns out worthless from bad handling, or from a lack of the essential adjuncts. There is not the least doubt of California possessing advantages over every other section of the United States for breeding, rearing and training fast horses. The success which

[CONTINUED ON PAGE 353.]

West Coast Land Birds.

Introductory Remarks.

We intend to give our readers a series of articles on the influences, both good and bad, exerted by our land-birds on the cultivation of all kinds of crops along the Pacific slope. The articles will be prepared by one who has made them a special study for twenty-five years past. We intend to reproduce the engravings, of such birds as we shall select, from the "Ornithology of California," one of the reports of the State Geological Survey. Fuller accounts of all the species may be found in the "History of North American Birds" by Baird, Brewer, and Ridgway, three volumes, quarto, 1874. The articles themselves, however, will be entirely new, and will contain much original matter never before published, besides the necessary quotations from other authors. We cannot definitely announce when other articles of the series will appear,

in their places. Very little observation will show that such bills can only be used to catch insects, or to pick a little at soft fruits. All these birds are smaller than the meadow-lark. Leaving the characteristics of the other groups to appear, in their proper places, we proceed to describe the families and species.

The Thrush Family.

According to the latest classification, these birds and their relatives present us with the most typical examples of the bird-form known, for their structure shows the least approach to that of the reptiles below them, and the mammals above them, in the scale of development. They are therefore placed by most authors at the head of their class. We have not yet learned on what principles to divide it, so as to arrange the families in regular order from the lowest to the highest, with these at the middle of the series, while those nearest to the lower and higher classes may be the ones at each end.

American Thrushes.

The typical genus of the family is that of

More interesting to us is the "Oregon thrush," Fig. 2, described from that State, but now found to be very common throughout California in summer, except along the large interior rivers and in woodless tracts. It is over seven inches long, uniform reddish brown above, somewhat olive toward the tail, the breasts with spots darker than the back but not black. The pale brown tints gave origin to its scientific name which may be translated, scorched thrush (*Turdus ustulatus*, Nuttall). There is, however, an eastern variety known as the olive-backed thrush which is nearly of the same tint as the hermit, differing chiefly in absence of reddish on tail, etc., (variety *Suainsoni*). This form is common in the Rocky mountains, and has been reported to visit California occasionally in its migrations.

Our summer thrushes are, however, more or less of the burnt-brown tint, and are among our most melodious singers, their metallic ringing notes resounding in spring from the thickets along every stream near the coast, and in the high mountains, especially toward evening,

similar plumage, but there are two of our species still larger, with much heavier bills. The first is known everywhere in America by the name of robin, from its red breast, though in size and shade of red the English robin is very different, more like our bluebird, which it also resembles in habits. Though so different in plumage from the typical thrushes, this robin-thrush, when young and newly fledged, has its breast whitish, thickly spotted with black, resembling very much the fieldfare, a thrush of Europe, but after its first moult loses the spots and becomes red-breasted, thus developing to a grade higher than the spotted ones. The adult male has the head black, except three white spots about each eye, and a white-spotted throat; back olive-grey wings and tail blackish-brown, the outer tail feathers with white patches at ends, lower parts about the tint of redwood, white under tail, bill yellow. Female and young birds less brightly colored. Length 10 inches.

The robin, so well known in the Eastern States, is a rare bird in most of the older set-

Fig. 1.



Fig. 2.



Fig. 3.

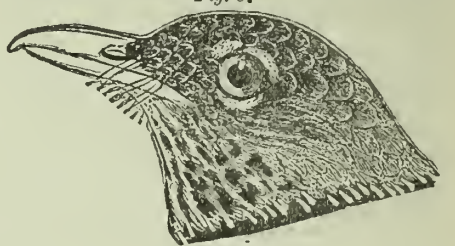


Fig. 4.



Fig. 5.

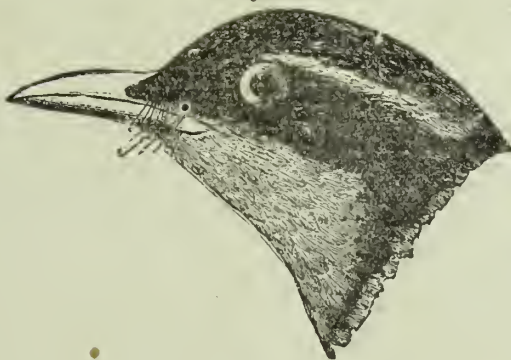


Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



WEST COAST LAND BIRDS—THRUSHES, ROBINS AND MOCKING THRUSHES.

but we trust they will not be long delayed. The plan to be followed, though in the same order as in the Ornithology of California, will not be so strictly scientific as to unfit it for popular reading, while at the same time, none of the practically scientific views of the subject will be omitted. According to modern classification the land-birds are arranged nearly as follows, from the agricultural point of view: 1, insectivorous singers; 2, graminivorous singers; 3, omnivorous singers; 4, fly-catchers; 5, grub-eaters; 6, vermin-killers; 7, game-birds.

In this order it is proposed to describe briefly each bird, and to give its habits more fully. These divisions do not agree strictly with scientific classification, which is founded on structure more than on habits, but the place of any bird in the above arrangement can be generally ascertained by the figures and brief characteristics given.

1, Insectivorous Singers.

The first division includes those with rather short and slender bills of about equal breadth and height at the base; straight when short, much curved when longer than the bird's head. The mocking-birds, wrens, titmice and butcher-birds, furnish us with examples of various forms of the bill found in this division, and some more extreme variations will be mentioned

which the true thrushes belong, of which we read in English books, but which are somewhat different from their American cousins. The European thrushes are among the finest song-birds of that continent, and are fully equaled by some Atlantic coast species, as for instance the wood-thrush, and by the hermit-thrush.

The latter only visits us, and to some extent winters in California, going north of the United States in summer and never favoring us with its brilliant song, although some will probably be found to linger through the summer about our highest snowy mountains, as they do in the Rocky mountains above 8,000 ft. altitude.

The western hermit-thrush (*Turdus nanus*, above light olive brown, becoming reddish toward Audubon, meaning dwarf thrush), Fig. 1, is the smallest of American species, about 6½ inches long, the tail, beneath white, with a buffy tint on breast, which is thickly spotted from the sides of bill downward with triangular dusky spots more rounded beneath. It is a very shy bird while with us, though occasionally coming around shrubbery in gardens, seeking insects chiefly on the ground, and uttering only a sharp chirp of alarm. Varieties of this species are found in the Rocky mountains much larger, and one of intermediate size in the Eastern States, all of similar habits.

when they delight to visit gardens and seek for insects until dark. They may occasionally pick a cherry or other small fruit, but are among the gardeners best friends, from their destruction of insects, and should be protected. Among our boys of foreign parentage, they are often called whistlers and sometimes even nightingales, but are much inferior in musical power to the other species mentioned before, their song being of but a few notes often repeated, and their alarm note a whistling though loud chirp.

The nests of this bird are built on low bushes or trees, of wet leaves and twigs, warmly lined with root-fibres, and often covered outside with green moss, the walls very thick and solid, the cavity deep. The eggs are bluish-green, varying in tint and in the amount of light or dark-brown blotches that nearly cover them.

Those of the hermits, as far as known, are without spots, and their nest is built on the ground. This bird, after its summer residence as far north as Alaska, returns to California about the end of September, and remains here until April, while the Oregon thrush arrives from Mexico in April, and stays with us until September.

American Robins.

The little thrushes just described are surpassed in size by the Eastern wood thrush, and that again by the European song-thrushes of

tled parts of California, though they wander in winter wherever there are many trees, and in summer reside along the coast mountains as far south as Monterey bay, as well as on the higher ranges much farther south. Like the thrushes, they feed chiefly on insects, and thus fully compensate for the few fruits they may take in localities where they are found in the fruit season.

Their lively and varied songs, with their confiding habits in places where they are protected, make them universal favorites, and often save them from the slaughter too hastily pronounced against so many other birds. They are often kept in cages, and become very interesting pets, learning to imitate various tunes and sounds heard around them.

Their nest is built, like the thrushes, in a low tree, or sometimes in a building, but made more solid by a layer of mud, which dries like mortar, and the eggs are dark bluish-green, unspotted.

Being hardy birds, they winter even where snow covers the ground, living on wild berries and wandering about in large flocks, from which they have derived their scientific name (*Turdus migratorius*, Linnaeus), Figs. 3 and 4. Western birds differ from Eastern only in longer tails and more extensive white patches, especially in the more arid Southwest.

The Western, or "Oregon" robin (though not well named as we have also the Eastern kind just described), is called by authors varied thrush, a translation of its scientific name, (*Turdus nevadensis*, Gmelin), Figs. 5 and 6. It is the handsomest North American species, being slate-colored above the lower parts, with a stripe behind the eye and two bands on each wing rich orange chestnut; the breast crossed by a black band; beneath tail and ends of tail feathers, white; female duller; length a little less than that of the robin; bill black; feet yellow. This beautiful bird is only a winter visitor among us, going in summer even to Alaska, where they are said to have a brilliant song and habits much like those of the robin with which they associate while here, though more silent and shy. They arrive here in October and leave in April. Large flocks of this and the common robin arriving early in fall indicate a cold and wet winter.

Mocking Thrushes.

Although at first sight the well-known mocking-bird does not look very much like the spotted thrushes or the robins, there is a link connecting them found in the arid "sage-brush" regions of California and eastward to the great plains, called the Mountain mocking-bird (*Oreoscoptes montanus*, Townsend), Figs. 7 and 8. This bird is 8½ inches long, brownish-ashy above, dull white below, thickly marked with triangular spots, the wings and tail brown, tail feathers white tipped, bill brown, white below, feet slaty, soles yellow. Thus plainly colored, it is well suited for concealment among the gray shrubbery of its native haunts, where it is one of the few fine singers that enliven the dreary waste with songs of great variety and sweetness. They live on insects and berries, migrate but little, and lay dark green eggs spotted with brown.

The true mocking-bird, of which the scientific name means many-tongued mimic (*Mimus polyglottus* Linnæus), is more common in southern California, but many are kept in cages in the northern part of the State, Oregon, etc. These western birds showed tendency to variation from the eastern in having tails more lengthened, as have many other western forms of birds familiar to settlers from the East. They do not, however, vary in plumage, which is ashy-brown above, brownish-white beneath, wings and tail brownish-black, with two bands of white across wings, and white tips to tail feathers. Length, 10½ inches, of which the tail is 5½; bill and feet black, eye yellow. They inhabit the thickets of tall cactus and other thorny plants, feeding much on their fruits, and building a large, loose nest among them, in which they lay four or five pale green, brown-spotted eggs. They migrate only from the more northern part of their range, which is near lat. 38° in the San Joaquin valley, and to 42° or more on the Atlantic coast. Their wonderful powers of imitation are well known, and excel those of any other bird, except a few closely allied tropical species. Not being numerous anywhere, and of a shy disposition, they do little if any injury to fruit.

I now come to a genus of birds that would appear, in some cases, too different to be classed with the thrush family, yet we find it linked to them by a regular chain of species, gradually differing more and more. They derive their generic name from the remarkable bow-shaped bill found in the California species, but which dwindles down to near that of the robin in the southern and eastern forms. They all have some of the mocking power, and are often called false mocking-birds; sometimes thrashers (a corruption of thrushes). The common California species, Fig. 9, from which the generic name was first given, might better be called *Reaper* than thrasher, as its bill is nearly sickle-shaped (a form however now scarcely known to American farmers), or more properly perhaps, brush-hook shaped. Bow-bill is, however, nearly enough correct, and translates the scientific name of the genus, *harporhynchus*, while the specific name of this one is *ridivivus*, as named by Dr. Gambel, to express its "revival from oblivion." It appears that the celebrated voyager, La Perouse, during his circumnavigation of the world, about 1790, obtained this bird in California, and it was described and figured in his narrative in 1797, under a French name, after which it was unknown to naturalists until Dr. Gambel obtained it here in 1843.

Our bow-bill is 12½ inches long, wing 4 1-5, tail 5½, bill over 1½, legs about the same, so that the length of bill at once strikes the observer as oddly proportioned for a singing bird. Above, olive-brown; beneath, pale cinnamon, deepening into reddish-brown under tail, more like back on the breast. This plain plumage is exactly suited to the dry thickets the bird inhabits, where it scratches with its long bill among the dry leaves for the insect food which is its almost entire subsistence, merely varying this diet occasionally by fruits in their season. It is a very shy bird, living chiefly in the shrubbery tracts called by the Mexicans, "chapparel" and "chemisal," which grow usually in poor, gravelly soil, and thus keeps away from the most cultivated districts.

I have known them, however, to inhabit a willow grove around a large spring, and quite near a farm-house, where their varied and lively songs were among the most pleasing in the choir of feathered musicians that enlivened the early morning during the first six months of the year. This song is composed chiefly of imitations of those of other birds, and in the northern mines, where the true mockers are not found, this bird has acquired the name of "California mocking-bird." Their nests and

eggs also resemble those of the mocking-birds very closely.

Among the sand hills and rocky barrens that constitute the desert region between the Coast range and the Colorado river, where low, thorny bushes occasionally grow with cactus and yuccas, there is found a variety of this bird which shows the effect of the hot arid climate in being of a light grayish ash color above, paler below, but the tail darker below than above where exposed to more light. It is also about one-sixth smaller.

Still farther east, in Arizona, is a larger species, scarcely different from ours, but lays unspotted eggs, while toward Mexico appears two or three other kind, with breasts more or less spotted, like that of the thrushes. The bill in these is also shorter and straighter than in ours, until in Texas appears the well-known Eastern species called the "brown thrush" or thrasher (*Harporhynchus*), a rare straggler to California, of a bright rufous color, white below with black spots, forms a connecting link again with the typical thrushes.

POULTRY YARD.

The Care of Poultry.

EDITORS PRESS:—Having previously (RURAL PRESS, April 17, 1880) described the nest boxes, management of the hens while "setting" and early treatment of chicks, I will now describe the coops in which the chickens are raised.

They are constructed of scantling, lath and hoards. They are 6 ft. long, 2 ft. wide and 18 inches high. One end and about 18 inches upon either side of that end are tightly boarded, also the same distance on the top; the remainder is lathed to admit sunshine and air. The entire top is made separate and merely laid on. An opening is left in the lathed end of the coop so arranged with oleats that a shingle may be slipped in when you wish to confine the chicks, which is always done at night and in rainy weather.

A platform or hoard with an old sack upon it, for warmth for the tiny feet, is placed in the boarded end of the coop for a roosting place. A piece of board upon which to feed them, a shallow pan for water, with pieces of hoards to cover the top in rainy weather, or old sacks to keep out the cold at night, complete the outfit. Select high ground, where the water will not stand, and, if necessary, hang something in the form of a curtain about the sides to keep out the rain. Place the hen in the coop at night so that she sits upon the platform, and place the chicks under her wings after dark.

Feed bread soaked in sweet milk, and feed upon the board, they will get all the dirt they need in other ways, and none of the food will be wasted. Give small quantities once an hour. Keep clean water always by them. Begin early in the morning with the food warmed. When about a week old give, once a day, scraps of fresh meat cut very fine. A little of the drippings from meat which accumulates in every kitchen adds greatly to their bread and milk. Small quantities of ashes and lime placed in the coop benefit both hen and chicks.

In rainy or cold weather warm all the food. When about two weeks old vary their diet by giving boiled wheat, cooked potatoes, mush left from the table, with an occasional feed of corn meal if you like, but you will find that nothing does so well as the bread and milk and boiled wheat with what they pick up. It is not an expensive food if rightly managed. I purchase cheap flour, and once a week make up sufficient to last through all the week, my only care being to have it very light and well baked, so it will soak nicely.

The hen is kept in the coop constantly, unless it be for an hour before her bed-time, while the chickens are released every day, after the sun is well up and the grass is dried. They will soon learn to forage for themselves, and do much better than if the hen is allowed to roam at will.

Half the chickens usually die of fatigue, but if the mother is always at home, the chicks will go to her for a nap when weary, while if the hen is free, she becomes so interested in finding the good things that they all forget to rest.

Once a week the coop is moved onto clean ground, a clean roosting platform supplied and the old one scalded ready for the following week. A little boiling water occasionally around the edges of the coop is a good thing to destroy vermin.

When the chicks are from six to eight weeks old, the hen is returned to the laying yard and the chicks remain. I raise all my chicks in the garden, and find it an advantage to both chicks and garden; the one is benefited by the insects they find, while the other is the better for their removal, as well as the fertility received from the fowls. They are not destructive to the plants until about 8 or 10 weeks old, when they are immediately removed to the "little chicken yard," where they are kept separate from the older fowls until about four or five months old. Here they are fed four times a day, as follows: Very early in the morning, boiled wheat, or bran and shorts mixed with water, or boiled potatoes mixed with bran; after breakfast, mush and other scraps from table; at noon, wheat; about 5 P. M. in summer and a little earlier in winter, some soft feed

as above with green feed thrown over for them to pick at through the day. Pure water is always kept by them of course.

By this time they are "full fledged for life's grown labors," and in splendid condition are turned into the full-grown yard to fare the same as the others, a continuation of which will be reserved until another time. Only one thing more, and that not a new idea, cleanliness must be observed. I find whitewash and boiling water better than more expensive remedies. Regular feeding and pure water, with a well-ventilated sleeping-house, are indispensable to success.

Allow me to state, in closing, that last January I started with 35 hens and four roosters; have now about 40 hens and five roosters, and have brought in, by actual count, 1,750 eggs this year, although during the best laying season our hens were allowed to run in the wheat field which the neighbors' fowls frequented and their owners hunted all the eggs. If any nests were "stolen" by the hens, the eggs were also stolen. So who can say that they have not laid a much larger number? H. M. C. Santa Cruz, Cal.

PISCICULTURE.

Habits of California Salmon.

There has been considerable discussion on the question of the death of California salmon at the headwaters of the streams in which they spawn, many people supposing that all reaching the headwaters died. At the last meeting of the California Academy of Sciences, Dr. W. H. Dall, of the U. S. Coast Survey, who spent this summer in Alaskan waters, in speaking of the fish, said that in a general way the fishes were similar on the Asiatic and American sides; but there were some species only found on one shore. They found quite a number of California fish that attained a high latitude, several found commonly in the market here, especially red cod, which was found a considerable distance north of Sitka, in large quantities and of a very good quality. They secured salmon, not only for specimens, but they formed a large part of their food during the season. There are a great variety of salmon recognized among fishers on the coast of Alaska, and the question arises in Oregon and California how many of these are distinct species and how many are to be referred to the very extraordinary changes which take place in the salmon from the time of leaving the sea till death, and to the local peculiarities. Very few of them ever return to the sea, differing in that respect from the European salmon. In California and Alaska he believed that most of the salmon die after depositing their spawn. They found the Columbia river salmon extending through a large part of Alaska, when they came across a peculiar fish called the "king" salmon, which attains an enormous size, reaching 100 lbs. Then there are quite a number of trout, and near Sitka a very large trout is caught, the size of the salmon.

Mr. B. B. Redding, one of the California Fish Commissioners, called attention to a popular fallacy concerning the universal death of salmon after spawning. He said that although 75% or 80% might die, they did not all do so by any means. This had been proven by Mr. R. D. Hume at his cannery at Rogue river. One season he had caught 50 male and 50 female salmon, removed the spawn and milt, notched the dorsal fins, and returned them to the water. The fishermen were instructed to look out for these marked fish, and next year 10 of them were caught. The following year several more were caught, and the year after five more found their way into the nets.

Some people suppose that because large quantities of dead fish are found on the banks of the McCloud river, that the salmon all die and never return to the ocean. The salmon, returning to the sea, float down the river, with their heads up stream, the current taking them down.

The U. S. Fish Commission had been taking California salmon eggs to the Eastern rivers for some 10 years, but not a California salmon had ever returned to one of these rivers, and none had ever been caught. When put in lakes or ponds they had matured, but were always of small size. No reason could be given why they did not return to the rivers from the sea. Prof. Baird was going to try it one year more, and if no better success followed, the project would be abandoned. By some it was supposed that because all our rivers flowed west, and the fish in returning to the rivers swim east, when they want to return they always swim east, and this on the Atlantic coast takes them off the coast.

Dr. Dall explained that on the Yukon river salmon are caught in "pots." The Indians construct barriers across the stream. On these are constructed, with strips of spruce, these compartments or traps, which are about as big around as a waste-paper basket. A flag is attached to a pole, and when a fish gets into the apartment, the flag is shaken, and the Indian paddles out his canoe and secures the fish. The fish are so thick at times that they can be kicked out of the small streams. In their journeys they injure their fins and scales on the stones, and then the fish fungus attaches itself, and the fish presents a most unpleasant appearance, turning all sorts of colors. They are all caught, when going up the stream. He only knew of one instance when the fish were caught coming down.

THE STOCK YARD.

Breeding Farm Stock.

EDITORS PRESS:—A few days ago I sold a hull and two heifers to a gentleman to take back with him to a foreign country as an additional improvement to his herd of dairy cattle already established there. After spending the afternoon in looking through the herd, and winding up with viewing five young bull calves in a small enclosure, I called his attention to two of the lot as being of my best milking families—one calf a red roan and the other a white. What is your price for such calves as these, he asked? Naming the price of the roan first, and the white one at some 25% less (as I told him) on account of color, he said: "I will take the white one. Some of my best milch cows are white, or light colored, and I have read a good deal about white and roan cattle being, on an average, superior in quality to red ones of the Short Horn breed. I also well remember reading somewhere the short but, to me, impressive sentence, 'people are too apt to forget that the bull is half the herd.'"

"Now, with these two bulls safely landed at my farm, I can go on improving my herd of 50 or 60 cows for a number of years without any extravagant outlay of money; for it will cost me no more, and probably not as much, to keep these two good bulls as it would to keep inferior ones."

A short time ago I had occasion to go amongst a herd of dairy cows in this county with which I had been tolerably well acquainted some eight or ten years ago. I was at once struck with the great improvement in the general appearance of the whole herd of cows over what they were at that time. How has this been brought about? I naturally asked myself—for the owner was not with me.

Well, I know him to have had one, two, three good grade Short Horn bulls, two of them bought as calves when a week old for about \$25 each and reared on the place at the season of the year when milk is generally plentiful in country dairies. The influence of these bulls used in the herd for a number of years has made it look at least 50% better than it used to do, but the bulls now being used are the get of the former bulls and out of some of the cows in the herd. If from the very best of the cows they are far from being good enough to breed bulls from; consequently, instead of going on with the improvement of his cattle he is breeding backwards toward where he was when he begun. So I went on musing to myself, and amongst my thoughts this one was uppermost, viz: This man is unmindful of the fact that his bulls are half his herd. Through a supposed, but really false economy, he is losing a great advantage gained at little trouble or cost; a gain that ought to be taken all possible advantage of and improved upon by every means in his power; an improvement that might have been doubly improved upon by the purchase of a good bull calf about once in every two years.

If all who breed and own cattle would consider the subject in the same light as the owner of the first mentioned herd, how quickly would our herds be doubled in value? I am not an advocate for the use of grade bulls, but if they are the best that can be had it is better to use such in preference to those of a nondescript breed; and for dairymen whose main object is to get the best milking stock they can, a well-bred grade with two or more crosses of good Short Horn bulls of milking families will, in most cases, make a wonderful improvement on common cattle, both in their general appearance and in their milking qualities.

A cross of this kind followed up by successive crosses of pure-bred bulls selected with good judgment, combined with a proper system of selection carried on among the breeding cows, will gradually produce a class of cattle for the practical purposes of dairying and beef combined, that will equal many and surpass some of the ordinary herds of pure-bred Short Horns.

One of the most important things is to begin right; to get the best breed possible to begin with, and continually select the best of those bred to keep up the breeding portion of the herd—selecting not only those that are the best in themselves, but making the selections from such families as are known to be free from all hereditary complaints.

This is not the first time we have advocated the principle of selection of breeding animals in these columns. It is a principle that will hear repeating—"line upon line and precept upon precept"—for generations to come.

Principles in Breeding.

In *Bell's Messenger*, of Oct. 11th, is an excellent article on "Breeding Farm Stock," apparently called forth by a report on the subject by Dr. L. G. Ellzey, of the Blacksburg Agricultural College, Virginia. After some remarks on prepotency, Dr. Ellzey remarks that "the influence of either sire or dam may be modified by the influence of a more or less remote ancestor transmitted to the fertilized germ through them. If the animal grows more like either parent, we say that that parent was prepotent over the other, but if it is more like itself than either of them, the question naturally arises,

what was prepotent in the business then? Has not the individuality of the fertilized germ been to that extent more prepotent than the inherited tendencies derived from both its parents? In this we seem to go back to the very foundation of variability, without which the breeder could accomplish nothing whatever, and with which he is able to accomplish the most wonderful transformations in the breeds of domestic animals. Thus it is very evident that a knowledge of the laws of inheritance lies at the very foundation of all success in the breeder's art, which is more than accidental or temporary."

Again: "If the parents be insufficiently nourished, their offspring cannot be well developed and healthy; while on the other hand, if they be excessively fed, not only will their fecundity be impaired, but their offspring are also likely to be enfeebled. Thus, in practice, a nice judgment is required to avoid extremes; but the perils of high feeding are less than those of starvation."

"With reference to fecundity, the breeder should select his animals from families possessing that character in a marked degree, for it is distinctly hereditary. He should also select them free from tendency to excessive accumulation of fat, and avoid equally the opposite extreme of hard, unthrifty leanness. They should be neither too large nor too small, but of medium size and of thrifty habit."

After referring to other hereditary traits in breeding animals, the writer says: "The skillful breeder requires to be a master in all this *minutia*, and when we consider this it is not wonderful that great breeders of the first rank are so few in number. Their work requires natural gifts of the first order, together with much painstaking thought and reflection; and random proceedings and trusting to luck will only end in failure. * * * With regard to the question of prepotency—whether it belongs to the male or the female parent, or to both indifferently—there has been much discussion, but Dr. Ellzey is inclined to the more widely prevalent opinion that the offspring is apt to be more like the male than the female parent, but he abstains from giving a definite opinion, as cases both ways are very common. But, whatever be the true solution, neither parent should have any glaring defect to be transmitted to its offspring. In fact, the whole gist and bearing of our present knowledge on the subject of the laws of breeding show that everything depends on a careful selection of both sires and dams by a judicious and painstaking breeder. This, and this only, is the way to ensure success." I give the above extracts as being worthy the perusal of all who are engaged in the pursuit of breeding domestic animals of any description, and from which all may learn the truth of what I have often said before, that it is only through judicious selection added to long and patient experience, coupled with attentive observation and perseverance, that any one can become a successful breeder. ROBT. ASHBURNER.

Baden Station, San Mateo Co., Nov. 19, 1880.

Stock Breeding to Diversify Agriculture.

EDITORS PRESS:—At your request I will give you some thoughts on breeding and managing Short Horned cattle. This subject cannot be properly discussed without making it a part and parcel of agricultural industry. The great interest of our farmers should be to know what to do and how to do it, to make their labor and capital give the largest return.

They have tried wheat and barley raising until many of them have been compelled to mortgage their farms. This single cropping can succeed only in isolated instances, and then only when the crops are good and prices high. Meat, bread and vegetables have to be provided for families, either by raising them or by purchase. Any farmer in any portion of California can produce meat, bread and vegetables in great abundance for family use; in some sections with but little labor, and in others it will require more, but it can be done, and ought to be by every farmer on the coast; and the sooner this course is adopted will prosperity follow. The three articles of food mentioned above will cost a family of 6 or 7 persons from \$300 to \$500 per year. In most cases farmers can raise them cheaper, and a better article than can be purchased from other parties.

No farmer can be said to be independent or prosperous who refuses to raise all or most of such articles of food as are required for family use. In doing this the younger members of the family are educated in all the industries of the farm, which is very important. When boys learn how to handle, to feed, and to manage all kinds of stock, they learn to love it. It keeps them at home; it gives them constant employment; it teaches them patience, method and perseverance, and in a large majority of cases they become good and prosperous citizens.

What a pleasure to see the farm stocked with the highest type of horses, cattle, sheep, hogs and poultry. In breeding, feeding and cultivating this class of farm stock in connection with other farming, to my mind is the most interesting as well as pleasurable, that men can follow. It is the parent of good habits; it is the foundation of good living; keeps the family

together; is interesting in its details; moral in its associations; and leads to prosperity.

Diversified Husbandry and Manhood.

The occupation of the farmer cannot be over-rated or overstated. They feed the millions. Let them cease their labors for a single year, and famine ensues. From their ranks the mighty intellect is drawn that governs and controls the United States in all its departments. All the presidents, and most, if not all, the distinguished statesmen and generals of this country, from its foundation up to the present time, were at one time farmers' boys, and learned their first lessons in life's business on the farm and at the farm hearth. Their occupation and habits of out-door work ensures a vigorous constitution. This gives a good foundation for the intellect to grow and ripen. The country supplies the great commercial centers with brains, muscle and energy that has astonished the world in all the departments of industry. It is the daily inquiry where was so and so from? The time-honored answer is: Born in such a county and in such a State; a farmer's son; worked his way from small beginnings up higher and higher, until the great people seeing his worth have made him a general, judge, a Senator; and every four years they select one from among them, and make him President. Then take courage, farmers. All the world have to draw their drafts on your ranks. Then make farmers out of your boys, and if they have talent to fill high stations in life, they will find their way up.

The great mistake our farmers make that are in good circumstances, is that they want their sons to study some profession. They become exceedingly anxious about what they shall make of their boys; they are not allowed to get a good common school education (and while getting that to learn them the habits of industry and the rudiments of a farmer's life), before they are sent to college and kept there at great expense for years; before they learn that they have wasted a large amount of money and wasted much valuable time, and most of them never amount to anything, and but few of them have talents for any profession. Their education and habits at college often destroy all idea of coming back to the routine of farm life. But give these boys a good, common-school education, and while doing this, teach them to plow, to reap, and to milk cows, and my word for it, the father will not be as often disappointed as in the other case, and the country will be much benefited.

The Place of Cattle in Agriculture.

All the improved breeds of stock are more or less valuable to breed and raise on the farm, and especially so in regard to cattle. They fill a larger space in supplying families with the good things of life than any or all other stock. It may be said that any class of cattle is valuable to the farmer. This is true. But still there is one tribe which is pre-eminent in my opinion, taking beef and milk of a superior quality, early maturity, besides other valuable considerations. The Short Horn is the grandest and noblest animal of the bovine tribe. The history of the Short Horn, for generations back, is full of interest. The perfection the early breeders brought them to, by the exercise of common sense in breeding and feeding them for a long series of years, until they had established the perfect type, both in form, pedigree and color; and that type has been maintained by succeeding breeders with the utmost care up to the present time. Their early maturity, the quantity and quality of marbled beef they produce at any age is most encouraging to farmers; and when they are bred for the dairy they are as much esteemed for their milk and butter qualities as they are for their juicy and succulent beef. They have the quality of crossing to great advantage with all other breeds of cattle to an extent that no other breed of cattle can claim or are entitled to. It is safe to say that all farmers can and ought to keep more or less stock in connection with other farming; and that class of stock ought to be selected that will be most suitable to the farm, and will yield the largest income to help support the family.

I think it a safe rule to lay down that any farmer of ordinary capacity can, in a reasonable time, learn to manage to good advantage all kinds of domestic stock; for the education the farmer gets, makes him jack of all trades. This being a fact, then the first consideration is to select that class of stock that will give the largest return.

The trouble with our farmers is to change their mode of farming; to commence adding other industries to single cropping that will ultimately keep the Sheriff from the door. Now, of all the domestic animals, I would select the Short-Horn Durham to place on the farm to be certain to get the largest return for money and labor expended. Most farmers are compelled to keep cows. Then the first thing to do is to buy a young Short-Horn bull to grade up. If you have but a half dozen it will pay; and the larger the herd the greater the profit. The great secret of success in this business is patience, and good care, generous keep, will ensure success. Remember, you can't squat one large herd, nor can you own one without large means; but you can, by patience, grow one, and by that time you will learn to handle them. While on the other hand, starting with a large herd without experience, you are most likely to make a failure, at least for a time.

Suppose a farmer has a small herd of common cattle, I would first recommend him to buy a thoroughbred Short Horn bull and two or more heifers from a reliable breeder, breed up the

common cattle, sell the young thoroughbred bulls, save the thoroughbred and grade heifers, and almost before he knows it, he has a fine herd of pure bred heifers, besides his high-grade heifers. Short Horns are now in the reach of most farmers.

Farmers should awake to their interest and add this important industry to their other farming. Is there any good reason why such a county as Santa Clara and many other counties in this State should not be able to sell 30,000 or 40,000 head of good fat beef steers annually? With our virgin soil and mild climate can we not equal any county in old Scotland with her worn-out soil and cold, and to us inhospitable climate? Well, some counties in that old country export to England 40,000 beeves annually, besides supplying their own people. Go with me to old England and see what the tenant farmers are doing to make both ends meet. To aid them in making bread and meat and pay rent, they select the best bred of all kinds of stock, and especially the Short Horn, for beef and dairy purposes. Now if they can breed and grow the finest quality of beef, and make butter and cheese of good quality, and get rich at it, where they feed six months in the year with fog two miles deep, then why can't we do the same in this California climate and no rent to pay?

How the Youths May be Interested.

I will give an incident in my small boyhood days to show how easy it is to impress the young mind and shape his course through life. When my father moved to Missouri—the gentleman—he purchased a farm that had a large lot of hogs. To keep them from going wild, he promised me a sow-shot if I would feed them twice a day until he took them away. So at the appointed time he gave me a beautiful sow-shot about six months old. I gave her such attention as a boy would who thought he had a fortune in this little sow. In time she had 10 pigs, 8 of them sow pigs. They were all blue, with a white list around the body. I have never been as proud of any property since as I was of that sow and pigs. All my boyish attention was given them; they became a part and parcel of my every-day life. Early in the morning and late in the evening I looked after them. They grew rapidly with such attention. This being a new country, they required but little feeding. They increased rapidly, and in less than three years my father sold his farm to move higher up the county, and so my hogs had to be sold. They were gathered up and sold for \$400. This was a great sum of money at that day for a boy; but large as it was, I loved my blue-listed hogs more than money. This early training, the love I acquired for stock, has shaped my course through life. No man can succeed at any business unless he loves it. My first start as a boy was in hogs; next, fine horses; and last the Short Horns. I have been breeding this noble and useful animal for more than 20 years. No business that I have ever done has given me so much real pleasure. Their beautiful color, massive and finished form, their noble ancestry, everything connected with them, is interesting. COLEMAN YOUNGER.

San Jose, Cal.

The Debris Dam on the Yuba.

An interesting report of the successful completion of the debris dam on the Yuba will be found on page 330 of our last issue. The following description of the manner of its construction, condensed from the Marysville Appeal, will be of interest to our readers: "The dam is located nine miles above Marysville, just at the beginning of the foothills. On the north side of the river is a bluff, from which the dam starts. The dam was built as follows, beginning first with the mattress: An excavation was made across the river, about one foot in depth and 60 ft. wide, the ground at that depth being very solid. In this were trenches in which were placed logs spliced together at the ends, and securely staked down. A mattress was then made upon an inclined scaffolding. Willow brush was laid upon the scaffold, butt ends and tops alternating so as to be close together and bind well. None but assorted straight willow brush was used. This mattress, about 60 ft. in width and two ft. in thickness, was then sewed together with strong wire until it was pressed to one foot in thickness. The frame or scaffold was drawn from under by horses, and the dense mass sank upon the stringers and was sewed down to them and otherwise securely fastened. Though the mattress was necessarily made in pieces, these were all sewed together at the ends, making it continuous. This was all covered with two ft. of earth, and continued driving over it has packed the ground. This is intended to prevent the wash from the water that flows over or through the dam. On top of the mattress and earth, but a few ft. below the upper edge of it, begins a layer of logs laid together closely, sewed with wire, and sewed to mattresses beneath. On this are stringers and then two more layers of logs all with butts down stream and top ends running into the ground up stream. They were all secured in the same manner to the mass below and loaded with dirt. The line of the butt ends of each successive layer further up the stream, of course, forming a sort of stairway from the bottom. Upon top of the layers of logs are layers of brush rising in the same way. One end rises in a slanting way to the upper part of the dam, the other being buried in the earth up stream. The brush in these

was also carefully selected, butts and tops alternating, and in being sewed was compressed by means of a pole used as a lever by five or six men, so close that a mouse could not creep through. Sand was then shoveled upon them until the crevices were filled, stringers were put on, and other layers added. There are in the dam, at the north end, five layers of logs and five of brush, besides the mattress and various lines of stringers and weights.

The length of the dam is nearly two miles, and it averages eight ft. in height. There is no part of it that is not firmly wired to every other part. Many of the willows used, it is thought, will send forth shoots to strengthen the dam. In all its parts the dam is a splendid piece of engineering. The work has been done thoroughly, and is highly creditable in every way to both contractors and engineers. It is claimed for the dam that when the water is at flood height it will seep through the dam and flow over it all along the crest at a depth of not more than one foot. The manner in which the layers of brush were sewed together is described as follows: The brush was placed on an inclined frame-work. Above stood workmen with long iron rods with a needle-like eye at the pointed end, the side of the eye being open. Into this eye the workmen passed the malleable wire; they then thrust it through the mass of brush, and workmen beneath them under the frame-work, seized the wire, pressed it aside from the needle and inserted willow toggles—sticks 18 inches long. The workmen above then drew back their needles and wire and pulling taut on the latter with their feet each side of the wire, the brush was of course drawn together and thus packed to a thickness of one ft. They then stepped forward two ft., sent down their wire threads again, other toggles were inserted, and thus regular stitches were made from side to side. In each mattress are three or four or five—according to size—of these lines of stitching.

Railroads and Progress.

The growth and advancement of the United States is in no other way brought home to our English cousins as in the increase of railroad facilities. They send us thousands of tons of rails, and when they see the combined rail mills of America and Great Britain unable to keep up the supply, they know we are growing. The award of a contract, on American account, to the world-famed Krupp, of Essen, for 25,000 tons of steel rails, opens their eyes still further, and the award of this contract has drawn out many comments from English sources. As contractors find it difficult to procure early deliveries of rails of American manufacture, they are compelled to resort to the rail mills of Great Britain, Belgium and Germany.

These facts stand, moreover, as proofs that our revival of business is not due to speculative or transient causes. Railroads are being built in every direction. The great West is being opened, settled, civilized and expanded. The locomotive is moving into every corner of the land. The prodigious increase which is constantly taking place in the United States by births within the country, and by accession from foreign sources, ensures a continuance of this progress, and exercises a marvelous influence on the whole country. New sections must be opened up and settled. New towns and villages will spring up, new railroads will be built and new resources be developed. The Eastern States are already well filled up, and this overflow of population must come into the great West where there is land and room for all.

The railroads must keep up with, if not ahead of this march of progress. To do this, they must be rapidly extended. Railroad building has become a science with us. We don't pretend to build with the solidity or permanence of the European road, but we build rapidly and overcome obstacles which would elsewhere be considered insurmountable. Moreover we have very long lines under single managements. This is of course only possible in a big country like this. As an example, we may cite the Central Pacific railroad, the report for which, for the year ending December 31, 1879, has recently been issued. The company worked, during the year, an average of 2,318.92 miles of road, the mileage standing at the close of the year as follows:

Main line, San Francisco to Ogden, miles.....	883.23
Oregon branch, Roseville to Redding.....	167.00
Visalia branch, Lathrop to Ooshon.....	146.06
Oakland and Alameda short branches.....	14.68
San Jose branch, Niles to San Jose.....	17.64
Total Central Pacific.....	1,213.13
Northern and San Pablo and Tulare.....	163.65
Berkley branch.....	3.84
California Pacific.....	115.44
Amador branch.....	27.20
Stockton and Copperopolis.....	49.00
Los Angeles and San Diego.....	27.60
Los Angeles and Independence.....	16.83
Southern Pacific.....	650.25
Southern Pacific of Arizona.....	182.81

Total.....2,349.76

On the Southern Pacific of Arizona above referred to, the passenger trains are now running as far as Lordsburg, which is 407 miles from Fort Yuma, or 220 miles farther than the above table shows. The total number of miles the company has at present in operation is 2,575, and the work of building southwardly is still going on vigorously. Up to Sunday, the Southern Pacific railroad track was 85 79-100th miles in New Mexico, being that distance east of the Arizona line.



THANKSGIVING STORY.

Peppery Pumpkin Pies.

Great golden pumpkins, yellow enough to be the apples of the Hesperides, were lying about the kitchen floor, and Polly at the kitchen table was making pumpkin pies.

Her thoughts ran in this wise, as she measured out the ingredients: "One and one-half lbs. of loaf sugar, one-half lb. of butter, two quarts of cream—no, one quart. So Melissa's really engaged to the minister. Dear me, some people have everything in this world. I wonder if they are so lucky in the next? How gravely he would look at me if he were to hear me express such a frivolous thought. He has a stern face; but how kindly he can look out of his blue eyes. The other night when I burned my arm at the candy-pulling, he dressed it as carefully as a woman, and looked so kind and sorry that, what with his sympathy and the hurt, I could hardly keep back the tears. He said I had already learned one of life's hardest lessons—'patience under affliction'. Do you call this affliction, I said, laughing? I will be happy indeed if I never have any greater affliction than this. And he answered so gravely that it silenced me, 'I pray you may be happy; dear child.' Here Polly broke out in a warbling little melody that started the canary in the sitting-room to singing with all his might, and caused Aunt Phoebe to exclaim in tones sharp enough to sour the incipient pies: 'Can't you stop that noise, Polly? You and this abominable bird will run me crazy yet; every nerve in my body is just a tingling now.' Then she added in tones not too low to reach Polly's ear: 'I will get rid of you both some day, and then may be I will have some peace of my life.'

There was silence in the house after this. Polly turned aside her head that her tears might not fall in the pastry she was working, and the sympathetic bird hushed its song and drooped its head.

Polly's reddish-brown curls were caught up high on her head and fastened with an old-fashioned shell comb of her mother's; she had on a fresh, dark calico, and her rolled-up sleeves showed white arms, made whiter by the flour dusted over them. She was a pretty picture as she rolled out her pastry and cut it in delicate curling strips, but she was so engaged in repressing the ugly, angry feelings that flushed her cheek and heaved her breast, but found no outlet at her lips, that she was unconscious of a spectator until, hearing a movement, she raised her eyes and met the minister's.

He was standing in the doorway between the sitting-room and kitchen, and Polly's first thought was that her aunt had maliciously sent him to seek her, thinking thus to embarrass her. This thought came to her assistance, and smiling and dimpling, in spite of her annoyance, as she met the sunny gaze of his blue eyes, she motioned him to a chair with the air of a princess, and went on with her work.

He brought the chair and set it so close that Polly trembled lest some of the flour should fall on his immaculate black clothes.

"You are making pumpkin pies?" was his commonplace question, but was asked in tones which thrilled poor Polly's soul like rich music. She smiled an affirmative, and he went on, looking up in the fresh, sweet face:

"Have you ever heard the tradition respecting pumpkin pies? It is said they are a sort of moral thermometer of the individual by whom they are prepared. Pumpkins, you know, are nourished in sunshine. They are gathered in the glowing autumn days, and brought in the house, golden reminders of the summer sun. If the pies are made by one of a sunny disposition, they will be sweet, juicy and delicious—in short, such an essence of sunshine, sugar and apico as those you are making. But if one ill-natured thought is harbored during their preparation, they are soured and ruined."

Polly blushed crimson at this out-and-out compliment, and in her confusion mistook the pepper-box for that which held the apico, and dusted the pie freely. Then she calmly poured in half a bottle of lemon extract, while the minister thought he had never seen so bewitching a little house-wife.

As he rose to go he said, laughing:

"I believe I am to take my Thanksgiving dinner with you to-morrow. So, Miss Polly, I shall have an opportunity to gauge your disposition by your pie."

Polly shook a spoon at him, and answered, confidently, that if that was to be the only test she was not afraid.

As the front door closed on the minister Aunt Phoebe, bristling with indignation, stalked into the kitchen.

"If you think I am going to have such disgraceful performances in my kitchen you are mistaken, miss! I asked the minister in the sitting-room while I went to put on my other cap, and he walked deliberately out here, and here he stayed. You enticed him out; you know you did, you ungrateful minx! And you flirted with him over my table and my pies, and under my very nose, for I was watching you be-

hind the door. I consider it my duty to report the minister. I shall have his name on every tongue in town. He shall be drummed out of the place—and you—leave my house this night. I have put up with your nonsense as long as I intend to. You are not fit to stay in a respectable family."

"Oh aunt!" moaned Polly, with white lips; but Miss Phoebe went on, though in a more argumentative tone as her wrath cooled.

"No, you needn't leave to-night, either. I have so much company invited to-morrow that you shall help me. I might as well get what I can out of you. Though if you were to work your fingers to the bone you couldn't repay me. You haven't any claims on me now; you are big enough and strong enough to work for yourself. I wouldn't have turned you out when you were little and helpless, but I've done my duty by you now."

Polly stemmed the torrent of words. "It is not necessary to say anything more, aunt," she said in a clear voice, "I will go."

Thanksgiving morning was clear and cold. The stubble sparkled with a million frosty diamonds when Polly crossed the fields on her way to church; some hardy little English sparrows were chirping thanks that the snow had not yet covered the bits of scattered grain which remained for them, and Polly's heavy heart grew lighter as she watched them cheerily picking and finding sustenance in the barren fields.

"Behold the fowls of the air; for they sow not, neither do they reap, nor gather into barns; yet your Heavenly Father feedeth them. Are ye not much better than they?"

These words of comfort coming into her mind warmed her cold heart, and with a light step, she obeyed the sweet, silvery invitation of the church bells. A holy calm fell on her spirit as she entered the peaceful little church, and walking up the dim aisle, took her seat where the crimson light from a stained-glass window fell athwart her pallid face. The words "outcast, orphan, homeless" had been ringing in her brain with a dull, maddening repetition all night, but now, as the deep tones of the organ rang out in glad thanksgiving to the Giver of good things, Polly felt herself uplifted, for the moment, above the miserable annoyances of her life; and when she glanced at Melissa, looking pretty and fresh in her feathers and silk, she felt almost thankful for her, that she possessed the love of a great and noble soul. Polly led the choir, and when the minister's ear caught the sweet, clear tones, in which there was no guile, he also thanked God.

With the inconsistency of human emotion, Polly's mind wandered several times during the service to the pumpkin pies on the shelf at home. This was before the sermon. When once she felt the magnetism of his voice she listened spell-bound until it ceased. She never wept, as those around her sometimes did at some touching recital. She sat motionless, with dilated eyes, and almost held her breath until he had finished. To-day she kept saying to herself: "The last time! The last time! When next he speaks here God knows where I shall be!"

Once the minister caught the expression of the wild brown eyes, and there was such misery in them that for a moment he lost his self-possession.

After church Polly hurried home to set the table, and the minister followed with Melissa, whom, for reasons of her own, Miss Phoebe had also invited to dinner.

At dinner Melissa was placed next the minister, and Polly opposite, a small handmaid being behind for the occasion to wait on the table. Polly could not help thinking what a handsome couple they would make, as she glanced from his strong, dark head, and brilliant, blue eyes, to Melissa's cold, clear-cut face and graceful figure, draped in rich black silk. Polly's face was flushed from bending over the stove, and her hands trembled with excitement.

She did not know at what moment her aunt would come out with something about yesterday's "performance," and Polly felt that before all the assembled relatives, and especially before the minister and his betrothed, she could not endure it. But Miss Phoebe seemed in a particularly good humor, and her acid face dissolved itself into something approaching a smile.

Once Melissa, smiling at Polly, said:

"I have heard you were a good cook, but I had no idea you were so accomplished."

"Polly didn't make anything but the pumpkin pies," Aunt Phoebe answered, smiling grimly, and she ordered the maid to bring them on.

"I can testify that they are everything that pumpkin pies should be," said the minister, with a laughing glance which caused Polly's face to blaze, causing Melissa to give her a cold, auspicious look, and made Aunt Phoebe draw down the corners of her mouth in a very significant way.

In the hurry of the morning, Polly had neglected tasting her pies, and, with some anxiety, she watched her neighbor, a rough farmer cousin, cut his piece. He took one enormous mouthful of the yellow, luscious-looking stuff, then seized his glass of milk and gulped it down. He set his glass down with an exclamation and a very dry face. To her dismay Polly saw every one down the table do the same thing. Crimsoning, she glanced furtively over at the minister; he and Melissa were talking and toying with their forks, but neither of them was eating.

Aunt Phoebe waited till there was painful silence about the board, then executed her next flank movement.

"Sarah," she said, turning to the girl, "bring the cake off the dresser." When a large, beautifully browned plum-cake was set before her, she said snavely to her guests: "This cake, my friends, was made by Melissa's pretty hands, and I do not think you will find it seasoned with pepper and vinegar, as my poor, high-tempered Polly seasoned her pies."

It had flashed through Polly's head what, perhaps, she had done; but to have it insinuated that she did it on purpose was too much, and with a choke in her throat, which she was afraid would break out in a sob, Polly left the room.

Miss Phoebe had never loved her orphan niece; nay, more, she had always disliked her; but since the advent of the minister in the village society she had seemed to hate her with all the venom of an embittered nature. She had fed and clothed her since infancy because she had promised her dying brother she would do so, and "duty" was Miss Phoebe's watchword. The little lonely thing had won no place in her heart, because from the first it had turned from her and called her ugly and cross. Miss Phoebe asserted—upon what foundation was questionable—that but for this incommbrance she would now be the wife of a wealthy farmer in a neighboring county.

So all that had been done for the child had been done grudgingly, but, notwithstanding, she grew up beautiful and bright. The townspeople, with whom Miss Phoebe was no favorite, whispered that she would never forgive Polly for being so pretty—it was a continual cross to her. And perhaps this was so, for at one time Miss Phoebe's eyes were cast on the minister, but finding that there was not a shadow of a chance for her, she determined, to use her own expression, "that Polly should not entrap him," and she set to work accordingly.

Mr. Thompson Jones, in other words Tom Jones, and his young wife inhabited a handsome brown-stone residence on Twenty-fifth street. The street lamps were lighted and glistening with frost. It was dusk of a snowy night in the latter part of November. In fact, it was the eve of Thanksgiving Day.

Mr. Jones and his wife chatted and laughed over a cosy tea-table.

"How do you like your new girl, dear?" queried Tom; "I never saw a better cooked steak; must be a good cook."

"Good!" echoed Mrs. Jones; "I think she is; she is a jewel; a treasure. And, Tom," she continued, enthusiastically, "have you seen her? She is a perfect beauty."

"Yes," said Tom, absently, "but she only struck me as looking too young to know much. By the way, I heard from Frank to-day; he will take Thanksgiving dinner with us to-morrow. By Jove! won't I be a happy man! A new house (paid for), a pretty wife, a good cook, and dear old Frank to sit at my board. Do you know he has had a call here—"

"Of course he will accept it!" interrupted Mrs. Jones. "It is a shame for a man of his talent to bury himself in an obscure village."

"Of course he will. I wrote to him that I would show him a perfect house to-morrow, Mrs. Jones. So be prepared for explorations of all your premises; every water-pipe will be examined. Of course they are always spotlessly clean, but I thought I would warn you—and keep your pretty cook out of the way, for I want Frank to think Mrs. Jones the prettiest woman in the house, at any rate."

Another Thanksgiving had dawned bright and clear.

Polly looked wistfully out of the casement window of the house in Twenty-fifth street. She would have liked to join the throng of richly dressed people crowding to hear the new minister, called to the church around the corner.

The dinner hour was five, so she could have found time to go, but since she had been serving in her new capacity it was only by a great effort that she compelled herself to go out to buy necessary clothing. She watched little Mrs. Jones trail down the steps in an elegant velvet walking suit, leaning on her husband's arm. Polly wiped a mist from her eyes, and, concluding the front window was not good for her, she went back to the kitchen and warbled a little song to cheer herself. And the canary in his cage took up the song, and no harsh voice silenced him. The poor child always comforted herself with the thought that her present menial position was only temporary; she only assumed it until she could find some other way to make a living. Mrs. Jones was very sweet and kind, kinder than any one she had lived with during the year. She really had something to be thankful for.

Feeling that she must not indulge in repining on such a day, Polly summoned her brightest thoughts, and even a dimple or two peeped out as she thought of that happy morning over the pies, and her absurd mistake.

"I suppose he and Melissa are married long since. Oh! If I could only hear him speak once more."

The morning slipped away, and Polly was surprised when she heard them coming home from church.

Again she was making pumpkin pies! Mrs. Jones had said: "Oh! do you make good, old-fashioned pumpkin pies? Mr. Jones thinks there is nothing more delicious, and I know he would like to have some on Thanksgiving Day."

So now the cook stood beside the table with her curls tucked under a somewhat coquettish little cap, a long, demure apron on, and her

sleeves rolled up. Presently she heard steps and laughing voices in the passage, the door opened, and she looked up surprised, with her sifter in her hand. Mrs. Jones was holding her long velvet skirt around her, and saying: "Tom is such a goose; he thinks nobody over had such a house, and he will drag you from garret to cellar. I hope you don't mind."

Receiving no answer, she turned and looked at her guest. He was standing in front of Polly, who, crimson and trembling, was letting the flour dribble down on the floor.

"Can it be possible!" he said, huskily, "can it be possible that I have found you! Oh, Polly! thank heaven, I have found you! I had almost lost hope."

And right there before the astonished eyes of Mr. and Mrs. Jones the floury arms of their new cook went around the minister's neck, and she was sobbing on his immaculate coat.

"But aren't you married to Melissa?"

The minister smiled at this well-timed question.

"I have never contemplated such a thing for a moment," he answered; "I have never loved any one but you, Polly, since the morning I overheard your aunt abusing you, and I caused you to put pepper in the pies. You bore it all so meekly and patiently that, though I had only admired you before, I loved you from that moment."

"Isn't it the most romantic thing you ever heard of?" said little Mrs. Jones to her husband that night. "Just think of our cook marrying Frank," and she laughed gleefully. "But she is always such a darling, I felt like kissing her the first time I ever saw her. She shall be married from here, and the parsonage is ever so much handsomer than this house."

"I think it is the most charming thing that ever occurred."

Tom, selfish man, made a wry face. "I can't say I am altogether delighted. Some other woman might have suited Frank just as well, and I am afraid we'll never find another cook who can make such glorious pumpkin pies."

Thanksgiving in Tehama County.

EDITORS PRESS:—No county in the vast State of California has better reasons for rejoicing and giving thanks to "Him who doeth all things well," than Tehama county. Her rapid and healthy as well as successful advancement toward the foremost place in the ranks of the great wheat-producing counties of the State, is of itself a sufficient incentive to her industrious and thriving farmers to give hearty thanks for the year of plenty and the bright and glorious future which is surely in store for them. Year after year sees new land broken up, bringing a new and improved class of agriculturists, who are economically and thoroughly testing the new, untried lands, which for centuries has lain undisturbed by that mighty civilizer the plow. Acre after acre of the level plains, the undulating, rolling and picturesque formation of our foothills and vales are being brought under subjection, and the barren-looking prairies have been made to "blossom as the rose," and the golden grain has yielded a thousand fold to the persevering and courageous husbandman, who has sown generously and "plowed deep while sluggards sleep."

Yet how few of the hard-working, tireless, busy farmers of our thriving county will rest from their labor on Thursday, the 25th of November, and gather in the places of worship to give thanks to Him who "tempera the winds to the shorn lamb?" Year after year the Chief Magistrate of the nation issues his Thanksgiving proclamation, advising our tired, overworked agricultural classes to give one day out of the 365 to the cause of religion, and to return thanks for prosperity in the past and success in the future. Less regard for the admonishing of our rulers is manifested every year. Time is too precious to waste in giving rest to the weary brain and tired limbs; and as for giving praise to any but themselves for the result of their industry is, to many, entirely out of the question.

In the older States, probably Thanksgiving Day means a pure, quiet, holy holiday to the worn-out farmer and his faithful hired man, who has toiled in the interests of his employer as keenly as the owner of the farm, and is as anxious for the future prosperity, and is as proud of the past year's success, as the master and his hard-worked wife. They will, in company, attend divine worship, and return to partake of turkey, pumpkin pie and other delicacies; chatting on the past glorious year and speculating on the new and bright year to come, while sitting around the well-supplied board in a cosy, neat, clean and warm apartment. There the true civilization crops out; the free equality under our precious republican Government is here beautifully illustrated. The man is worthy of his hire, and is made to feel that honest toil is not degrading. A day of quiet enjoyment is indulged in by master and man; a sympathetic feeling of thanks to the Almighty creeps over that household for the well-filled granary and the well-fed stock. The neat, cosy, well-kept and ample farm-house rings with merriment in the eventide; there recreation, wholesome rest, and pure civilized thanks are being poured forth by sincere hearts, making "home" happy and giving renewed

strength, and cheering up the drooping spirits of the over-worked laborer and his employer, who in the future will work for each other's interest and their mutual welfare.

This is as the writer has read about the observance of Thanksgiving days in the Great West and Eastern States; not having been east of California, he does not know from experience. But ten years of residence in this truly magnificent State, where we are surrounded with the grandest of the Creator's masterpieces of natural scenery and colossal beauties of His wonderful creation; blessed with prolific soil, unsurpassed climate, and thousands of natural advantages are vouchsafed to her sturdy husbandmen, unheard of in the less-favored clime of the older States, has demonstrated the fact that the proclamation of the Chief Magistrate of the nation is looked upon with almost contempt, and a piece of unwarrantable interference with the liberties of a free-born American. Thanksgiving Day in California is looked upon by too many of our farmers as a nuisance. It hinders the rushing and busy activity which seems to be a part and parcel of the enjoyment of our agriculturists; He thinks it a waste of precious time, and a humbug generally. A very few half-way compromise the thing by having a turkey killed and cooked by a Chinaman for the hands, and the farmer will, perhaps, go into town to hear what is going on in the political world! and, should any of his men wish to lose a day and go in with him in the spring wagon, it is considered a foolish extravagance that will be preached up to him for many a day.

The laborer in this State does not many times know when the all-important day of universal thanks is kept. He goes serenely on, following the keen-cutting plow, ruminating over the days gone by when, in the old home, he enjoyed the blessed privilege of social intercourse with his fellow mortals. When his employer spoke kind words of encouragement to him; when he sat around the family board, commingling with the educated and refined, drinking in enjoyment from the converse of his peers, and learning wisdom from his superiors in education. How he looks back over the bright spots in his early days, when California was far from his thoughts, and he sighs over the change in his condition.

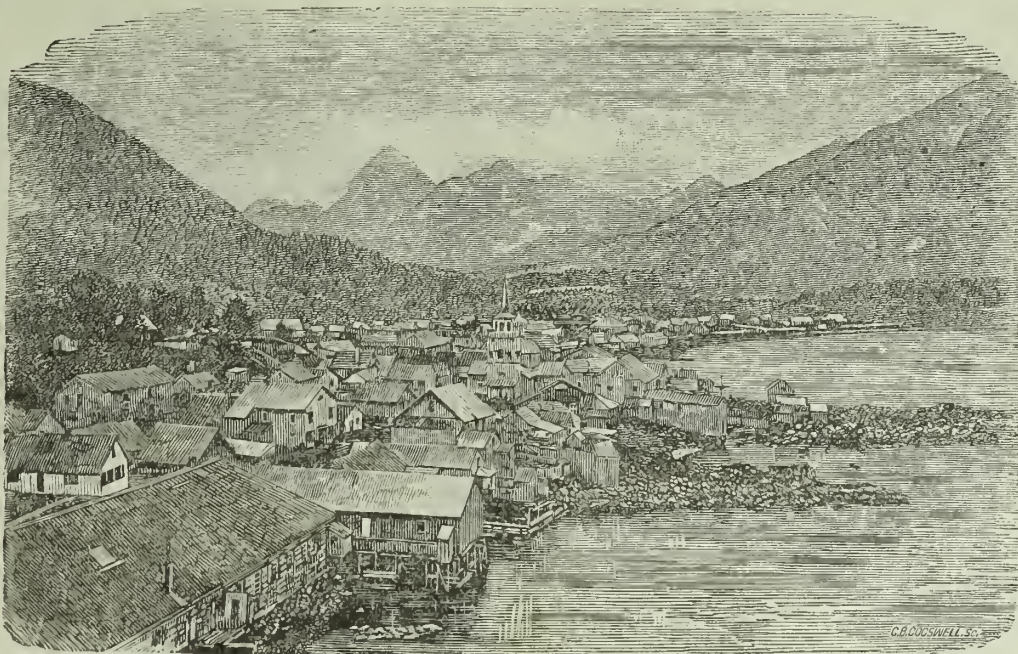
Here, he is isolated from society; his very nature is changed; his vicious passions are fostered, and his life a barren waste. He has no loving mother to seek comfort from, nor affectionate sister to advise with. Cold receptions from his employer, and neglect of all civilized usages, harden his character and ruin his morals. When he leaves one employer he oftentimes wastes his earnings in riotous living, squandering his hard-earned wages in dens of vice, enriching the evil-disposed citizens at the expense of his manhood, and at last ending his days in the hospital or poor-house.

To draw a true picture of the average California farm laborer, as compared to his Eastern brother, must actually cause the agriculturists of the State to blush for their "inhumanity to man." No pen can exaggerate the deplorable condition of the farm hands of many portions of our fair State, morally and socially. There is no bond of sympathy existing between the master and the man; and until our farmers shall preserve the Holy Holidays, and mingle socially with their employees in keeping the Sabbath, and our national Thanksgiving day, we may never look for sober, moral, intelligent, well behaved agricultural laborers. May the time soon come, when, at the sound of the village church bell, master and man will walk together to the portals of the "house of worship," where their voices may co-mingle in praise for bounteous harvest granted to them, and then and not till then, will the Thanksgiving Proclamation be a blessing to our glorious State.—FELIX, Red Bluff, California.

CALIFORNIA OAKS.—At the last meeting of the California Academy of Sciences, Dr. Engelmann, who is here investigating the forest trees of this coast for the U. S. Census, was asked for some information concerning our native oaks. Dr. Engelmann said that in the East he had been studying the oaks for a very long time. He thought he knew all about them, but when he came here this opinion was shaken. In looking at the specimens in a laboratory we think we can identify them. When, however, we go to the mountains and see the great variety of forms, we become confused. With the greater number of species he has little trouble, but with some, identification is very difficult. The most eminent authority on oaks has declared that the white oaks of California might possibly be a form of the common European oaks. Dr. Engelmann thinks that they are very distinct from the European or Eastern. A number of species are very distinct here. Dr. Engelmann suggests that botanists here should study the forms indigenous to their neighborhoods. In this way certain points will be cleared up better than they can be by any chance traveler.

Scenes in Alaska.

Our new Territory at the north is just now attracting more attention than ever before because of its varied resources and wonderful scenery. It is a country of wonderful forests and rare floral growths. It is the abode of living glaciers which are continually shunting off icebergs. The waters are almost alive with fish, and the land is disclosing much mineral wealth. In short, it is a most interesting possession, and one which will ere long be much better known to our people. The literature of Alaska is soon to be enriched by the new book by E. Conklin, entitled *Picturesque Northwest*, in which con-



SITKA, ALASKA TERRITORY

siderable space is given to facts and pictures of Alaskan resources and scenes. This work is soon to be published by the Continent Stereoscopic Co., of New York. In advance of publication, we have secured the right to reproduce some of the engravings, from which we give a selection on this page.

The Bay of Sitka is a beautiful body of water—studded with islands in most picturesque arrangement, which leads the eye well out upon

Notes of Thanksgiving.

EDITORS PRESS:—In a late issue of the *RURAL*, you invite your correspondents to give you a "Thanksgiving" article, with various subjects to choose from. Thanks may take many a form of action and expression. The American nation provides that the people assemble in places of worship, there to offer praise and prayer to God for all temporal and spiritual blessings. But it does appear as if the great majority of humanity keep thanksgiving by disposing of some of God's luxuries to satisfy the inner man. Others make it a day of recreation, roaming over the hills and valleys for health, hunting and exercise.

enjoy in principles of fraternity and generosity, the honor belongs to the noble band of pioneers, who are fast fading away, and soon the hillsides and gulches, the cities and plains will know them only from history. When you do chance to meet one of the old stock, you will find a noble and generous impulse governs his fraternal greeting. No matter what the outward appearance may seem, the traditions and experiences of the seemingly outcast are worthy of being recorded, for soon the ground will cover up the last of the race. As we remarked, we are thankful that such a noble class of men has given tone to all the great results following their footsteps. Our present prosperity, peace and security deserves to be remembered in our thanksgiving supplications for special blessings to descend on the remnant of the pioneer band.

It will be long ere the world witness such another episode in life.

Witness the present prosperity from Oregon to San Diego. Plenty tells it not; abundance and to spare; enough to feed an hungry world, and this great change brought about in a few years. Barren plains yielding golden grain for a moiety of labor; fruits, flowers and climate; hill and valley, gardens of Eden beauty meet the gaze wherever you may wander. If California has accomplished so much in 30 years, what may she not do in the years to come? Yes, we will offer up thanks to the God of loving nature for all the great blessings of the past and present, and what the future shadows forth.

The earth contains no brighter spot or purer clime than golden California. Plenty has crowned the labors of the husbandman and the horticulturist. Barns and storehouses are all full. "Their work is worship and enjoyment praise." How grand the idea, that labor can become a means of worship by planting the good seed of good deeds in the soul. "Duty well performed" is ever pleasing to conscience. How soon the countenance betrays us, whether or not we walk in the lide of duty. Language may sparkle from the tell-tale eyes; the smile may praise without audible music; the kindly greeting may speak of the love within the soul. Thus we carry about with us in our daily vocations, a living religion and a continual thanksgiving to the spirit of good, which is God, requiring no temple of stone to consecrate our endeavor; having at all times and in all places the boundless universe above and a "multitude of witnesses" as to our sincerity.

How we love the music of nature's dancing rills; her melodies chanted by her feathered throng, whose songs make vocal the solitary wilderness. Nature's voices are ever sweet melody when the heart is rightly attuned. Too often is the key-note lost by corroding care and love of gold. Not one note of nature's music should make us tremble for the present or fear for the future.

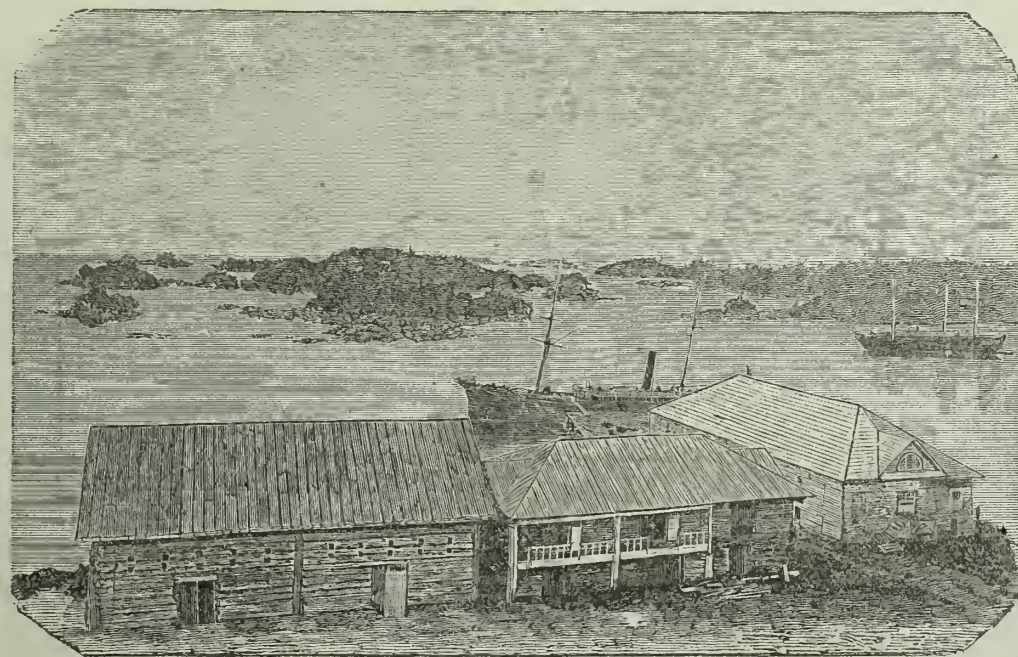
If thanks ascend for any one blessing, it should be for the increased faith in a loving, infinite Father, and the triumph over sin, which consigned man to endless misery. All nature proclaims that our God is a God of love. And for that infinite love let us give thanks in a strain of exultant joy, for all our temporal and spiritual blessings.—JOHN TAYLOR, Mt. Pleasant, Nov. 7, 1880.

An Englishman's View of Thanksgiving.

EDITORS PRESS:—I noticed in a late number of the *RURAL* a call on old contributors to sharpen at once their wits and their pens for the benefit of Thanksgiving readers. You asked for glimpses of scenery, and yet I hope to furnish you with a photographic glimpse of my farm; too late, I fear, to present itself as a Thanksgiving frontispiece. To-day I received your card asking for an "Englishman's views of Thanksgiving." I'll do my best to respond, but you flatter my patriotism too highly if you suppose that after a fifteen years' residence in California I can still regard American institutions from a thoroughly British standpoint.

Why, sir, I have just finished conscientiously wading through the six volumes of Bancroft's history of the United States, and, I may as well fairly confess, that "holl Fourth o' July seemed to bile in my veins." I found myself eager to come to the chapters wherein were chronicled the defeats of that hireling soldiery which obeyed the brutal behests of an imbecile and obstinate British king. I found myself cursing such accursed kingships as that of those German monarchs, who, from damnable avarice, sold their subjects to be slaughtered, as cattle for the shambles. And my warm sympathies got so much the better of my nationality that I now record my determination to Christian my next son George Washington.

Concerning the material adjuncts of Thanksgiving, I still regard turkey and mince pie from a thoroughly British point of view. I hardly think a native-born American could show, by his works, a stronger



A VIEW OF THE BAY OF SITKA

the northern seas until the waters are lost in the horizon, and sea and sky commingle. We have visions of a Grecian Archipelago and an Italian sunset. Bishop Nestor, who was a passenger with the writer on a trip from Portland to Sitka on one occasion, assured me that the whole trip was nothing more nor less than a gigantic archipelago of "wondrous beauty." I am of the opinion that when the trip is known it will be frequented as the Yosemite has never been.

The steamer in the picture of the Bay of Sitka is that of the *Jamestown*, which went thither in the spring of '79 to squelch an uprising of the Indians. It is useless to say that, during the summer of '79, or of the stay of the *Jamestown*, the Indians at Sitka were good and peaceable Indians.

The city of Sitka overlooks the bay from a fine elevation. The tower of the Russian Prince's castle (in the foreground of the picture) is the position from which to get a most grand view of the bay.

We ought to give thanks to God, and a few of our crumbs to the needy. No man, woman or child should have an empty larder on this, our national day of thanksgiving. How can the wealthy ask a blessing or offer thanks to a God of infinite love, while some of His sons and daughters around them may be calling in vain for bread? If God's blessing is really desired, the best way to obtain this end would be by doing the work of "the good Samaritan."

There is a humorous side to Thanksgiving, as well as one of piety. The poet has made this phase immortal by the New England "Thanksgiving Dinner." Those who had the pleasure of hearing Ossian E. Dodge sing that laughter-bringing song, can appreciate that social side of Thanksgiving.

We in California have much to be thankful for: First, we are thankful for the efforts of pioneer life, with all its great results. A grander foundation for a great empire was never laid than that which was established by the heroes of '49 and '50. Whatever of blessings we now

faith in national institutions such as these. I approve of them, the turkey especially, in so many ways: Roast, boiled, baked, stewed, grilled, toasted, hashed, minced; in "galantine aux truffes" or any other foreign kickshaws—I find turkey acceptable; in fact I can't name any way in which I disapprove of it. I have not even one disparaging word for the cranberry sauce.

But, when you come to the mince pie, let that be as near the British original as possible! None of your vinegar and flour adulterations! Give me the genuine mixture and a good butter crust.

Again, leaving these delectable material adjuncts (may good digestion wait on appetite with all RURAL readers!) for the real joy of the day, the "good and pleasant thing" of being thankful, I hope to be at once American of the Americans, and Briton of the British! Why, Mr. Editor, I believe in every day of the 365—even the 366th in Leap Year—being a Thanksgiving Day. It's such a splendid institution we can't have too much of it.

Let thy thanks
Go up as birds go up, that, when they awake,
Make off the dew, and soar.

To take home joy,
And make a place in thy great heart for her;
Then will she come, and oft will sing to thee
When thou art working in the furrows; ay,
Or weeding in the sacred hour of dawn.
It is a comely fashion to be glad!
Joy is the grace we say to God!

Art tired?
There is a rest remaining. Hast thou sinned?
The lovely world and the over world, alike,
Ring with a song eternal, a happy rede.
"Thy Father loves thee."

If that last line does not find a warm corner in every reader's heart, no matter what his special creed, that reader is indeed pitiable. Rather let us each, with confiding heart, sing with Cowper:

Though vine nor fig tree, neither,
Their wonted fruit should bear;
Though all the field should wither,
Nor flocks nor herds be there;
Yet, God the same abiding,
His praise shall tune my voice;
For, while in him confiding,
I cannot but rejoice.

I suppose old Isaac Walton may well be taken as a typical Englishman of past time. I cannot lay my hands just now on my miniature copy of his "Complete Angler," but I know he gives the finishing touch to his book by reminding us of those innumerable blessings, which are heaven's free gift to all, and admit of no monopoly; and bids us render thanks to the ever-loving provider of things which be so common as "flowers and showers, and health and content, and stomach and meat, and leisure to go a-fishing."

John Ruskin, a world-famed, present-day Englishman, reminds us that the real necessities of life may be the inalienable wealth of the poor, and are hardly more accessible and enjoyable to the millionaire. The material necessities are pure air, water and earth; the immaterial, admiration love and hope. Would that Americans and English found more days to render thanks for these godsend. Would that all nations valued them more highly, more eagerly guarded, more earnestly cherished.

With one more English poet's reason for thanksgiving I'll close my contribution:

The Lord is king! lift up thy voice,
O earth, and all ye heavens, rejoice!
From world to world the joy shall ring,
The Lord Omnipotent is king.

The Lord is king! who then shall dare
Resist his will, distrust his care,
Or murmur at his wise decrees,
Or doubt His royal promises?

The Lord is king? child of the dust,
The Judge of all the earth is just;
Holy and true are all his ways,
Let every creature speak his praise.

He reigns! ye saints, exalt your strains;
Your God is King, your Father reigns.

I find in those lines very adequate cause for a continual lifting up of heart, to which turkey, cranberry sauce and mince pie, in the highest style of culinary art, are very feeble, though no way despicable adjuncts. I trust they may prove equally inspiring to all your readers.

EDWARD BERNICK.

Carmel, Nov. 10, 1880.

A Season's Work in Alaska.

Dr. W. H. Dall, of the U. S. Coast Survey, well known for his scientific work in Alaska, passed this season, as usual, in the surveying schooner, *Yukon*, along the Alaskan coast. Since the party left San Francisco, they have sailed over 12,000 miles. At the last meeting of the California Academy of Sciences, Dr. Dall was asked to give a brief account of his summer's cruise. He stated that Dr. Bean had accompanied him this year for the purpose of devoting his entire time to making natural history collections, especially of fishes, in connection with the work of Prof. Jordan and Mr. Gilbert on the California and Oregon coast. He had found the common California brook trout on the Asiatic side of the Behring's straits, and had caught them in seines in salt water. They paid particular attention to the codfish and the halibut, and Dr. Bean became very confident that the Pacific codfish is the same as those caught in the Atlantic; and there is no reason why, in the course of time, with some care and attention, the Pacific codfish should not become as valuable and important upon this side of the continent as the Newfoundland fishes are upon the Atlantic.

They found some very interesting specimens, and some thought to belong to a new family. While there they learned that an individual had captured the original sea serpent. He gave a description of it, saying that it was 15 fathoms long, and was provided with a beak, fins and other appendages. He did not have it with him, but explained that it had been sent to the city. After a parley it was agreed that it should be handed over to them upon returning. They were very anxious to secure such a specimen, and upon returning were chagrined to find it to be a worm, which is known to attain considerable dimensions, sometimes reaching 100 ft. upon the coast of Norway. The beak and fins, however, were not upon the specimen, nor anything not proper to the worm itself. Under the Department of Natural History they did considerable dredging, but did not secure much that was new, since Dr. Dall had previously dredged this coast very thoroughly on former expeditions.

They found a single specimen of the *voluta*, named after R. E. C. Stearns, of the University of California. Up to this time only one specimen of this species had ever been found, and that had been procured from the stomach of a cod. This time they looked carefully, and were rewarded by finding another specimen of the shell.

In ornithology not very much was done, although they found a great number of specimens of described species. Dr. Dall said that some few years ago, when in Oxford, England, he had seen a specimen of a small snipe having a peculiar bill like that of a spoon-bill duck. It came from Sir John Barrows' collection, and its habitat was marked Behring straits. Dr. Dall has frequently looked to get a specimen of this bird, the one at Oxford being the only one in a collection. This year they succeeded in getting one which was shot by an Indian. They afterward found, from the master of the steam whaler, *Mary and Helen*, that he had seen the birds at Pt. Barrow. This adds another to the list of American birds, there having been previously no specimen in any American collection. Among other birds found one or two may be new to science, and several others are certainly not common.

In meteorological science, all he could say was they had had a very queer season. Last winter the thermometer was lower in Sitka than it had ever been before. Previously they had had it down to four degrees below zero three or four times, but this season it had gone down to 12 degrees below. The spring was quite late, and this summer they had had a good average of sunny and of windy weather. In July it is usually very rainy, but this July, at the Seal islands, there was no rain at all; not a drop fell—a very unusual circumstance. Until their vessel approached the floating ice, they saw nothing like an Arctic climate, as the weather was so fine. There was no snow on shore, except here and there a little remained in a cleft in the mountains, while the land was covered with grass and flowers, which did not convey an Arctic appearance. This season has been a remarkably favorable one to the whalers. The whales have been very accommodating, coming out from their usual hiding places in the ice and allowing themselves to be killed. Not only did the whalers secure a full load, but they got out of the Arctic ocean before October, an event which has not happened during 20 years. The presence of the cutter up here had a beneficial effect in preventing the usual trading of liquor on the coast, and as a natural consequence, the natives have supplied themselves with food; in fact, everybody seemed to be happy up there. They boarded a whaler just cutting the eleventh whale, while the boats were on their way to capture another one. Something was said about chronometers, and they offered to regulate the captain's. He said that he did not know very much about the correct longitude, but he guessed he must be in the right longitude, for there were plenty of whales.

In the department of ethnology changes are found. It is now very difficult to procure any ethnological specimens. Very great changes have taken place in the habits of the natives.

When he first visited the country, 16 years ago, the natives were attired in clothing made by themselves, and they used articles of their own manufacture. Now it is quite different, for they nearly all wear articles of civilized make, such as shirts, caps and trousers. Their old implements are becoming scarcer and scarcer. Much damage has been done by foreign traders and smugglers furnishing the Indians with alcohol. Intoxicating liquor is exceedingly injurious to them, as, when supplied with it, they neglect to provide themselves in summer with a store of food for the winter. In the interior the natives seem to have decreased and deteriorated, partly on account of liquor, and partly on account of being furnished with firearms. Winchester rifles are more common there than here, and produce many deaths. Their Territory seems, however, to be improving, for now gardens are a prominent part of the establishment, and furnish potatoes of excellent quality and size. As far as the people are concerned, now, they all use the implements of civilization. The old-fashioned tools and implements are becoming very scarce. It is extremely difficult to obtain old-fashioned implements of their own make. When you do get them, they bear marks not of use, but of having been laid aside as superseded. The population is decreasing.

Capt. Eads on Debris.

Capt. J. B. Eads, Consulting Engineer of the State, has filed a report with the Governor. He recently visited the State, examined the Sacramento river and its tributaries with the view of determining the best methods to pursue to improve their navigation, and to protect the valleys from the further encroachment of debris from the mines. The report is very elaborate, and no condensation can do it the justice to which it is entitled. It is, in itself, the essence of conciseness, and would be marred by any effort to present it at less than a whole; but a sort of index to it may be given to outline its character. He begins by stating all his means of information relative to the valley rivers. He shows then the vast quantities of debris washed into rivers; that the catchment area of the rivers exceeds the valley area; that the flow of detritus has been vaster far than the most extravagant have given credit for, and points out how it has buried whole sections, and will continue to do so. He then considers whether Nature, by her process, would have done this, and explodes the idea that she would. He shows how the valley lands, being flat and absorbing rainfall, do not send soil in any material quantity to the rivers. He then considers how the filling up of the rivers is going on, how bars become islands, and the rivers are raised till they run on ridges. He next points out the only remedies known, to wit, to treat the rivers so as to enable them to carry off the sediment.

This is to be done by checking detritus descent by brush dams. This partially clears the water and gives it power to take up and carry off sediment below by leveling up the rivers. Next, this will increase their slope, augment the force of the current and give a scouring power. Lastly, they must be straightened in places in order to increase the slope or fall, and hence the rapidity of currents. He favors closing up the old river at Grand Island, dredging out Steamboat slough and forcing the river through there. He shows that the rivers have power to carry their flood waters when thus treated. He explodes the idea that increasing the outlet of the stream lessens the danger of the overflow. On the contrary, it injures the stream and takes away the force of the current and carrying capacity. He plainly intimates what must come if remedies are not applied, and leaves the conclusion fixed on the mind that one of the fairest sections of the State, one of the greatest valleys, will be rendered valueless to man unless its streams are properly and uniformly treated. Regarding Suisun and San Francisco bays, this extract from his report may be given in full: "As large areas of shoals which are now more or less exposed at low water, must, as a result of the correction of the river, necessarily be built up to very nearly the height of the natural banks by the deposits which will be removed from the shallow channels, and as many deep pools existing below the sand bars in the narrow parts of the river will be filled with the bar material removed, there is no occasion to fear that the rectification of the river will materially increase the amount of deposit accruing in the bays in the lower part of the river."

"In the slow process of nature, controlled by art, Suisun bay would gradually be reduced to the width of the river proper, and the bay of San Francisco would in time undergo a similar change. But it should be remembered that it is the maximum tides and floods which determine the magnitude of sedimentary channels. Hence the rapid drainage of the valley. Increasing the force of the floods will promote the discharge of the sediment into the ocean, for it will aid the tidal action in keeping it suspended until the greater part of it is finally discharged there. The sediment left in the water after the construction of the proposed works for arresting the mining detritus will settle much more slowly than that which now flows down, and must make the injury to the bays a very slow and remote occurrence."

"With respect to the influence of the tides upon the lower portion of the river, it is only necessary to say that the same laws we have

been discussing apply with equal force to the motion of tidal waters in river channels. The inward and outward flow of the tides will create and maintain a channel in proportion to the maximum volume and slope of the ebb tide passing through the channel. Hence, where a tidal basis of great extent occurs, as at Port Royal, New York and San Francisco, the channel through which it is filled and emptied will be proportionately large, and as the depth and width of the river channel increases, the tidal water will enter with less frictional resistance, and the volume of the ebb will be proportionately greater. Therefore, as the improvement of the lower part of the river channel progresses, the force of the tidal action will increase and aid in maintaining such capacity as the combined influence of the river floods and tidal action, under a better system of drainage, will efface."

The Rise in Coal.

The sudden and somewhat unexpected rise in coal this week is a blow to the manufacturing interests, and is a hardship to all persons except dealers. Steam coal has gone from \$5 and \$5.50 up to \$8 and \$9 per ton. This is particularly hard on the steamboat and iron men, the foundries especially. It is said that freights have gone up a couple of dollars a ton, and the dealers have taken advantage of this and added a couple of dollars more. All kinds of coal have advanced, though the imported coals are more affected than the domestic. Black Diamond, Coos Bay and Nanaimo coals have advanced considerably. The *Call* says: The advance might be ascribed to many causes, but neither of them would naturally produce the marked appreciation in value of the past few days. At this time in the year coal usually shows an upward movement, and the natural advance has been assisted by the facts that at present the stock of coal on hand is about 200,000 tons less than usual at this time, and but few invoices being expected. The extension of the Southern Pacific railroad and the construction of branch roads have also helped to increase the demand. It is expected by those who should know that prices will further advance from 10% to 30%. Many persons deny that there is any scarcity of the article in the market, but attribute the unprecedented advance of prices to the establishment of a ring or combination of wholesale dealers in this city.

PRIMEVAL MAN.—Prof. Dawkins has come all the way from England to tell the Boston people, in 12 lectures, what he thinks he knows about primeval man in the eocene age. He professes to know something about it, by a study of the rocks, and the flora and fauna of the world. In the miocene stage of the world's history, there was no place for man; but "we will get nearer and nearer the period of man after a while, although we may not at first recognize him as he originally appeared." In this connection the Curator of the Peabody Museum at Cambridge observes, in the 10th annual report: "Dr. Abbett has probably obtained data which show that man existed on our Atlantic coast during the time of, if not prior to, the formation of the great gravel deposit, which extends toward the coast from the Delaware river, near Trenton, and is believed to have been formed by glacial action. From a visit to the locality with Dr. Abbott, I see no reason to doubt the general conclusion he has reached in regard to the existence of man in glacial times on the Atlantic coast of North America."

AN ILLUMINATING COMPOSITION.—Industry thus describes a simple way to produce an illuminating composition. Cleanse oyster shells by well washing, expose them to a red heat for half an hour, separate the cleanest parts and put into a crucible in alternate layers with sulphur; now expose the vessel to a red heat for an hour at least. When cold break the mass and separate the whitest parts for use. If inclosed in a bottle the figures of a watch may be distinguished by its aid. To renew the luminosity of the mass place the bottle each day in the sun, or in strong daylight; or burn a strip of magnesium wire close to the bottle. The sulphide of lime will thus absorb light, which will again be available at night time.

THE phenomenon of the perforation of rocks by sand carried on the wind has been observed in the valley of the Rhone in France. A very violent wind often prevails in the neighborhood of Uzès, and drives large quantities of sand against a band of quartzose pebbles contained in a tertiary soil. The pebbles contain cavities which might be believed to have been made by human hands, but which are really produced by the often renewed friction of the sandy particles against their surface.

HOT BEARINGS.—It has long been known that sulphur cools a hot bearing, but the reason why is doubtful. Von Heeren states that the fine metal dust formed when a journal runs hot, and which strongly acts upon both journal and bearing, forms a sulphide with the sulphur. This compound, which grows soft and greasy, does not cause any appreciable amount of friction. Sulphur and grease, in combination, are in regular use on board the steamers of the North German Lloyd's.

THE POPULATION OF THE WORLD.—Dr. Behm and Prof. Wagner, German geographers of standing, who have devoted much attention to the statistics of population, have just issued a new edition of their calculations. They arrive, after great labor, at results which we quote, because they modify materially the estimate popularly current in Great Britain:

Europe.....	315,920,000
Asia.....	838,704,000
Africa.....	205,079,000
America.....	95,495,500
Australia and Polynesia.....	4,031,000
Polar regions.....	82,000

The world.....1,459,920,500
The calculation for Europe, which must be substantially accurate, is much larger than the usual one, but even then the immense bulk of humanity, 10 in 14 of mankind, dwells in Asia and Africa, a fact which the philosophers will do well to remember. The Londoner or Parisian is not exactly "Man."

At a meeting of the Executive Committee of the World's Fair Commission, held this week, a report was read approving of Central park as the site of the fair, and calling upon the city and State authorities to grant the use of it. This decision will evoke great popular opposition, there being an inflexible feeling on the part of many that Central park must not be used.

Seeds, Plants, Etc.

R. J. TRUMBULL & CO.,
Growers, Importers, Wholesale and
Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND OR-
NAMENTAL TREES, ETC. FANCY WIRE DE-
SIGNS, GARDEN TRELLISES, SYRIN-
GES, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—OUR DESCRIPTIVE ILLUS-
TRATED CATALOGUE OF SEEDS, TREES, PLANTS, ETC.

R. J. TRUMBULL & CO.,
419 and 421 Sansome Street, S. F.

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

A few dozen plants set now will yield enough for a
family's use next Spring.

Large Stocky, Healthy Mountain Grown Plants.

"SHARPLESS,"
THE LARGEST OF ALL.

"Capt. Jack," "Cumberland Triumph," "Seth
Boyden," "Miner's Prolific," Etc., Etc.

SELECTED PLANTS, 50 Cts. Per Dozen.

POSTAGE PAID.

Many other varieties, new and old Give us a trial
Address

C. M. SILVA & SON,
Newcastle, Placer County, Cal.

1,000,000

Strawberry, Raspberry and Cranberry
PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$0.50	\$5.00	\$50.00
N. J. Scarlet, Sterling, Great American.....	0.60	6.00	60.00
Pres. Lincoln, Triomphe de Gand.....	0.50	5.00	50.00
Wilson Albany, Charles Downing.....	0.50	5.00	50.00
Essex Beauty Early, Centennial.....	0.60	6.00	60.00
Monarch of the West, Clunderella.....	1.00	10.00	100.00
Raspberry Plants—Cuthbert Early.....	1.60	16.00	160.00
Pride of the Hudson, Brandywine.....	1.50	15.00	150.00
Herstine, Clark, Philadelphia Red.....	1.25	12.50	125.00
Henrietta, Hornet, Early Prolific.....	1.25	12.50	125.00
Blackberry Plants—Doering Seedling.....	1.25	12.50	125.00
Mammoth Cluster, Vina Seedling.....	1.00	10.00	100.00
Kittatiny, Dorchester, Early Cluster.....	1.00	10.00	100.00
Grape Vines—Blk Hamburg, Blk Prince.....	2.00	20.00	200.00

Cranberry Vines I do not sell less than 10,000 vines in one
order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen,
and 50 cts. per hundred. Postoffice address,
H. NYLAND, Bouldin Island, San Joaquin Co.

B.K. BLISS & SONS
HAND BOOK.
A COMPLETE GUIDE FOR
THE GARDEN & FARM
SEEDS, PLANTS, BULBS, SMALL FRUITS
GARDEN REQUISITES. 300 ILLUSTRATIONS
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

SEED GRAIN.

AUSTRALIAN WHEAT.

500 Bags Australian Seed Wheat. "Purple Straw and
White Jamunas.

NEW ZEALAND OATS.

650 Bags New Zealand Oats. White Tartarian and Canadian.

The above Grain has been selected with great care from
the best Varieties and all re-cleaned previous to ship-
ment; is just landed ex-Steamer City of Sydney, and will
be sold in lots to suit purchaser. Apply to WATERMAN
& CO., 113 Clay Street, or S. L. JONES & CO., 207
and 209 California Street, San Francisco, Cal.

70,000 BLUE GUM TREES,
And Cypress in Boxes for Forest Culture.

Well grown Fruit Trees of the most approved market
kind, raised without irrigation. Also, a small stock of
the latest Eastern Fruits, such as Souvenir du Coeur
and Japan Pears, Olive Cherry, Etc. Prices on applica-
tion. Patronage solicited.

ISAAC COLLINS,
Haywards, Alameda Co., Cal.

California Inventors

Should con-
sult DEWEY
& CO., AMER-
ICAN AND FOREIGN PATENT SOLICITORS, for obtaining
Patents and Caveats. Established in 1830. Their long
experience as journalists and large practice as patent
attorneys enables them to offer Pacific Coast inventors
far better service than they can obtain elsewhere. Send
for free circulars of information. Office of the MINING
AND SCIENTIFIC PRESS AND PACIFIC RURAL PRESS, No. 202
Sansome St., San Francisco.

GUNS

Lowest prices ever known
on Breech-Loaders,
Rifles, and Revolvers.
OUR \$15 SHOT-GUN
at greatly reduced price.
Send stamp for our New
Illustrated Catalogue (B)
P. POWELL & SON, 235 Main Street, CINCINNATI, O.

CEO. F. SILVESTER,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

Hedge Shears, Pruning and Budding Knives. Green House Syringes, Etc.

Seed Warehouse, 317 Washington St., San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115. 117 and 119 Kinzie Street.

CHICAGO, ILLINO S.

SEVIN VINCENT & CO.,

Importers, growers of, wholesale and retail dealers in

SEEDS

Field, Grass, Flower and Tree Seeds.

CLOVER, ALFALFA,

BULBS, FRUIT, ORNAMENTAL TREES, ETC.

We call the attention of farmers and country merchants
to our unusually low prices. Trade price
list on application.

We issue the most complete guide to the Vegetable and
Flower Garden ever issued upon this coast. It is hand-
somerily illustrated, and contains full descriptions of Vege-
tables, Flowers, Grasses, Trees, etc., with full instruc-
tions as to their culture; mailed free on application.

SEVIN VINCENT & CO.,
607 Sansome Street, S. F.

J. BROWELL,

Silver Medal,

**FOR PATENT CHIMNEYS
And Ornamental Chimney Tops.**

Can be placed in any part of the House, or attached to
the outside of any building with perfect safety.
Terra Cotta Chimney Tops, all sizes for sale.

CONTRACTOR AND BUILDER.

442 Jackson St., N. E. cor. Montgomery, S. F.

DAVID KERR,

**CARRIAGE, WAGON and TRUCK
MANUFACTURER.**

First Premium,

Best Display of Trucks.

47 & 49 BEALE STREET, S. F.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to.

PEPPER'S NURSERIES,

Established in 1858.

For sale, all kinds of Fruit Trees, Vines and Fruiting
Shrubs raised without irrigation. Also, a general assort-
ment of Evergreen Trees and Shrubs, deciduous Flower-
ing Shrubs; Roses, in assortment. Conservatory and
Bedding Plants in great variety. Send for Catalogue and
List of Prices. Address

W. H. PEPPER,
Petaluma, Sonoma Co., Cal.

Wilz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other
kind. Ladders and steps dispensed with. The smallest
twig up to branches two inches in diameter cut with ease.
State, County or individual rights for sale. Agents
wanted. Address

JOHN WILZ,
Santa Cruz, Cal.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT
FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as
fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself.
Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street., Sacramento.

AND THEIR AUTHORIZED AGENTS.

Dr. Smith's Caloric
Vita Oils.

Improved Means and Methods of Healing. Why not?
Caloric Vita Oils, these wonderful ancient curative remedies
restored to the healing art by a retired Chilean physician,
through whose advice they are now variously prepared and
used in Dr. Smith's Phreno-Medical Institute, 633 Califor-
nia street, San Francisco, as sweating, absorbing, healing
and pain-killing remedies, and which are by no means a new
experiment, but have proven their wonderful healing virtues
in over 25,000 cases in a single European Medical Sanitarium,
and are now offered for sale and use, purely on their active
healing merits. Accordingly, gentlemen or ladies are offered
a free trial of these vita or life-giving oils, who suffer from
Asthma, Bronchial, Lung or Throat Troubles, deep-seated
inflammation or painful disease of any kind. Congestion
Heart, Liver and Kidneys, Lame Back, Stiff Joints, Con-
tracted Muscles or Tendons, Dropsy or Cold Extremities,
Tumors or Glandular Swellings, in short, all forms of dis-
ease that result from congestion or impeded circulation. In
cleansing the blood of scrofulous drugs or virus poisons, and
in the cure of chronic disease, the Institute employs all the
Hygienic and Medical appliances of Eastern and European
water cures. Since the fall of '73 we have given special at-
tention to diseases of the brain and nerve-vital system, and
for the past 22 years have had gentlemen constantly under
treatment who have suffered from some form of muscular,
nervous or vital debility, and by using an electric medical
magnet of great power in connection with the above reme-
dies, we have quickly and permanently restored those who
had even failed to get relief by other means. Phrenology is
the key to physical as well as mental diseases. Health con-
sultations are free, either verbal or by letter. Barlow J.
Smith, M. D., Proprietor, 633 California street, S. F.

RUHL'S
PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8
and 10 inches in diameter for shallow wells for irrigating
purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches
in diameter, warranted to draw water up to 200 feet. Half-
Lift Pumps, 3 and 4 inches in diameter. All the above
Pumps can be converted into a force-pump by attaching
cast-iron air chamber, which makes the best one for filling
tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principal
houses in San Francisco.

JOS. HANSEL,
Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on
hand and for Sale at the Lowest Rates, and guaranteed to
give satisfaction. Blacksmithing and General Jobbing done
with neatness and dispatch. Also, on hand of my own make,
the latest Improved Harrows and my Patent Buck Board
and Breaking Car. Carriage Painting and Trimming
Neatly Done. HUNTER STREET, STOCKTON, Cal.
Adjoining the Baptist Church.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

RUSBY & MERY'S
IMPROVED FEED MILL,
Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain
heating. It is used by the leading grain raisers in pre-
ference to feed ground with burrs. Sole Agents and Man-
ufacturers for the Pacific Coast, Chico, Cal.

COMBINED
Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper.
The Flour Bins can be cleaned from the bottom. Call
and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.



Price—Plain Barrels, 12 Bore, \$15 00.
" " " " " " 16 00.
" Twist Barrels, 12 Bore, 17 00.
" " " " " " 18 00.

The frame and trimmings of all these guns are nickel plated.
This gun possesses many advantages over any single breech-
loading gun yet produced in this country. It has a patent
side snap action with a safety attachment, by means of which
it can be opened only when the gun is at half-cock, thus in-
suring perfect safety in loading. The workmanship and ma-
terials used are first class; no gun being allowed to leave the
factory until it has been thoroughly inspected. We take
great pleasure in offering this gun to the public, and feel safe
to say it is the best Am. Single Breech-Loader yet produced.
E. T. ALLEN, Agt., 416 Market St., S. F.

Windmills!
HORSE POWERS!
TANKS AND PUMPS

Built and repaired at
No. 51 Beale Street, S. F.
Send for circulars.

F. W. KROGH & CO
(Successors to W. I. TUSTIN.)

CLARK'S
Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain
cleaner mills, large or small. Took First Premium at State
Fair and Stockton Fair, with Nash & Cutts' No. 3 Grain
Cleaner. Its capacity is from 30 to 60 sacks per hour.
Farm rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

VETERINARY HOMOEOPATHY!

Every Farmer and Stock Raiser should have a Veteri-
nary Homoeopathic Manual and Medicine Chest.
Send for Veterinary Index (mailed free on application).

BOERICKE & TAFEL,

Homoeopathic Pharmacy, 234 Sutter St., S. F.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,
Cor. Japan and Townsend Sts., S. F.

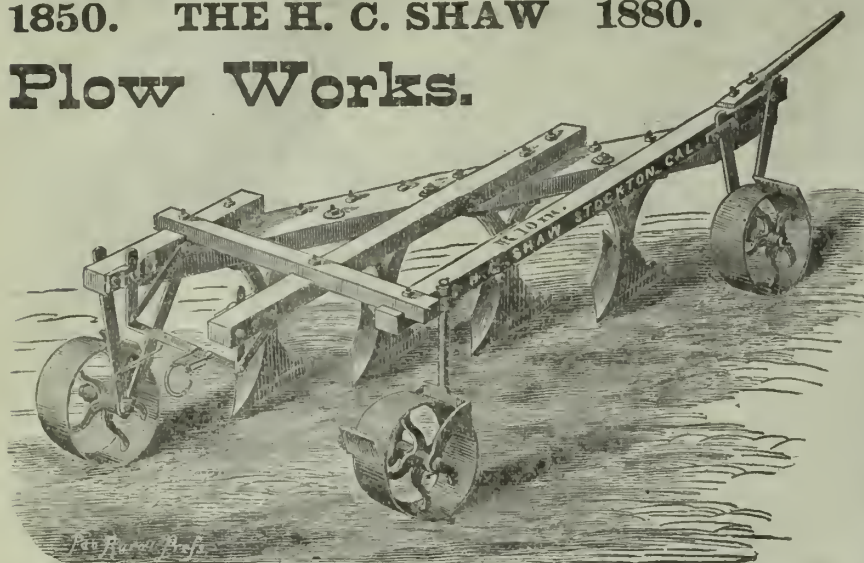
First-class Fire-proof Brick Building. Capacity 10,000
tons. Goods taken from the Dock and the Cars of the C. P.
R. R. and S. P. R. R. free of charge. Storage at Current
Rates. Advances and Insurance effected.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive
Farms at fair rate of interest. Money also advanced on
Wheats. Apply to

A. SCHULLER,
209 Sansome St., S. F.

1850. THE H. C. SHAW 1880. Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Goggles, 2-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.

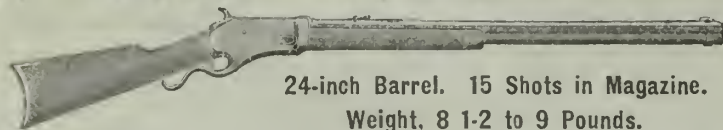


Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.
Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,
416 Market St., San Francisco,

AUZERAIS HOUSE,

Santa Clara Street, San Jose, Cal.

CHAS. E. PEARSON, Proprietor.

Strictly First-Class and Moderate Charges.

Auzerais House Coach and Carriages in attendance on arrival of Trains.

REMOVAL.

H. N. COOK,

Manufacturer of LEATHER BELTING & HOSE. Has removed from 415 Market Street, to 405 Market Street, corner of Fremont.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apian, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

PRESSSES HAY & WOOL

EAGLE HAY PRESS, Old Style, - \$200.

EAGLE HAY PRESS, Improved, - \$250.

PRICES' PETALUMA HAY PRESS, \$450

All kinds of PRESSES MADE TO ORDER, to put TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

WINTER STYLES—BUTTERICK & CO.'S

Celebrated Paper Patterns. Send Stamp for Illustrated Catalogue. Address H. A. DEMING, 124 Post St., San Francisco, Cal.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

GEO. D. DORNIN, Secretary.

ALPHEUS BULL, Vice-President.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

DEWEY & CO.'S

Scientific Press



Patent Agency.

[ESTABLISHED 1860.]

Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class Agency. We have able and trustworthy associates and Agents in Washington and the capital cities of the principal nations of the world. In connection with our editorial, scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other Agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of Patents already granted, for the purpose of determining the patentability of inventions brought before us, enables us often to give advice which will save inventors the expense of applying for Patents upon inventions which are not new. Circulars of advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 202 Sansome St., S. F.

A. T. DEWEY.

W. B. FWER.

GEO. H. STRONG.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the
Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

Horse Breeding in California.

[CONTINUED FROM PAGE 344.]

has followed the efforts of those who have turned their attention to the production of race horses and trotters establishes this position, and even in the short time which has been given to intelligent breeding the results have shown that the soil, and especially the climate, are admirably adapted for the purpose. "Mollie McCarty," "Ralston," "Flood," "Lottery," "Mark L," "Raven," "Lena Dunbar" and many others demonstrate that a high type of the thoroughbred can be reared here, while "Fred Crocker" and "Sweetheart" show that the first and second of the young trotters are natives of the Golden coast. As "the boy is the father of the man" so the young trotter is a token of what maturity will show. "Fred Crocker" has beaten the best time of the world for a two-year-old, five and three-quarters seconds, and "Sweetheart" is only one second and a quarter behind him. There are three three-year-olds in California which have surpassed the best of those of the East this year, and "Belle Echo," "Alex. Button" and "Annie Laurie" have all shown better than the Kentucky crack, "Director," who sold for \$5,000.

The question will be pertinent, that granting your claim to be true, why is it that the farmers of California cannot make money in producing animals which bear such a liberal price? To answer is not difficult, and few words will be necessary, in addition to the previous reasoning, to make the reply logical and the statement plain. There were scores of three-year-olds in training in California this year, and the three named were so superior that only two others could be claimed to be near them. One of the trio was sold for \$1,500, and that after it was well known what her capacity was and that her owner desired to dispose of her. It was a very low figure it is true for a finely bred filly of her age which had won one important stake and obtained a record of 2:30; still it was her value in California. A farmer might breed a great many before reaching one of the same promise, and the proper education of a few would absorb the whole amount received. There may be instances where the farmer can breed and train with a good prospect for remuneration though I am writing now of general practice, and exceptional cases are foreign to the scope of this article. The hypothesis is, that the large breeder and he who has all the requisites for the proper breeding, and the facilities and appliances for rearing and training can make money in the business where the ordinary farmer would lose. There are several reasons why this should be the case. It requires a large capital to commence with. For instance, on one of the breeding farms in California are three stallions which cost \$50,000.

Only a few miles from that one is another which is said to have cost \$25,000, and on an adjoining place is one for which \$15,000 was paid. There are brood mares which have cost a very large sum; and apart from the first expense for stock, the stabling, tracks, implements for keeping the tracks in order, vehicles, harness, etc., aggregate a large sum. A capable trainer commands a generous salary, and his assistants and grooms must have a knowledge of the business which makes their services bring more than ordinary labor. All these expenses divided among a number of colts reduces the average to a minimum; a few represents the maximum of cost. Purchasers are attracted by the number which gives the opportunity for selection, and the reputation which a prominent stud lends adds to the price the buyer will give.

The mere fact of a horse having been bred by a man who is noted for rearing fine stock, is an inducement to the purchaser, and gives a reputation which can only be equalled by actual performances of the animal which has not high surroundings to dazzle the eye and warp the judgment. Gen. Withers can sell an Almont colt for \$1,000, which his poor neighbor might vainly solicit \$200 for, and there is a "market value" in the association.

Palo Alto, though only established as a breeding farm less than four years ago, has a name which is familiar wherever the fast trotter is known. The fact of a horse being bred there will increase his value in any country, and his birthplace be a certificate of merit. This reputation is sure to increase with years, for whatever money, judgment and skill will accomplish, is sure to be done, and when other countries look for procreative animals, the large establishments will be the objective point. Palo Alto is only one, and though the most complete of the trotting stud farms of the world, there are others on the Pacific coast which will compare favorably with those of the East, and which will so far overshadow the ordinary ranch, that it will take extra excellence to come into successful competition. While denying that the farmer can enter the lists against such powerful competitors with anything save a slight hope of victory, there may be circumstances which will warrant him in making the effort. When the articles are resumed in the RURAL PRESS, this branch of horse breeding in California will be given due consideration, and the subject receive the attention it demands. There is a branch of equine production, however, in which the farmer has the advantage, and which he can make fully as profitable as any other department of husbandry, and in which he need never fear the competition of the

he mentally considers. Four of them will do the work of six ordinary sized horses, and they are active enough to make a trip with or without a load as fast as the farmer requires the service to be done. The coarser he would not have for anything but the slowest draft, and should he confine his horse breeding to these, his patience would be sorely tried when celerity was desirable.

Even from the casual observations he has become interested, and he takes time to examine the teams, and the examination leads to queries. He finds that for a pair of these horses more money is paid than would buy a team of trotters which have cost a good deal of money to educate, as much as six "horse car horses" will bring. "Why should there be such a difference in price?" "Because the supply is short of the demand," is the ready answer. The Express Company has agents all over the country, and yet it is difficult to keep up the standard desired in their work. The searcher after knowledge in which he formerly thought he was perfect pursues his investigations. He realizes that his mares are not the sort to breed from, and those of his neighbors have the same defects, and he makes up his mind that he will buy what he wants. A great majority of the horses in the teams are geldings, though among them are a few mares. The owners refuse to put a price upon them, for so long as they can

males, and at two commence the education. Placed by the side of a gentle horse and the driver of good temper and a knowledge of the business, it will only be a short time before they can do light work, and the following year they can do more with safety than the average horse. At five they are ready to market, and the breeder can rely upon a sale with the same certainty that he anticipates disposing of a fat hullock. Refuse the most tempting offers for the best of the fillies. You are aiming for a higher position, and the improvement depends more on the female than the male. In another generation you have a still better work horse, and with a good show for a more rare animal, coach and carriage horses. And in the meantime you have the satisfaction of having the kind you desire for your own work.

The intelligent American farmer requires a different grade of horses from those of any other country. They must combine various excellencies. Size and strength to do heavy work; beauty to look well before the family carriage; activity to save time when on the road, and docility to ensure safety in any position. These are the profitable sort for him to breed, rear, work and sell; and this branch of horse breeding can be made more profitable in California than any other country in the world. In this line the breeder who has only two mares, can compete with success with the larger.

He who has so many that there is not work enough for the mares and young horses to do, will have a smaller return than when the number is limited.

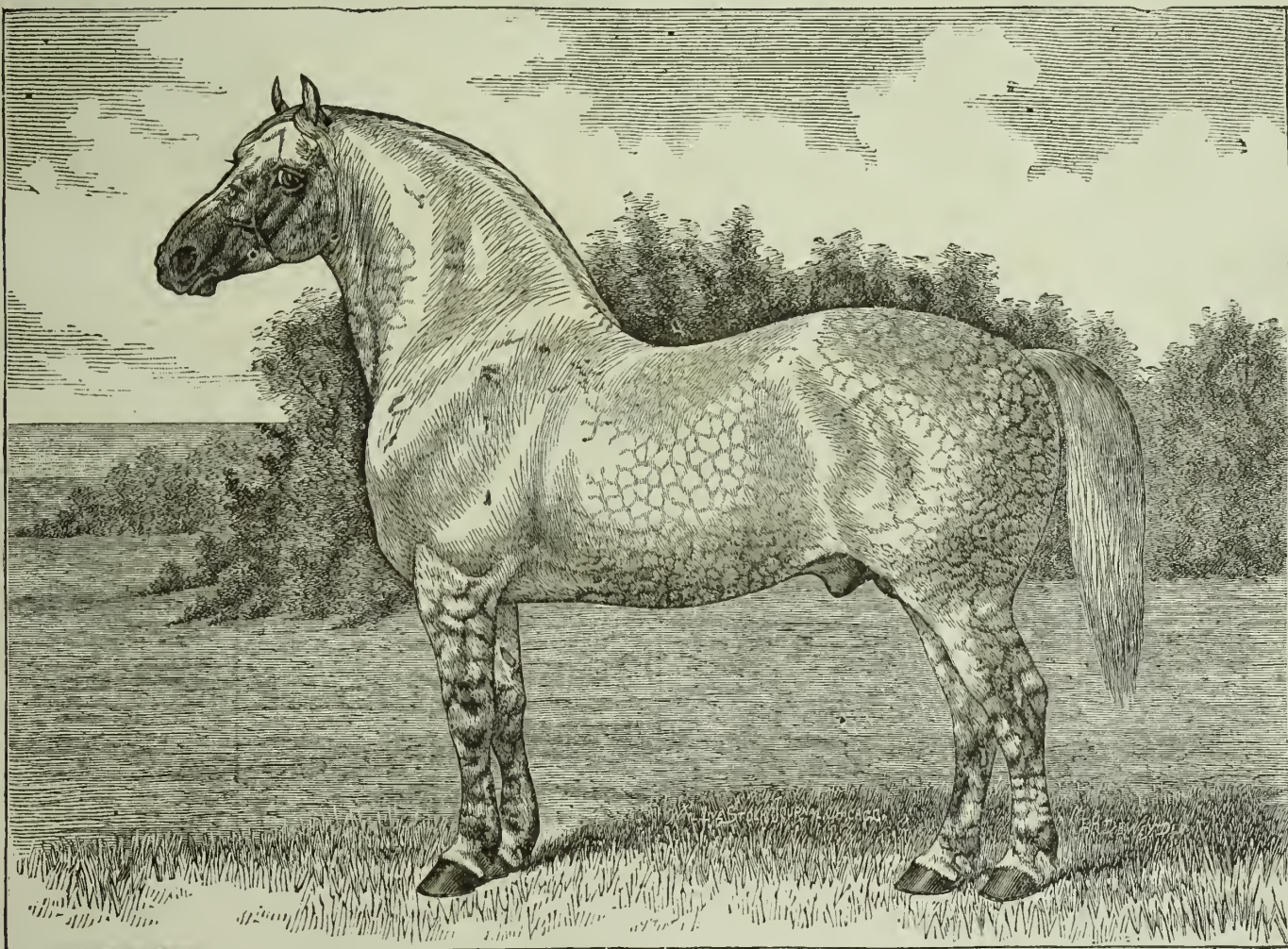
Percheron Horses.

We publish on this page a cut of one of the most perfect specimens of the Percheron race we have seen for a long time. These horses have grown so rapidly in public favor as a cross upon the small common mares of the country, producing with almost a certainty those large, powerful, fine looking dapple gray horses now so popular everywhere as agricultural and heavy draft horses, that the importation of the pure breeds from France has been rapidly increasing. More than a hundred of them are now being annually imported.

The Percheron is the most ancient and purely bred of all the races of heavy horses. The specialty for which they became so noted, and in which they have attracted the attention of keen observers everywhere, was their ability to perform long journeys with a heavy load in an incredibly short time. They are not especially noted as

fast trotters, but in a happy combination of action and strength they are almost universally conceded to be without equals among the horses of any other race; and it was for this especial combination of useful qualities that they were bred for generation after generation until the type became more firmly fixed than that of any other race of horses in the world—not excepting even the thoroughbred race horses.

SWEET POTATO VINES AS STOCK FEED.—Have our readers tried their sweet potato vines as cattle feed? If not let the test be made, for the verdict of the Southern States is in favor of their use. A writer in the New Orleans *Home Journal* says that he dries the vines two or three days in the sun, and then puts them under shelter. He says: "Milch cows will give more and richer milk fed upon well cured potato vines than they will fed upon the same bulk of the best crab-grass hay. I have cured vines in this way, and my cows did eat them as well, if not better than they did the best farm grass hay." He harvests the vines in this way: "After a good frost, or at the proper digging time, I go over the field with a sharp hoe and cut the vines loose on the top of each row; put a good, stout horse or mule to a turn-plow, and let him walk in the furrow, gathering all the vines I can on the plow; drive to the end of the row, empty my load and return to the same furrow until I have obtained all the vines, and so on until the field is gone over. Shake out the vines and spread them evenly on the ground; turn them over once a day, and if you have good sun you can take them in on the third day, or they may remain out until the fourth day, then house them."



PERCHERON STALLION, "AVALANCHE,"

One of 170 Imported during the past Fifteen Months by M. W. DUNHAM, Wayne, DuPage Co., Ill.

"big breeder." There is a limit in this to profit, and when extended beyond the proper bounds, will result in a smaller margin on the credit side of the ledger.

This is the rearing of large horses. Not large in the sense we apply it to the Clydesdale, the Norman, or the heavy English draft, but an animal of from 1,200 to 1,600 lbs. in weight, and from a height of 15½ to 16½ hands.

I can only give an outline of the system to follow in this paper, though that outline may be a sketch which many can fill up into a finished picture. The horse breeder, who will take the trouble to saunter through the streets of San Francisco, and especially through that portion of the town where heavy business is transacted, will see many teams of work horses. He will be struck with the difference in appearance in those he will regard as fine teams, i. e., fine in being so well calculated to haul the huge trucks and wagons to which they are attached. He will see that while some are of ponderous bulk, they are coarse in look and sluggish in movement. Another pair he fancies to be much smaller until he makes a more critical survey, when he discovers that the eye is not to be depended on for effecting true measurements at a glance, and the difference is more apparent than real. Those which at first seemed to lack a hand in height and 200 lbs. in weight, are deep in the chest, full in the quarters, roomy barrels, clean, flat legs, on which the tendons are as large as the bones, while there is a good deal of finish about the head, which is well set on the neck, and the eye is lustrous. With a little more quality they would be a magnificent pair of coach horses, and when they move off with the truck and its tons of load, the step is free and elastic. There is just the team for the farm,

do their allotted work, they will not risk replacing them although geldings are preferred. He may hear of one or two which the teamsters inform him have become incapacitated, but if this is the result of overwork or age they will not meet his wants.

There is not room enough in this article to consider how he shall best escape the dilemma he is in. A few suggestions, however, may be of service. Select the best mares for the purpose, he has or can obtain. Do not breed the inferior, so as to give his whole attention to the rearing of the better specimens. In the choice of a stallion, do not be guided by size alone, using the horse which comes nearest the type of the best teams which he has seen in San Francisco, and which has a good share of "blood" in his pedigree. Take the very best care of the mares and colts. While the mares are suckling, judicious work will be a great advantage to them, and the foals will do better than if the dams are allowed to roam at large. Remember that weaning time is a critical period, and that more horses are "stunted" from neglect than at any other time during the period of their growth. The foals, when the dams have been worked on the farm, have had plenty of grain, and when taken from their dams they must be fed liberally. Their food must be of the best kind, and changed so as to stimulate the appetite. Remember that they cannot eat too much if they have the opportunity for exercise, and the food and exercise together will build the muscular system, increase the bone, lighten the nerve force; in total, lay the foundation for excellence, and for every extra dollar expended, there will be a return with the addition of heavy interest.

When a year old, employ a surgeon for the

Opening the First California Silo.

(CONTINUED FROM PAGE 339.)

the fields in the summer, and making combric, lawns and laces in the winter. The manufacture of those fine tissues was carried on in damp cellars in the most miserable hovels. Women, old and young, spun the thread and men manufactured the cloth on looms. Working incessantly, these poor people could not afford to eat meat once a week, and a suit of clothes was generally worn by more than one generation. The cultivation of the beet and the manufacture of sugar opened a new era in the life of the people of that part of France. Labor being in great demand in the beet fields, commanded a higher price. After the harvest of the beet, which took place very late in the season, came the manufacture of sugar, its refining and the multifarious industries connected with it. Instead of working in damp cellars, men and women worked in the open fields, breathing the pure and invigorating air. The tops of beets and the refuse pulp from the factory, which could be had for nothing, allowed poor people to keep a cow or a few goats and sheep, and meat became cheaper. Thus far they were already greatly benefited, but this fodder did not last long. If not used immediately it spoiled, and was used then only as a fertilizer.

The problem which Mr. Goffart undertook to solve, was, how this pulp and beet tops could be preserved so as to be utilized in augmenting the quantity of meat, and also increase its value as a fertilizer. He at first attempted and did in some measure prevent the decomposition of that vegetable matter, by burying it in trenches which were afterwards covered with several ft. of earth. This answered well enough for beets and firm roots, but would not preserve soft roots or leaves. Besides, the frost and thaw, and rain spoiled the greater part of it. Added to this the cost of digging trenches, the loss of ground thus occupied, the difficulty in feeding, created inconveniences which had to be obviated. One fact Mr. Goffart had discovered, that green food could be kept sufficiently air-tight to be preserved for an indefinite period. Taking this as a fundamental principle, the rest became comparatively easy. Mr. Goffart built successfully a number of silos, improving on each one. His experiments were naturally restricted to one each year. He found the necessity of putting a pipe at the bottom of the silo, to afford an exit to the gas which accumulated during the settling of the ensilage. Repeated experiments also taught him which were the best grasses for ensilage and best mode of feeding it. You have here the result of his 30 year's experience; the whole process consists in cutting the grasses and the corn before they are matured and when the stalk contains the greatest amount of juice. This is carted to the silo as soon as it is cut; a machine divides it in length a quarter of an inch. The machine drops it into the silo as fast as it is cut. It is spread in layers of about a foot in thickness, and a little salt sprinkled between the layers. Some spread a little straw between each layer; others bran and a little shorts; others, like Messrs. Green and Ladd, merely sprinkle a little salt through it; others again put layers of different kinds of fodder. Experience as yet has not demonstrated which of these methods has proved the best; the result will, perhaps, vary according to circumstances and places. After each layer has been spread, the cut fodder should be trampled down as solidly as possible. To this effect different means have been devised, and each one must exercise his own ingenuity. When the silo is filled, boards fitting exactly inside of the walls should be placed on the top of the fodder; heavy weights should be equally distributed on the boards to exercise a strong pressure, which will reduce the bulk from one-third to one-half. In this instance stones have been used to produce a steady and continued pressure; other means more convenient may easily be adopted to obtain the same result. When this loading is performed and the roof which is to protect the silo is finished, there is nothing more to do. In one month or less, a species of fermentation has taken place, similar to that which the cabbage undergoes when made into sauer kraut. The ensilage can then be fed by being taken through the lower door, the weight above keeping the mass compact, and preventing the action of the air, which would produce mold. According to the best information I could gather on this subject, I have come to the conclusion that corn-stalk and sorghum cut in the proper time, make the most profitable ensilage in this country.

Jersey Belle of Scituate.

It may seem superfluous for me to write anything about "Jersey Belle of Scituate," when her merits have been so fully set forth by our able correspondent, Hark Comstock. But the truth is, I could not believe the story. I did not know Hark Comstock, and I did not know Mr. Ellms; in short, it seemed incredible and impossible, that any cow could bear out the facts, as stated. I therefore resolved to investigate this matter for myself. Arriving here late, I found that the milking of the cow had been deferred one hour past her usual time, that I might see her milked, which I did. Next morning, Oct. 31st, she was milked at her usual time, and yielded 14 lbs. of milk, which I expressed a desire to see churned separately. As my stay here was to be short, Mrs. Ellms could

think of no other way than scalding the milk to hasten the rising of the cream. I did not consider this doing the cow justice, but there seemed to be no alternative. We therefore strained the milk into two pans, scalded it at once, and then set away in the dairy. Next morning we skimmed the cream, which was of surprising thickness and yellow as gold; stirred it in a bowl, in the well-known Devonshire way, and in a few minutes butter had come. It was worked free of butter-milk, and a little salt sprinkled in, when it was set away for some hours. It was then reworked, till dry and firm, and made up into four pats, which Mrs. Ellms gave me, and which I now send you exactly as I got them, that you may judge for yourself, both as to color and weight. You will find one pound and a quarter of butter, which was made, strictly and solely, from that one milking of 14 lbs. On looking at the skim milk afterwards I found that Mrs. Ellms had not removed quite all the cream. She had no idea that I intended sending the butter to you, or making the test public, and her only objection to my doing so is that the butter is not nearly as good as her usual make, owing to scalding the milk. This, as before stated, she did on my account. However, there is the butter for you—please weigh it, and observe the color for yourself. I need hardly add that no coloring of any kind was used, or is ever used here.

Now as to the surrounding circumstances. The cow calved on the 6th of June last, and is supposed to be coming in again. During the day she is turned to pasture with the other cows; the grass is fair, but frosted. At night she is stabled, has a feed of rowen hay, and one quart of corn meal, wet. Next morning she gets another feed of hay, and is then turned out with the rest, and this is absolutely all the feed she gets. Her milk on that Sunday evening, weighed 10 lbs., her usual flow at that time of year. The facts that strike one most forcibly are:

1. The enormous butter yield of "Jersey Belle."
2. Its unrivaled and beautiful color, which, I am assured, does not vary all the year.
3. The very light feed used to produce such results.
4. Extraordinary beauty, docility and intelligence of the animal.

No doubt Mr. Ellms could largely increase the yield by feeding more meal, but this he will not do, as he intends to be on the safe side, if any. I used to wonder at the large offers he had refused for her, but, having seen and tried the cow, I do not wonder any more. She is simply not "for sale." But it may interest, and at the same time aggravate, some of her admirers to know that Mr. Ellms once offered her for \$30! She was then a calf of a few months old, and Mr. Ellms regretted having purchased her, as he had enough stock to winter. Failing to obtain the \$30, he was about to reduce the price, when one of his cows died, and he therefore resolved to keep the calf. He says the death of that cow was the best thing that ever happened to him. In conclusion, let me add that I have no interest in this matter, in any way whatever, but I am only too glad to add my testimony to that of one so reliable and so talented as Hark Comstock.

I can give no truer proof of my admiration for "Jersey Belle" than this: Mr. Ellms has her heifer calf, 5 months old, and a bull calf, 4 weeks old, which is her double grandson. I offered him \$1,200 cash for the pair, but he refused. He will not part with any more of the heifers at present, and the bull calf was spoken for, before it was born, at \$500.—E. M. Jones, in the Country Gentleman.

[The engraving of the famous cow whose dairy deeds are recorded above, was given in the RURAL PRESS of February 16, 1878. We are very glad to inform our readers that some of her progeny has already been secured for California. Henry Pierce, the owner of the Jersey cattle which won most of the premiums at the State fair for this year, owns the bull "King of Scituate," son of the cow "Jersey Belle of Scituate." The bull calf mentioned by Mrs. Jones in the last paragraph of her letter which we quote above is also promised to Mr. Pierce. Mrs. Jones is the owner of one of the best Jersey herds in America, and she therefore speaks by the card in her comments upon "Jersey Belle" and her achievements. Mr. Pierce is one of our foremost breeders. He has now three herds, one at Cohasset, Mass., another at Baldwin, Maine, and the third at Yerba Buena ranch, in Santa Clara county, Cal. Mr. Pierce is breeding Jerseys with a view to improving the dairy cattle of the whole State, and assures us that he will dispose of his young stock at reasonable rates.—EDS. PRESS.]

TO MAKE TEST PAPER.—The *Electro-Metallurgist* says that a useful test paper may be made by boiling one pound of leaves of the red cabbage in one pint of water for some time, and then straining the blue liquor through muslin. Evaporate to about half its bulk; place layers of white blotting paper in the liquid, and then hang them up to dry. Acids change the blue color of the paper to red, and alkalis turn it green. This is a very good substitute for litmus paper.

GOOD HEALTH.

The Bath-room.

[Written for the PRESS by Mrs. C. F. YOUNG.]

Sisters of the PRESS family who live in small houses: If the children are uneasy and fretful, if you sometimes are particularly nervous and easily disturbed, just try the soothing effects of a full hot bath early in the morning. An aged person, or an invalid, or infant will relish it best just before going to bed at night as a sedative, enabling them to sleep better. Followed by a cold dash over the head and a hand-width pouring along the length of the spine, it is one of the best known tonics, and should always be taken before breakfast in a warm room. But in California houses the made bath-room is seldom provided. How in a rented house we managed the arrangement of a cosy, comfortable bath-room and kitchen, we wish to tell, and ask you each and all to do likewise.

Our kitchen is a lean-to shed-room (16x12 ft.), 6 inches lower than the porch. Against the house we put two wide shelves—16 inches—one two inches higher than the table; the other five ft. higher, and across the whole width of the 16-ft. room. The top shelf we use for honey frames, boxes, choice bits of lumber, etc., that must be sheltered from sun and rain. Three ft. six inches of the lower shelf has four others above it for dishes. The next two and a half ft. has the flour box (a clean boot-box with corners tinned). The cover is the molding board. The next space (three and a half ft.) has two short shelves above it, making room for cleansed coal-oil cans, with plank covers—one can each for oatmeal, cracked wheat, cornmeal, split peas, beans, rice, tapioca, white and brown sugar. In front of these, about midway the room, is the table. The next eight ft. in width, by five ft. in depth, is piled clear up to the roof with fine split oak stove-wood, as also under the table. All these articles are within two, three and four steps of the stove, which stands at the right of the east door going in, occupying (a No. 7) three ft. of space, the door also three ft., the shelf one ft. and a half, leaving six ft. and a half beyond the stove clear space, by nine in depth for a bath-room. Into this, with our own hands, we set two panes of glass to admit light. We cut a hole at the bottom of the ceiling four by six inches, nailed three pieces of siding-boards into an open box; one end touched the spring drain on the outside; the other, with the end closed, extended into an empty orange box laid flat side down. Over this we placed a tub, made by sawing off eight inches of the length of a 40-gallon cask; in the bottom, with a two-inch anger, bored a hole; into that fitted a six-inch pine plug; through it bored a three-quarter inch hole; into that fitted a common cork; whittled off the sharp edges of the top of the tub; six and a half ft. from the tub placed a large box cut in half; in it placed, near the top, a shelf; at the end a narrow board, up to the roof; on it a small looking glass, a pin cushion and two hooks. The cupboard shelf is for towels, sponges and clean garments. The lower part holds a box, a stool and clothes bag; movable rugs are on the floor. The sides of the room are well papered with common newspapers. The children added some pressed leaves, so as to have something pretty to look at while taking a sweat to break up a cold, or to scald and thus kill the poison oak. A thick curtain passes from the stove side to the box, perfectly protecting the bathers and their attendant; a chair and stool and smaller tub for cold water. Hot water, at the pleasure of the bather, can be dipped from the boiler which stands on the hearth, or from a big pan in the oven. By pulling the cork the waste passes off without lifting. Rinse the tub and it is speedily ready for the next one. We do not believe in or like long bath tubs, because of the temptation to lie on one's back in warm or hot water.

The ganglionic nervous system is found along the length of the spine. Heat relaxes the organs to which the ganglia radiates its fibrils—hence debility and colds experienced by those who take this class of baths. Warm water also relaxes the skin. Very hot water is derivative and a stimulant. Hence, let a person having a headache and cold feet and hands get into my bath-tub, or their own, on their knees, with 15 inches depth of water, as hot as their flesh can possibly bear, bending over, rest the arms in the hot water to the elbows until both arms and feet are red. Then in this hot water freely wash the whole body, having the room warm; step out, and kneeling by the smaller tub, pour slowly across the forehead, top-head, temples and eyes a gallon of cold water; follow that by a dash along a hand-width of your spine; wipe dry, dress, sit right down to eat a good breakfast of any relishable good food, and have a clear head and warm feet all day. Follow this up twice a week, and avoid a thousand aches and pains and worries that are fast becoming the rule of the average American woman's life. Boys and girls very soon learn to love these comfortable baths, and volunteer to fill the boiler and lay the wood over night, ready for the touch of a match in the early morning.

The only cost of our bath-room was \$1 for the cask, a half day's extra work and two panes of glass.

During the past three weeks of cool weather persons have come two and a half miles to take a tub sweat to break up a cold, and to learn how to get up the simple arrangement at home—a corner of the kitchen, half of the stove, or one side of it, and the use of the hearth. The disposition and will to have it, and you will make the way without delaying breakfast, or being late to school or work. Try it!

DOMESTIC ECONOMY.

Cookies and Cakes.

[Written for the RURAL PRESS by Mrs. H. M. CONANT.]

Cookies.—5 eggs, 3 cups sugar, 1½ cups butter, 3 teaspoonfuls baking powder.
Citron Cake.—2½ cups sugar, 3 eggs, 1 cup sweet milk, a piece of butter the size of a hen's egg, 1 teaspoonful cream of tartar, 1 teaspoonful soda, little more than 2 cups of flour, citron cut in strips and dredged in flour.
Sponge Cake.—4 eggs whipped very light, 2 cups sugar, ¾ cup boiling water, 2 cups flour, 1 teaspoonful cream of tartar, ½ teaspoonful soda in the flour.
Santa Cruz.

HINTS IN COOKING.—Some articles that are very palatable when cooked fill the house with such offensive odors while being prepared that one inclines to dispense with their use rather than make the house so uncomfortable. But a little care will remedy this evil almost entirely. For instance, what can be more sickening than the smell of boiling cabbage or turnips? A lump of charcoal put into the boiling water with the cabbage will almost entirely remove the offense; and if a cook can be made to understand that the doors leading to the halls and dining-room from the kitchen must be kept closed, and those leading outdoors, together with the windows, must be open, no one will be annoyed by the fumes from boiling cabbage. In boiling "greens" the atmosphere all over the house is often tainted with the offensive smell until it seems like a low-class boarding-house. Take a lump of bread as large as a hen's egg, tie it up in a clean cloth and put it into the kettle with the greens and it will absorb all troublesome odor.—*Christian Union*.

TO MAKE VINEGAR.—Among the many recipes for making good vinegar we give the following: 1. Boil either corn, wheat, barley or rye, about one pint of the grain to a gallon of water, strain, and to the liquor thus obtained add syrup or sugar until pleasantly sweet. Let stand in a warm place, and you will soon have good vinegar. The stronger and sweeter the liquor the stronger will be the vinegar and the longer in making. 2. Pack in a jar the skins and cores of apples made in preparing pies and sauce, and cover with boiling water. When another lot is made, add them and more hot water till the jar is full. In warm weather set the jar in the sun, carefully covered with a cloth; in cool weather in a warm place in the house. The apples do not rot at all. In six or eight weeks the water is turned into excellent vinegar and of an amber color. No yeast, nor spirits, nor acids, nor sugar, nor molasses are needed—nothing whatever but the skins, and cores, and water.

APPLE JELLY.—Almost any apple will make jelly, though a hard, sour juicy apple makes the best, both for keeping and flavor. Peel and core your apples, boil them in a pint of water to every four lbs. of apples till the apples are perfectly soft, stirring them occasionally to prevent burning. Strain, without squeezing, through a jelly-bag, measure the juice and put a pound of loaf sugar to every pint of juice. Put juice and sugar into the preserving-kettle, and boil steadily for half an hour, skimming occasionally. Cool a little, and if it will not jelly, boil a little longer. Pour into glasses before it cools, and when perfectly cold, cover each glass with a paper wet with alcohol, tie closely, and keep in a cool, dry place. The apple remaining in the bag can be stewed with one lb. of sugar to two of apples. If flavoring is preferred, lemon peel, green ginger, or cinnamon can be used.

AIRING CLOSETS.—Every closet in daily use in which the night clothes are hung by day and the day clothing by night, should have an airing as well as the bed. If the closet can be large enough to admit of a window—and it is in some cases—an ample provision for sunlight and a circulation of pure air is provided in the window, which should be left open for a short time each day. In the case of small closets a ventilator could be put over the door or even in it. In many cases such precautions for pure clothing are not practical, and the next best thing is to see that the door of the closet is left open for a half hour or so each day at that time when the windows are thrown up and the large room is purified with fresh air from out of doors. In this way—first, by keeping out clothes intended for the wash, and second, daily changing the air—the closets may be comparatively pure.—*American Agriculturist*.

CELERY VINEGAR.—Cut up into bits a large bunch of fresh celery; scald a quart of good vinegar, to it add a tablespoonful of sugar and a teaspoonful of salt. Pour over the celery. Keep in a large jar tightly corked. In two or three weeks strain into small bottles, and seal or cork tightly.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

HENRY PIERCE, 728 Montgomery Street, S. F. Jersey Cattle, bred from importation direct from Jersey Island, and winners of most of the prizes at Oakland, Stockton and the State Fairs. "Victor of Verba Buena," of noted butter strains on the island, and known to be the best Bull ever imported to this coast, now stands at the head of this famous herd. "King of Scituate," son of the famous 705 pound butter Cow, Jersey Belle, of Scituate, which now stands at the head of Mr. Pierce's noted herd, at Scituate, Mass., will soon be brought here.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Setaphins Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Gablian Herd. The foundation of the Gablian Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Loutan and Hope families; also representatives of the pure Bates, Oxford, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns, Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland Cal.

R. J. MERKELEY, Sacramento, Cal. Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 418 California St., S. F.

POULTRY.

ALBERT BURBANK, 43 California Market, S. F. Importer and Breeder of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

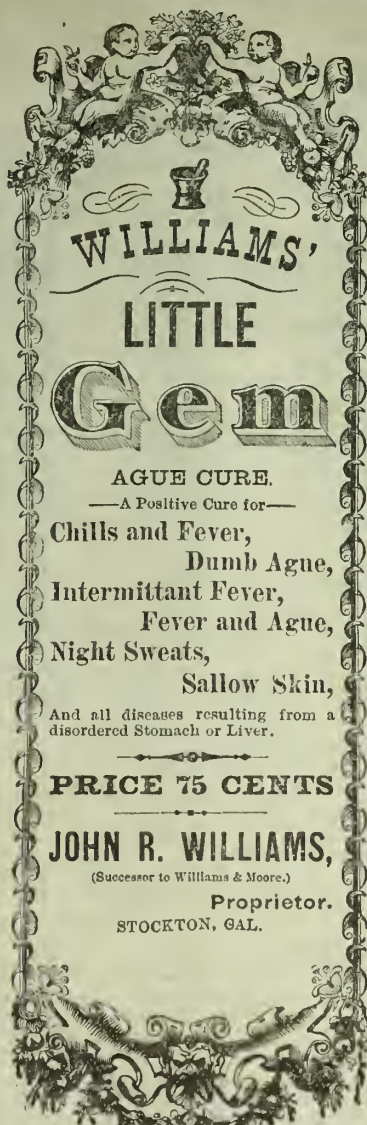
ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittant Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a
disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

BEFORE BUYING OR RENTING AN ORGAN

Send for our LATEST ILLUSTRATED CATALOGUE (32 pp. 4to), with NEWEST STYLES, at \$51 and upward; or \$6.38 per quarter, and up. Sent free. **MASON & HAMLIN ORGAN CO.**, 154 Tremont St., BOSTON; 46 E. 14th St., NEW YORK; 149 Wabash Av., CHICAGO.

Mason and Hamlin Organs.
Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - SAN FRANCISCO

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, **DEWEY & CO.**

Office MINING AND SCIENTIFIC PRESS and PACIFIC RURAL PRESS, 202 Sansome Street, S. —1880.

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE
CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

AGENTS WANTED Everywhere, to sell the **Best Family Knitting Machine** ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.**, 409 Washington St., Boston, Mass.

Adams' Patent Pillow Sham Holder

Prices reduced. Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. **G. W. WATKINER**, 408 Tenth St., Oakland, Cal., Gen. Ag't for Pacific Coast.

SADDLES, HARNESS, WHIPS, LEATHER,
W. DAVIS,
410 Market St., S. F.
Manufacturer and Dealer
in All Goods in this line.
Send for Catalogue

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.
BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00.
Pamphlet on Cure of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents.
Please send stamp for Price List to

M. EYRE, Napa Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. NAYLOR,** 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

GRANGERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING.....Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
L. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.
GOLD and SILVER deposits received.
CERTIFICATES of DEPOSIT issued for Gold and Silver.
TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.
EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTPELLIER,
Cashier and Manager

San Francisco, Oct. 15th, 1879.

MONEY TO LOAN!

\$500,000

To loan, in one sum or in amounts to suit on Wheat Lands, Wheat in Warehouses, and other good collaterals at current rates of interest.

Savings Bank Books.

The highest price paid for balances in The Savings and Loan (Clay St.), Odd Fellows', Masonic, French, Farmers and Mechanics', by

JOHN T. LITTLE,

302 Montgomery St., rooms 1 and 2, San Francisco.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, unexpired:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Raudall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Layres Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2 Address **DEWEY & CO.** Publishers, 202 Sansome St., S. F.

AND NOT WEAR OUT.
SOLD by Watchmakers. By mail, 30 cts. Circulars FREE. **J. S. BIRCH & CO.**, 38 Dey St., N.Y.

50 New Style Cards. Lithographed in bright colors, 10c. 60 Ag'ts. Samuels 10c. Conn. Card Co. Northford, Ct.

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruits, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,
Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.

THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1 1/2 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser.

N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,
Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,
Soquel, Cal.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch.

J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,
Santa Cruz, Cal

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

Nothing short of Unmistakable Benefits

Conferred upon tens of thousands of sufferers could originate and maintain the reputation which AYER'S SARSAPARILLA enjoys. It is a compound of the best vegetable alteratives, with the Iodides of Potassium and Iron, and is the most effectual of all remedies for scrofulous, mercurial or blood disorders. Uniformly successful and certain in its remedial effects, it produces rapid and complete cures of Scrofula, Sores, Boils, Eruptions, Pimples, Eruptions, Skin Diseases and all disorders arising from impurity of the blood. By its invigorating effects it always relieves and often cures Liver Complaints, Female Weakness and Irregularities, and is a potent renewer of vitality. For purifying the blood it has no equal. It tones up the system, restores and preserves the health, and imparts vigor and energy. For forty years it has been in extensive use, and is to-day the most available medicine for the suffering sick anywhere.

FOR SALE BY ALL DEALERS.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

IMPORTANT additions are being continually made in Woodward's Gardens. The grotto walled with aquaria is constantly receiving accessions of new fish and other marine life. The number of sealions is increased and there is a better chance to study their actions. The pavilion has new varieties of performances. The floral department is replete and the wild animals in good vigor. A day at Woodward's Gardens is a day well spent.

Attend to This.

Our subscribers will find the date they have paid to printed on the label of their paper. If it is not correct (or if the paper should ever come beyond the time desired), be sure to notify the publishers by letter or postal card. If we are not notified within a reasonable time we cannot be responsible for the errors or omission of agents.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

11. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CATES, Prop.

S. F. MARKET REPORT.

NOTE—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.**DOMESTIC PRODUCE, ETC.**

SAN FRANCISCO, Tuesday, Nov. 23, 1880.

There has been much interest in the grain trade and continued activity in both Barley and Wheat. Prices have advanced considerably and shipments have been large. The foreign markets continue to advance, and holders are very firm. A dispatch from Liverpool yesterday said:

Good to choice California, 10s 2d to 10s 6d. Market excited; cargoes irregular, and quotations suspended.

The Foreign Review.

LONDON, Nov. 22.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: Storms, frosts and unsettled weather over the whole United Kingdom have somewhat seriously delayed Wheat sowing. In Essex, Sussex and some other backward districts, threshing continues to show that the Wheat crop is very deficient. Of Barley there is a bulky yield, but in a very damaged condition. Oats are generally in good condition. In consequence of the ill-conditioned samples, inquiry for sound, marketable grain has been stronger, and damp and inferior samples sold heavily at nominal rates. Prices in the provincial markets hardened, in many instances to the extent of 1s. Sellers were unable to obtain any advance for foreign Wheat on spot, but cargoes off coast and other positions improve day by day, closing strongly in favor of sellers, in consequence of the smallness of the quantity on passage and little prospect of an excessive supply. The increasing English supply of Flour with the moderate foreign supply suffices for the consumptive demand, which continues steady. The best makes were firmly held and therefore business was checked. Maize afloat was rather firmer at the close, but spot was unchanged. Round Corn in all positions is rather in favor of buyers, in some instances receding 6d. English Barley is unchanged. A considerable increase in London averages plainly shows that the best samples alone are saleable. On the whole, the trade is sluggish, and supplies are increasing. The same may be said of foreign. Oats are firmly held at steady but unchanged prices. The foreign supply is liberal, but Russian improved 3d and Swedish 6d. Sales of English Wheat during the week were 40,952 quarters at 4s 1d per quarter, against 40,005 quarters at 4s 10d per quarter for the corresponding week last year. Imports into the United Kingdom ending November 13th were 1,295,615 cwt of Wheat, and 293,911 cwt of Flour.

Freights and Charters.

Quite a number of Wheat ships are now arriving. The latest charters are: British iron ship *Hannibal*, 1,204 tons, Wheat to Cork, £3 6s 6d, prior to arrival; French bark *Cochino*, 725 tons, Wheat to Cork, £3 14s, prior to arrival; British iron ship *Thirlmere*, 1,711 tons, Wheat to Cork, £3, prior to arrival; French bark *Prudent*, 591 tons, Wheat to Cork, private; British iron ship *Oakhurst*, 1,835 tons, Wheat to Cork, private, prior to arrival; British ship *Howard D. Troop*, 1,544 tons, Wheat to Cork, £2 15s, prior to arrival; and German bark *Anna*, 876 tons, Wheat to Cork, £3, prior to arrival.

Eastern Grain and Provision Markets.

NEW YORK, Nov. 22.—The sudden cold snap has caused more quietness in some departments of trade. Wheat opened excited and 3c higher, on news of ice in the canals, by which 2,500,000 to 3,000,000 bushels of Wheat

are liable to be frozen in for the winter. This puts the market fully 5c above the European markets, and has stopped exports. Barley is stronger, but in light request at an advance. No. 1 Canada is held at \$1.25; No. 1 bright is held at \$1.30. Pork neglected.

CHICAGO, Nov. 20.—There has been an active, strong market in Grain during the past week, with an almost continual advance that recalls the days of the Keene corner last year. Prices are now higher than they have been since the decline fairly set in, after that corner had resulted so disastrously to Mr. Keene, and this ring were merely trying to save themselves from loss by bolstering up prices. Nobody seems willing to take the responsibility of the present rise. The Corn market closely followed Wheat, and in some cases even led it in the advance. Oats were moderately strong and steadily higher. Provisions have advanced slightly and are firmly held. The tremendous receipts of Cattle and Hogs, the largest this week ever known in this or any other market, have had no effect on prices, which have stiffened rather than weakened, a phenomena which an equally tremendous demand alone explains. The prospect for the farmer never was so bright as to-day, and knowing this, the honest yeoman spends his money in a lavish way, quite unlike him, but exceedingly encouraging to those who benefit by it and prosper because of it. Sales during the week for the December option were made as follows: Wheat, \$1.05 1/2 @ 1.09; Corn, 42 1/2 @ 43 1/2; Oats, 31 1/2 @ 32 1/2; Pork, \$12 1/2 @ 12 3/4; Lard, \$8 1/2 @ 8 3/4. Closing December prices were: Wheat, \$1.05 1/2; Corn, 43 1/2 @ 44 1/2; Oats, 32 1/2 @ 33 1/2; Pork, \$12 1/2 @ 12 3/4; Lard, \$8 1/2 @ 8 3/4. Closing cash prices were: Wheat, \$1.05 1/2 @ 1.09; Corn, 43 1/2 @ 44 1/2; Oats, 32 1/2 @ 33 1/2; Rye, 89 1/2; Barley, 95c; Pork, \$13 1/2 @ 13 3/4; Lard, \$8 3/4.

NEW YORK, Nov. 23.—The *Commercial Bulletin* says: The weather is playing into the hands of the bulls on the Stock Exchange, the Produce Exchange and the Cotton Exchange. The sudden freezing of the State canals, catching some 10,000,000 bushels of Grain of all kinds in the ice, caused Wheat to advance from \$1.24 1/2 to \$1.28 1/2. Dispatches from Buffalo say the ice is 3 inches thick, and boatmen accept closing as final for the season. Accounts from Syracuse, however, indicate a hope of the opening of the canal for some distance upwards, as an ice-boat has been sent to break up the ice. At the worst some 6,000,000 bushels will be virtually erased from the visible supply until May next.

Eastern Wool Markets.

NEW YORK, Nov. 21.—The position of buyers and sellers does not appear to undergo much change. Dealers and manufacturers are both represented in the market looking up spring supplies as their early wants may require, but showing more or less of previously noted caution, and not anticipating futures to any great extent. The consumer still finds the product of his mill selling at only a very close margin over the cost of the material, and indeed, in some cases with scarcely a margin at all, and hence it requires a nice calculation to adjust the purchases accordingly, while the buyer, who handles stock for resale, must be even more circumspect, lest he make an accumulation against which no demand can be secured at the prices of necessity asked. Holders, however, show much strength and confidence, and, in most cases, are gradually marking up the rates, owing to the stiff tone of domestic at primary points, where the cost generally keeps ahead of any profitable return to be obtained here. All the accounts from abroad are also stimulating, and there seems to be no danger of much competition from foreign Wools, unless prices here run very much higher. Most of the American orders sent out to Montevideo remain unfilled, owing to a sharp demand and higher bids from Antwerp buyers. Taken all together, the position has a strong look, so far as the determination of the holders is concerned, but the buyers respond too slowly to admit of any positive boom. The movement this week has shown some reduction in volume, but in a few cases higher prices are reported.

BAGS—There is a farther advance of 1c in Potato Gun- uies, which are scarce.

BARLEY—There is still a brisk demand and rates advanced over last week's quotations. To-day (Tuesday) there was rather less life, however, than yesterday. We note sales: 100 sks bright Coast Chevalier, \$1.15; 150 sks good do, \$1.10; 1,000 Coast Feed; 92c; 500 do do, 90c; 120 do do, 90c; 1,500 and 1,000 sks good Coast Brewing, \$1.05; 10,000 do choice Bay Feed, 80c do do and 5,000 do choice old Island do, \$1; 2,000 do choice Feed, 97c; 3,000 do good do, 96c, and 700 do poor dark Coast do, 90c.

BEANS—The only change is an advance of 25c per ctl for small White Beans, and 10c per ctl for large Butter Beans. A sale of 1,650 sks of small White on the wharf at \$1.50 per ctl, and 150 sks large Butter Beans sold at \$1.50 per ctl.

BUCKWHEAT—A sale of 23 sks has been made at \$1.50 per ctl. The grain shows a little more life.

CORN—Small Round Yellow has advanced to \$1.12 1/2 @ 1.15c, and large Yellow to \$1.10; 400 sks large Yellow sold at \$1.05 @ 1.10, the former price for a poor lot; 250 sks small Yellow at \$1.14; 350 do at \$1.12 1/2; 500 sks large White, \$1 per ctl.

DAIRY PRODUCE—There is a still farther advance in fancy fresh Butter, which now is 50c per lb and very firm. Cheese is unchanged.

EGGS—Choice California Eggs have reached 50 @ 52 1/2c. The Eastern Eggs now arriving have been slightly frozen.

FEED—Hay continues upward, and choice Wheat Hay has been sold on the wharf at \$17. The range for all sorts is now \$10 to \$17. Ground Feeds are advancing rapidly; Bran has reached \$18, and Middlings \$22 @ 23 1/2 ton.

FRUIT—The few Grapes left by the frost are selling high, say from \$1 to \$1.50 for any foreign Grapes of good condition. Mexican Limes are up again to \$20 per box. Apples are firm at the prices given.

HOPS—Hops are firmly held, some being above the rate quoted generally, which is 20c for the best.

OATS—But few are selling, and quotations are nominal.

ONIONS—Reds are unchanged, but there is still a rush on Silverskins, and some sales have reached \$3.50 1/2 cwt.

POTATOES—There is a little weakness now and values have shaded off a little, as shown in our list.

POULTRY—There is a little Thanksgiving demand, but supplies seem sufficient, and there is no advance in prices up to this time.

VEGETABLES—There is but little green in sight. A few String Beans bring high rates. Cauliflower and Cabbage are higher; the former having advanced considerably, as our figures show.

WHEAT—The market is very active, and much interest is manifested. Holders are firm. We note sales: 2,000 cts gilt-edged Milling at \$1.60; 1,514 cts choice Milling, \$1.55, deliverable at Oakland; 7,000 cts good Shipping, \$1.55; 2,000 do at the same rate; 7,000 cts No. 1, \$1.57 1/2 cwt, in warehouse with storage paid; 250 cts No. 1, \$1.55; 200 do do, \$1.55; 5,000 do No. 2, \$1.52 1/2; 700 do do, \$1.52 1/2; 227 do do, \$1.52 1/2; 2,000 do do, \$1.50; 800 do do, \$1.50; 800 do, in various lots, off grade, \$1.45 @ 1.47 1/2; 450 do do, \$1.45; 250 do do, \$1.45; 1,000 do do, \$1.41 1/2; 200 do do, \$1.32 1/2; 102 do Sonora, \$1.32 1/2; 126 do Odessa, \$1.25 1/2 cwt. Some few lots for superfine went at a range of \$1.12 1/2 to \$1.15 1/2 cwt.

WOOL—Sales are not very free, and prices not materially changed. The advance in freight rate still hampers trade, as buyers bid less in consequence. Sellers are not disposed to make the concession.

GENERAL MERCHANDISE.

(WHOLESALE.)

TUESDAY M., Nov. 23, 1880.

CANDLES.		OILS.	
Crystal Wax.....	17 @ 17 1/2	Pacific Gline Co's	
Eagle.....	12 @ 12	Neatsfoot, No. 1.....	1 00 @ 90
Patent Sperm.....	25 @ 30	Caster, No. 1.....	1 00 @ 90
CANNED GOODS.		do, No. 2.....	95 @ 90
Assorted Pic Fruit		Baker's A. A.....	5 @ 30
2 lb cans.....	2 25 @ 25	Olive, Plagiol.....	5 25 @ 6 75
Table do.....	3 50 @ 35	Possel.....	4 75 @ 5 25
Jams and Jellies.....	3 75 @ 35	Palm, B.....	9 @ 9
Pickles, hf gal.....	3 25 @ 35	Linsed, Raw, bbl.....	30 @ 30
Sardines, qr box.....	1 67 1/2 @ 1 90	Bolled.....	95 @ 95
Hf Boxes.....	2 50 @ 2 75	Cocanut.....	60 @ 60
Merry, Paul & Co's		China nut, cs.....	70 @ 70
Preserved Beef.....		Sperm.....	1 40 @ 140
2 lb doz.....	3 50 @ 3 62 1/2	Coast Whales.....	35 @ 45
do Beef, 4 lb doz.....	6 50 @ 6 50	Polar.....	45 @ 45
Preserved Mutton.....		Lard.....	80 @ 90
2 lb doz.....	3 25 @ 3 50	Olsephine.....	2 @ 2
Beef Tongue.....	6 00 @ 6 25	Devco's Bril't.....	16 @ 17 1/2
Preserved Ham.....		Parrotite.....	— @ —
2 lb doz.....	5 50 @ 5 50	Nonpareil.....	— @ —
Deviled Ham, 1 lb.....		Eureka.....	19 @ 20
do doz.....	3 00 @ 3 00	Barrel kerosene.....	20 @ 20
do Ham, 4 lb doz.....	3 00 @ 3 00	Downer Ker.....	30 @ 30
Boneless Pigs Feet.....		Elaine.....	2 1/2 @ 2 1/2
3 lb.....	2 75 @ 2 75	PAINTS.	
2 lb.....	2 75 @ 2 75	Pure White Lead.....	6 1/2 @ 10
Spiced Fillets.....		Whiting.....	14 @ 14
2 lb.....	3 50 @ 3 50	Putty.....	4 @ 5
Head Cheese.....		Chalk.....	14 @ 14
3 lb.....	3 50 @ 3 50	White.....	14 @ 14
COAL—Jobbing.		Ochr.....	3 @ 3
Australian, ton.....	— @ —	Venetian Red.....	3 1/2 @ 3 1/2
Good Bay.....	— @ —	Averill Mixed.....	— @ —
Bellingham Bay.....	— @ —	Paint, gal.....	— @ —
Seattle.....	— @ —	White & blue.....	2 00 @ 2 40
Cumberland.....	12 00 @ 13 00	Green, Blue &.....	3 00 @ 3 50
Mt Diablo.....	4 75 @ 5 75	Light Red.....	3 00 @ 3 50
Lehigh.....	11 50 @ 12 00	Metallic Roof.....	1 30 @ 1 60
Liverpool.....	6 00 @ 6 50	RICE.	
West Hartley.....	13 00 @ 15 50	China, Mixed, B.....	5 @ 5
Scotch.....	— @ 13 00	Hawaiian.....	7 @ 7 1/2
Scranton.....	— @ —	SALT.	
Vancouver Id.....	— @ —	Cal Bay, ton.....	14 00 @ 22 00
Wellington.....	13 00 @ 15 50	Common.....	6 50 @ 14 00
Charcoal, sack.....	75 @ 75	Carmen Id.....	3 00 @ 3 50
Coke, bush.....	50 @ 50	Liverpool fine.....	18 00 @ 18 00
COFFEE.		SOAP.	
Sandwich Id, B.....	— @ —	Castile, lb.....	8 @ 15
Costa Rica.....	15 @ 16	Common brands.....	4 1/2 @ 6
Guatemala.....	15 @ 16	Fancy brands.....	7 @ 8
Java.....	24 @ 25	SPICES.	
Manilla.....	15 @ 15	Cloves, lb.....	47 1/2 @ 50
Ground, in cs.....	25 @ 25	Cassia.....	19 @ 19
FISH.		Nutmegs.....	97 1/2 @ 110
Sac to Dry Cod.....	— @ 45	Pepper Grain.....	14 @ 15
do in cases.....	— @ 5	Pimento.....	19 @ 20
Eastern Cod.....	7 1/2 @ 7 1/2	Mustard, Cal.....	— @ 25
Salmon, bbls.....	7 00 @ 7 50	lb glass.....	— @ 25
Hf bbls.....	3 50 @ 4 00	SUGAR, ETC.	
1 lb cans.....	1 30 @ 1 30	Cal Cube, lb.....	— @ 12 1/2
Pkld Cod, bbls.....	— @ —	Powdered.....	— @ 12 1/2
Hf bbls.....	— @ —	Common brands.....	— @ 12 1/2
Mackerel, No. 1.....	9 50 @ 10 00	Fine crushed.....	— @ 12 1/2
In Kits.....	1 65 @ 1 75	Granulated.....	— @ 12 1/2
Ex Mesa.....	3 50 @ 4 00	Golden C.....	— @ 10 1/2
Pkld Herring, bx.....	3 00 @ 3 50	Cal Syrup, kgs.....	70 @ 70
Boston Smld Hg.....	65 @ 70	Hawaiian Molasses.....	25 @ 30
LIME, ETC.		TEA.	
Plaster, Golden.....	3 00 @ 3 25	Young Hyson.....	40 @ 65
Gate Mills.....	3 00 @ 3 25	Moynie, etc.....	40 @ 65
Land Plaster, tn 100.....	10 @ 12 50	Country pkd Gun- powder & Im- perial.....	35 @ 75
Lime, Sta Cruz.....	1 25 @ 1 50	Hyson.....	30 @ 35 1/2
bbl.....	2 00 @ 2 25	Foco-Chow O.....	27 1/2 @ 32
Cement, Rosen- dale.....	4 00 @ 4 50	Japan, 1st quality.....	42 @ 42
Portland.....	4 00 @ 4 50	2d quality.....	25 @ 40
NAILS.		VEGETABLES.	
Ass'd sizes, keg.....	— @ 5 00	(WHOLESALE.)	

FRUITS AND VEGETABLES.

(WHOLESALE.)

TUESDAY M., Nov. 23, 1880.

FRUIT MARKET.		PEACHES.	
Apples, box.....	50 @ 1 25	do pared.....	18 @ 19
Bananas, bunch.....	2 00 @ 4 00	Pears, sliced.....	9 @ 10
Blackberries, chst.....	3 00 @ 11 00	do, peeled.....	9 @ 11
Citrons, Cal, 100.....	7 00 @ 8 00	Plums.....	5 @ 6
Cocacuta, 100.....	7 00 @ 8 00	do, sliced.....	14 @ 16
Cranberries, bbl 115.....	50 @ 13 00	Prunes.....	15 @ 17 1/2
Figs, black, bx.....	50 @ 1 00	Raisins, Cal, bx.....	2 25 @ 2 37 1/2
Grapes, common.....	25 @ 30	do, Malves.....	2 50 @ 2 62 1/2
Blk Morocco.....	— @ 1 25	do, Quarters.....	2 75 @ 3 00
Cornichon.....	1 50 @ 1 75	Eighths.....	3 00 @ 3 12 1/2
Muscad.....	— @ 85	Zante Currants.....	8 @ 10
Rose Hips, bx.....	40 @ 50	VEGETABLES.	
Blk Hamburg.....	40 @ 50	Asparagus, bx.....	— @ —
Tokay.....	1 00 @ 1 50	Beets, ctl.....	— @ 1 00
Limes, Mex.....	— @ 20 00	Beans, String.....	7 @ 10
do, Cal, box.....	1 75 @ 2 25	do, Lima.....	— @ 3
do, large, box.....	5 00 @ 7 00	Cabbage, 100 lbs.....	— @ 60
Lemons, Cal, bx.....	3 00 @ 3 50	Cantaloupes, crt.....	— @ 1 50
Stelly, box.....	9 00 @ 10 00	Carrots.....	30 @ 50
Australian.....	5 00 @ 6 00	Cauliflower, doz.....	1 25 @ 1 50
Oranges, Cal M.....	20 @ 25 00	Chile Peppers, sk.....	— @ 50
do, Tahiti.....	35 00 @ 40 00	do, Bell.....	— @ 50
do, Mexican.....	— @ —	Cucumbers, box.....	60 @ 75
Pears, box.....	75 @ 2 50	Egg Plants, bx.....	— @ 75
Pineapples, doz.....	8 00 @ 9 00	Garlic, New, lb.....	— @ 3
Plums.....	50 @ 1 25	Green Corn, bx.....	50 @ 1 00
Prunes, German.....	75 @ 1 00	Green Peas, B.....	2 1/2 @ 3
Quinces, bx.....	75 @ 1 00	Lettuce, doz.....	10 @ 10
Raspberries, ch 12.....	10 @ 14 00	Mushrooms, lb.....	— @ —
Strawberries, ch.....	— @ 10 00	Paranips, lb.....	— @ 1
Sugar Cane, bbl.....	— @ 2 50	Horseradish.....	— @ 10
DRIED FRUIT.		Shallots, bx.....	— @ —
Apples, sliced, B.....	7 @ 8	Squash, Marrow.....	— @ —
do, quartered.....	6 @ 7	fat, tin.....	— @ 15 00
Apricots.....	20 @ 22	Summer box.....	75 @ 1 00
Blackberries.....	— @ 15	Tomato, box.....	50 @ 85
Citron.....	28 @ 30	Turnips, ctl.....	— @ 50
Dates.....	9 @ 10	White.....	75 @ 1 00
Figs, pressed.....	7 @ 8	Watermelons.....	— @ —
do, loose.....	4 @ 6	100.....	— @ —

Commission Merchants.**DALTON & GRAY,****Commission Merchants**

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,**Wholesale Commission Merchants,**

GRAIN, POTATOES, FRUIT, BUTTER, EG

PIONEER WHITE LEAD.

Home Manufacture

Superior in COLOR, BODY, FINENESS and DURABILITY to any Imported Brands.

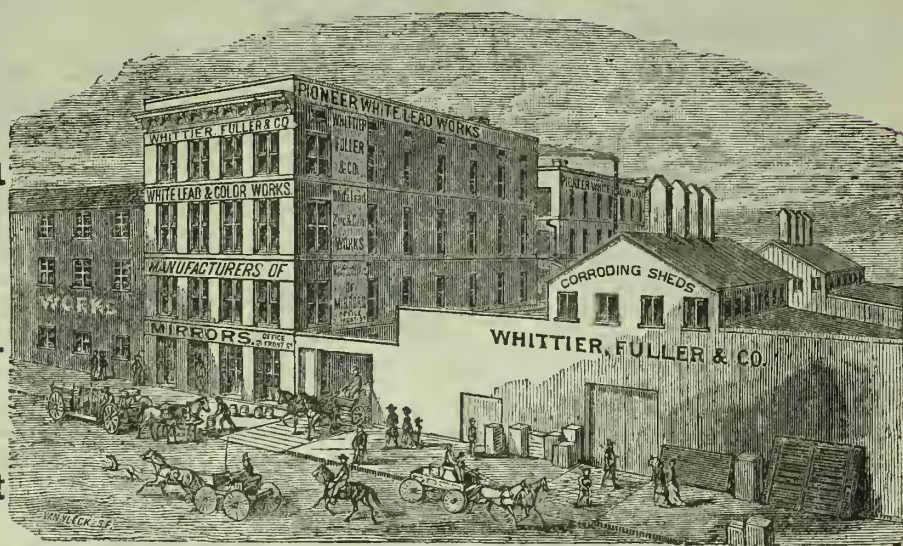
FRESH AND EASILY WORKED—NO SKINS OR OLD DRIED LEAD.

PURITY GUARANTEED.

Patronize Home Industry, Secure the Best Quality at the Lowest Price.

WORKS—239 & 231 FREMONT STREET, and 228 to 238 BEALE STREET, San Francisco.

WHITTIER, FULLER & CO., Manufacturers.



PACIFIC RUBBER PAINT.

Applicable to all Kinds of Work.

Prepared in any Shade or Color.

Best Mixed Paint in the World.

WE EXCEPT NONE.

READY FOR USE—JUST THE THING FOR FARMERS.

BEWARE OF COUNTERFEITS.

See that Our Trade Mark is on Each Package. Take no Other.

Send for Sample Card and Circulars.

Works—228 & 230 Beale st. Office S. W. cor. Pine & Front Sts.

WHITTIER, FULLER & CO., Manufacturers.



COAL OILS. COAL OILS. COAL OILS.

“Star,” 150 Degrees Fire Test.

THE HIGHEST GRADE OF COAL OIL IN THE MARKET. PERFECTLY SAFE AND MANUFACTURED EXPRESSLY FOR FAMILY USE.

“I X L” 150 Degrees Fire Test.—THE NEXT BEST BRAND.

ASK YOUR STORE KEEPER FOR THEM,

And Secure the Best and Safest Light.

WHITTIER, FULLER & CO., - - - - - SOLE IMPORTERS.

SAN FRANCISCO, SACRAMENTO and OAKLAND.

IRRIGATED LAND TRIUMPHANT!

From all parts of the State where wheat has been irrigated, reports come that bountiful crops of plump grain have been secured by irrigation, in spite of the north winds, which have reduced the crop of wheat on lands not irrigated, and in the same localities, from one-quarter to only a crop of hay.

WITH IRRIGATION A LARGE CROP OF PLUMP WHEAT AND A MORE VALUABLE ONE OF EGYPTIAN CORN CAN BE GROWN IN ONE SEASON. NO FAILURE OF CROPS.

The Best Vineyard Land in California.

FLOODING THE ONLY REMEDY AND SURE DEATH TO THE PHYLLOXERA!

A few choice farms of rich bottom land of 320, 160, 80, 40 and 20 acres each, all irrigated, in the

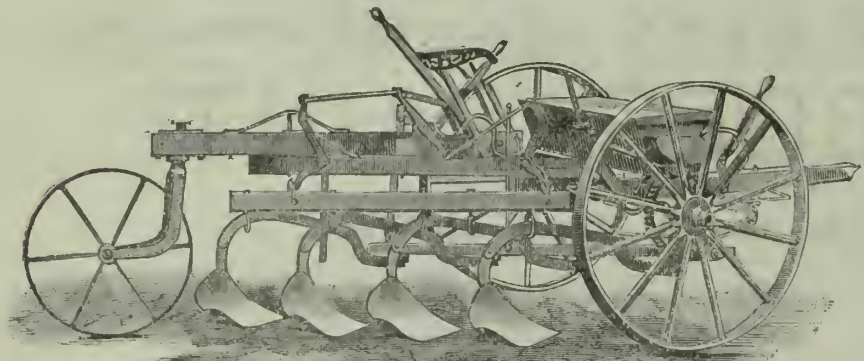
EASTERBY RANCHO, FRESNO COUNTY,

For sale at \$40 to \$50 per acre, including water rights, payable in 1, 2, 3 and 4 years. Interest, 9 per cent. per annum. This is without doubt the richest land in Fresno county. It has produced 50 bushels wheat per acre; two crops of grain a year; five crops of alfalfa in one season, and will produce 10 TONS OF GRAPES PER ACRE, as at the Eisen Vineyard adjoining. DON'T FAIL TO EXAMINE IT.

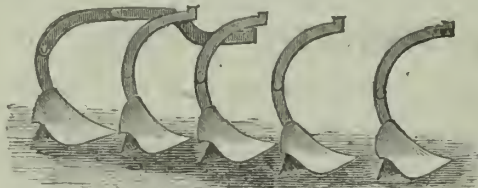
Send for Maps and Circulars (Free) to office of **M. THEO. KEARNEY, Manager** 12 Montgomery St. (up stairs), S. F.

SHERRILL GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows.



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

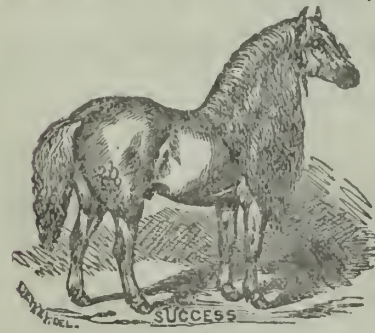
The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco,

126 PERCHERON-NORMAN HORSES IMPORTED IN 12 MONTHS,



M. W. DUNHAM,

Wayne, DuPage County, Illinois,
25 MORE ARE ON THE WAY,
Being MORE than the TOTAL IMPORTATIONS OF ANY OTHER MAN or FIRM during their entire business career. 100 page Catalogue. 41 Illustrations, free on application.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

THE DINGEE & CONARD CO'S BEAUTIFUL EVER-BLOOMING ROSES

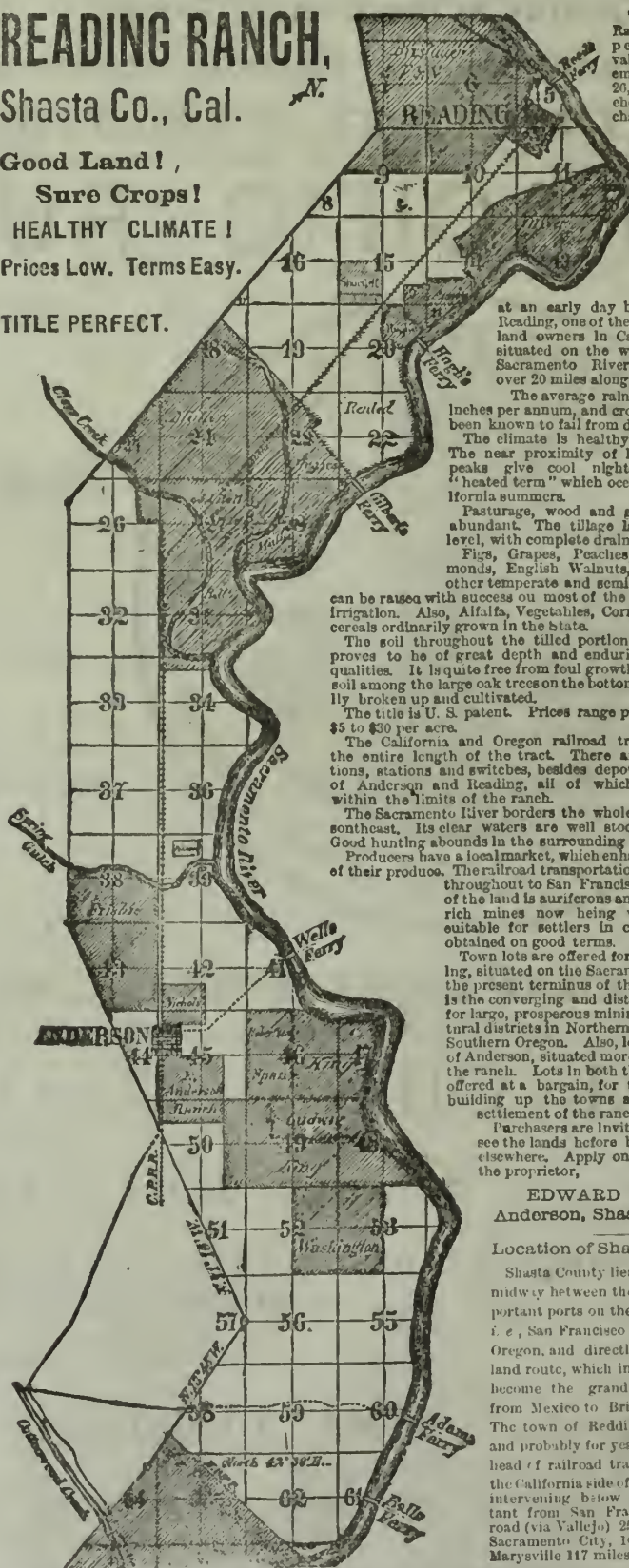
We deliver STRONG POT ROSES for Winter Bloom and Fall Planting, safely by mail, at all post-offices. Five Splendid Varieties, your choice, all labeled, for \$1; 12 for \$2; 19 for \$3; 26 for \$4; 35 for \$5; 55 for \$10; 100 for \$13. Send for our New Guide to Rose Culture, and choose from over 500 Finest Sorts. Our Great Specialty is growing and distributing Roses. THE DINGEE & CONARD CO., Rose-Growers, WEST GROVE, CHESTER CO., PA.

No Drouths! Sure Crops!

READING RANCH, Shasta Co., Cal.

Good Land! Sure Crops! HEALTHY CLIMATE! Prices Low. Terms Easy.

TITLE PERFECT.



The Reading Ranch, in the Upper Sacramento valley, originally embracing over 20,000 acres of choice grain, orchard and pasture land, is now offered for sale at low prices and on favorable terms of payment, in subdivisions to suit purchasers.

The ranch was selected at an early day by Major P. B. Reading, one of the largest pioneer land owners in California. It is situated on the west side of the Sacramento River and extends over 20 miles along its bank.

The average rainfall is about 30 inches per annum, and crops have never been known to fail from drouth.

The climate is healthy and desirable. The near proximity of high mountain peaks give cool nights during the "heated term" which occurs in our California summers.

Pasturage, wood and good water are abundant. The tillage land is mostly level, with complete drainage.

Figs, Grapes, Peaches, Prunes, Almonds, English Walnuts, Oranges and other temperate and semi-tropical fruits can be raised with success on most of the tract without irrigation. Also, Alfalfa, Vegetables, Corn and all other cereals ordinarily grown in the State.

The soil throughout the tilled portions of the ranch proves to be of great depth and enduring in its good qualities. It is quite free from foul growths. The virgin soil among the large oak trees on the bottom land is easily broken up and cultivated.

The title is U. S. patent. Prices range principally from \$5 to \$30 per acre.

The California and Oregon railroad traverses nearly the entire length of the tract. There are several stations, and switches, besides depots at the towns of Anderson and Reading, all of which are located within the limits of the ranch.

The Sacramento River borders the whole tract on the southeast. Its clear waters are well stocked with fish. Good hunting abounds in the surrounding country.

Producers have a local market, which enhances the value of their produce. The railroad transportation route is level throughout to San Francisco. A portion of the land is auriferous and located near rich mines now being worked. Land suitable for settlers in colonies can be obtained on good terms.

Town lots are offered for sale in Reading, situated on the Sacramento river, at the present terminus of the railroad. It is the converging and distributing point for large, prosperous mining and agricultural districts in Northern California and Southern Oregon. Also, lots in the town of Anderson, situated more centrally on the ranch. Lots in both these towns are offered at a bargain, for the purpose of building up the towns and facilitating settlement of the ranch.

Purchasers are invited to come and see the lands before buying here or elsewhere. Apply on the ranch, to the proprietor,

EDWARD FRISBIE, Anderson, Shasta Co., Cal.

Location of Shasta County.

Shasta County lies not far from midway between the two most important ports on the Pacific shore, i. e., San Francisco and Portland Oregon, and directly on the overland route, which in the future will become the grand thoroughfare from Mexico to British Columbia. The town of Redding, at present, and probably for years to come, the head of railroad transportation on the California side of the mountains intervening below Oregon, is distant from San Francisco by railroad (via Vallejo) 255 miles; from Sacramento City, 190 miles; from Marysville 117 miles.

LAND FOR SALE OR RENT IN SUB-DIVISIONS.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts. Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO

50 Elegant, All New, Chromo & Scroll Cards, no 2 alike Name nicely printed, 10c. Card Mills, Northford, Ct.

50 Landscape, Chromo Cards, name on, 10c. 20 Gift Edged Cards, 10c. Clinton & Co., North Haven, Ct.

DEWEY & CO., American & Foreign Patent Agents.

OFFICE, 202 SANSOME ST., N. E. COR. PINE, S. F.

PATENTS obtained promptly; Caveats filed expeditiously; Patent Reissues taken out Assignments made and recorded in legal form; Copies of Patents and Assignments procured; Examinations of Patents made here and at Washington; Examinations made of Assignments recorded in Washington; Examinations ordered and reported by Telegraph; Rejected cases taken up and Patents obtained; Interferences Prosecuted; Opinions rendered regarding the validity of Patents and Assignments; Every legitimate branch of Patent Agency Business promptly and thoroughly conducted.

Our intimate knowledge of the various inventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons; and our success and business are constantly increasing.

The shrewdest and most experienced Inventors are found among our most steadfast friends and patrons, who fully appreciate our advantages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals—thereby facilitating their introduction, sale and popularity.

Foreign Patents.

In addition to American Patents, we secure, with the assistance of co-operative agents, claims in all foreign countries which grant Patents, including Great Britain, France, Belgium, Prussia, Austria, Baden, Peru, Russia, Spain, British India, Saxony, British Columbia, Canada, Norway, Sweden, Mexico, Victoria, Brazil, Bavaria, Holland, Denmark, Italy, Portugal, Cuba, Roman States, Wurtemberg, New Zealand, New South Wales, Queensland, Tasmania, Brazil, New Granada, Chile, Argentine Republic, AND EVERY COUNTRY IN THE WORLD where Patents are obtainable.

No models are required in European countries, but the drawings and specifications should be prepared with thoroughness, by able persons who are familiar with the requirements and changes of foreign patent laws—agents who are reliable and permanently established.

Our schedule price for obtaining foreign patents, in all cases, will always be as low, and in some instances lower, than those of any other responsible agency.

We can and do get foreign patents for inventors in the Pacific States from two to six months (according to the location of the country) SOONER than any other agents.

The principal portion of the patent business of this coast has been done, and is still being done, through our agency. We are familiar with, and have full records, of all former cases, and can more correctly judge of the value and patentability of inventions discovered here than any other agents.

Situated so remote from the seat of government, delays are even more dangerous to the inventors of the Pacific Coast than to applicants in the Eastern States. Valuable patents may be lost by extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor.

Confidential.

We take great pains to preserve secrecy in all confidential matters, and applicants for patents can rest assured that their communications and business transactions will be held strictly confidential by us. Circulars free.

Home Counsel.

Our long experience in obtaining patents for Inventors on this Coast has familiarized us with the character of most of the inventions already patented; hence we are frequently able to save our patrons the cost of a fruitless application by pointing to them the same thing already covered by a patent. We are always free to advise applicants of any knowledge we have of previous applicants which will interfere with their obtaining a patent.

We invite the acquaintance of all parties connected with inventions and patent right business, believing that the mutual conference of legitimate business and professional men is mutual gain. Parties in doubt in regard to their rights as assignees of patents or purchasers of patented articles, can often receive advice of importance to them from a short call at our office.

Remittances of money, made by individual inventors to the Government, sometimes miscarry, and it has repeatedly happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency.

Engravings.

We have superior artists in our employ, and all facilities for producing fine and satisfactory illustrations of inventions and machinery, for newspaper, book, circular and other printed illustrations, and are always ready to assist patrons in bringing their valuable discoveries into practical and profitable use.

DEWEY & CO.

United States and Foreign Patent Agents, publishers Mining and Scientific Press and the Pacific Rural Press, 202 Sansome St. N. E. corner Pine, S. F.

H. H. H. Horse Medicine.

Stockton, February 4, 1880, H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired.

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

HOPE FOR THE DEAF.

Garmore's Artificial Ear Drums

RESTORE THE HEARING and perform the work of the Natural Drum. Remain in position without aid, and are not observable. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address

CARMORE & CO.,
8. W. Corner 5th & Race Sts., Cincinnati, O.

MENZO SPRING.



Manufacturer of the Best

Improved Artificial Limbs.

OFFICE AND ADDRESS:

9 Geary Street, Junction of
Market and Kearny, S. F.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERRICKSON,
Clayton, Contra Costa County, Cal.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to

FALKNER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular

ISAAC B. MILLINGTON & CO., Chester, Pa.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct.

Agricultural Articles.

The Famous "Enterprise,"

PERKINS' PATENT
Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crank shaft with double bearings for the crank to work in, all turned an run in babbitted boxes.

Positively self regulating with no coiled spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S



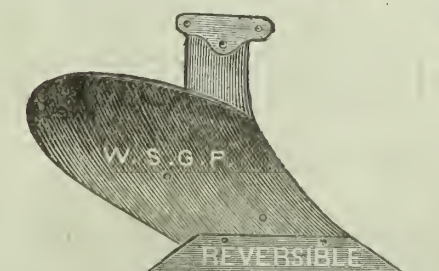
Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to

MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.

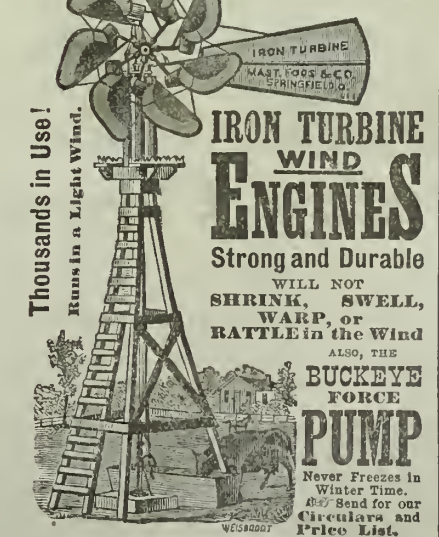


With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by

THOS. POWELL, Stockton, Cal.

MAST, FOOS & CO. SPRINGFIELD, O.

MANUFACTURERS OF THE



IRON TURBINE WIND ENGINES

Strong and Durable

WILL NOT
SHRINK, SWELL,
WARP, or
RATTLE in the Wind

ALSO, THE

BUCKEYE FORCE PUMP

Never Freezes in Winter Time. Send for our Circulars and Price List.

FIRST PREMIUM and DIPLOMA at State Fair, 1880 To D. E. GOLDSMITH,

General Agent for the Pacific Coast.

425 Sansome Street. - SAN FRANCISCO.

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Gasta County, Cal.

50 All Gold, Chromo and Lithograph Cards, (No 2 a like,) Name on, 10c. Clinton Bros., Clintonville, Con.

THE GREAT INSTRUCTION BOOK!

Richardson's New Method

FOR THE PIANOFORTE.

By Nathan Richardson.....Price \$3.25.

It is generally conceded that this is the most perfect, as well as the most successful Pianoforte instruction book ever published, having been many times revised, it may be considered as entirely free from errors. Having been repeatedly enlarged, it is remarkably full and complete. Many thousands of Teachers have used the book for years, and still continue to use it, as the best. Sales are constant and very large.

RICHARDSON'S

New Method for the Pianoforte

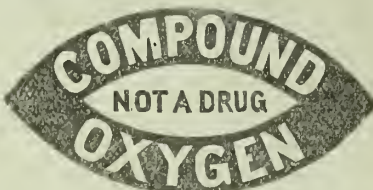
Is the title, order it by the whole title, and accept no other book, since this is the original and true "Richardson."

Sold by all the principal music dealers and Booksellers of the United States and Canada.

MAILED, POST-FREE, FOR \$3.25.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

People May Hear With DEAF AUDIPHONES OR WITH EARPHONES.

Trial before purchase. Don't waste your money otherwise. Send for free pamphlets. (Address H. E. Mathews, as above.)

SPORTSMEN'S HEADQUARTERS.



ESTABLISHED
IN 1867.

J. P. CLABROUGH & BRO.,

No 630 Montgomery Street, S. F., and 15 St. Mary's Row & Square, Birmingham, Eng.

Manufacturers of the well-known CLABROUGH GUN, which for close and hard shooting, durability and price can not be excelled, if equalled, on the Pacific Coast. Also, importers of Gun material, breech loading implements, Ammunition, Fencing Folds, Boxing Gloves, Shooting Coats, Pants, Vest, Shoes, Etc. We make Fishing Tackle a Specialty. Everything suited to the wants of Fishermen. Repairing fine guns and Choke Boring done in the best manner. Sole agents for Stanton's Rebounding Gun Locks. Card's Rotating Glass Ball Traps and Glass Balls.

A NEW BOOK.

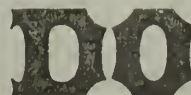
A Treatise on the Horse and his Diseases.

By B. J. KENDALL, M. D.

35 Fine Engravings showing the positions and actions of sick horses. Gives the cause, symptoms and best treatment of diseases. Has a table giving the doses, effects and antidotes of all the principal medicines used for the horse, and a few pages on the action and uses of medicines. Rules for telling the age of a horse, with a fine engraving showing the appearance of the teeth at each year.

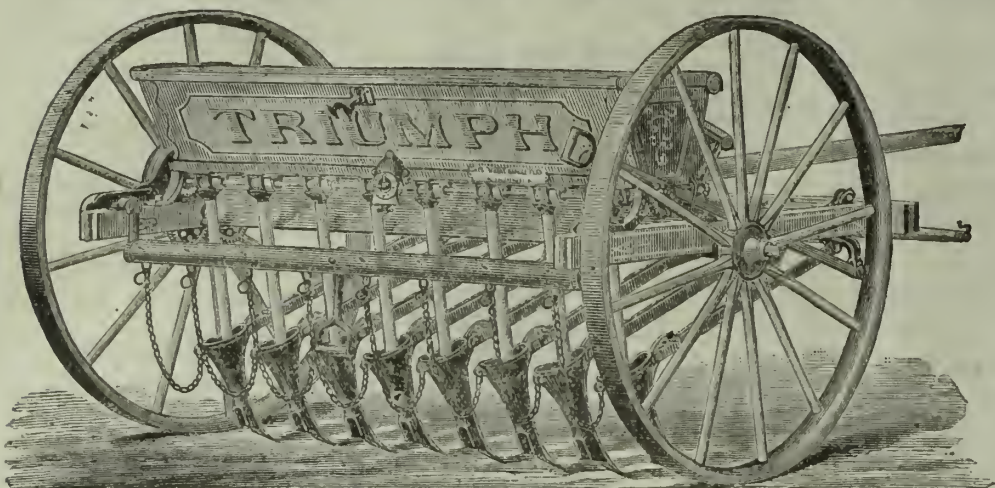
It is printed on fine paper and has nearly 100 pages, 7 1/2 x 5 inches. Price only 25 cents, or 5 for \$1, on receipt of which we will send by mail to any address.

DEWEY & CO.,
202 Sansome St., S. F.



NOT FAIL to send for our Price List for 1880. FREE to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,500 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 227 & 229 Wabash Ave., Chicago, Ill.

TRIUMPH GRAIN DRILL.



The Triumph Grain Drill.

The Best Force Feed Grain Drill in the World—Drills from One Peck to any Quantity per acre. Does not Crack the Grain. Sows all kinds of Grain Without Change of Gear Wheels.

It has been rightly named the Triumph, for wherever introduced, it has triumphed over all competitors, and taken the lead as the most regular grain sower, and the most reliable Drill in the market, and in those sections where most generally introduced, and therefore best known, have its sales most rapidly increased. This increase cannot but continue, for the perfect satisfaction which the TRIUMPH has in all cases given, makes every farmer owning one an advertiser of its merits. We can with confidence and pride refer to thousands who are using it, knowing that they who have practically tested it, and are most thoroughly acquainted with it, are its warmest friends and admirers.

By comparison, the TRIUMPH will be found to be: INFERIOR IN NO RESPECTS, EQUAL IN ALL RESPECTS, and SUPERIOR IN MANY RESPECTS TO ANY DRILL MADE. In the TRIUMPH we accomplish all that can be done by any other Drill, with all their combinations of gear wheels, and that, too, without any change of gearing whatever. There is no need of changing to pecks or half pecks at a time in the TRIUMPH; it can be regulated to quarts or pints, and will sow any kind and any quantity of seed per acre—from one-half bushel of flax seed to three bushels of oats, and will sow beans and corn in any desired quantity.

Price, Weight, Etc., of Triumph Drills.

9 Hoe, 8 inch, Weight 625 pounds...	\$105 00	13 Hoe, 7 inch, Weight 725 pounds...	\$130 00
10 Hoe, 6 inch, Weight 650 pounds...	\$110 00	15 Hoe, 7 inch, Weight 800 pounds...	\$150 00
11 Hoe, 6 inch, Weight 670 pounds...	\$115 00	17 Hoe, 7 inch, Weight 900 pounds...	\$175 00
11 Hoe, 7 inch, Weight 675 pounds...	\$120 00	19 Hoe, 7 inch, Weight 1000 pounds...	\$195 00
12 Hoe, 6 inch, Weight 700 pounds...	\$125 00	21 Hoe, 7 inch, Weight 1100 pounds...	\$205 00

GALE'S CHILLED IRON PLOWS.

CHILLED METAL presents itself as the important feature, being harder than any other plow metal, and so fine in fiber that it will receive a polish almost equal to a mirror. Its fiber does not run parallel with the surface of the casting, as with cast iron and steel, but its direction is through the thickness of the mold-board, thus bringing the friction of the soil on the end of the fiber or grain. This feature avoids all reasonable possibility of imperfections being hidden below the surface.

SIMPLICITY OF CONSTRUCTION is apparent to even a casual observer, the wood work of our Plows being free from mortises, tenons, pinned joints and other features, that render replacing broken and worn out parts extremely difficult. A glance at our plows will be more convincing than any argument we can offer.

THE SCOURING QUALITIES OF Plows depend on—1st, Hardness and uniformity of their metal; 2d, Fineness of the metallic grain or fiber; 3d, Smoothness of surface exposed to friction of soil; and 4th, correct outlines.

GALE'S CHILLED PLOWS possess the above merits to an unequalled degree. Their metal is positively the hardest and finest grained of any metal used in plows, and is perfectly uniform throughout its entire body; and, owing to the existence of the qualities before mentioned, will scour and do good work where "General Purpose Plows" fail completely.

PRICES OF THE GALE CHILLED PLOW.

The No. 15 is a Right-hand Wood Beam Plow, and is for three horses. The Plow was made especially for heavy work, and in splendid shape, turns a furrow 8 inches in depth, and 17 inches wide. Weight 145 lbs. \$17 50
The No. 17 is a Right-hand Wood Beam, one horse plow, turns a furrow 5 inches deep and 12 inches wide. This Plow is commended to nurserymen and for small farms and garden purposes. Weight 70 lbs. \$14 50
The No. 18 is a Right-hand Wood Beam Plow, for two or three horses. It has never disappointed its many admirers. It turns a furrow 7 inches deep by 15 inches wide. We feel safe in asserting that no plow in the U. S. has had so popular and extensive a run, and is as favorably known as a "General Purpose Plow." Weight 130 lbs. \$15 50
The No. 22 is a Right-hand Wood Beam, two or three horse plow. One size larger than the No. 18, is double braced, is the choice plow for loose and gravelly soil. Weight 125 lbs. \$16 50

IMPROVED GEM SEED SOWERS.—Prices: No. 1 Gem, to run with chain and bevel gear, weight, 132 lbs., \$30; No. 2 Gem, to run with belt gear, weight, 154 lbs., \$35; No. 3 Gem (made only to order), to run with all gears, weight, 165 lbs., \$40. The Gem Seed Sower can only be obtained from us, as we are the sole manufacturers.

BAKER & HAMILTON, San Francisco, Cal.

Send for Our New Price List of Plows, Harrows and Seed Sowers.



CHILLED PLOW.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a Jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.

SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,

No 327 Market Street, - - San Francisco.

NICOLL THE TAILOR!!

Branch of New York

INSPECT OUR IMMENSE STOCK.

Do Not Fail to See

THE ELECTRIC LIGHT!!

Call and see the ELECTRIC LIGHT at NICOLL'S, by which Colors and Quality may be Seen as Clearly at NIGHT as at NOONDAY.

TO ORDER:

TO ORDER:

Pants

From \$5.00.

Suits

From \$20.00.

Overcoats

From \$18.00.

Usters

From \$15.00.

Dress Coats

From \$20.00.



Black Doeskin Pants

From \$7.00

White Vests

From \$3.00.

Fancy Vests

From \$6.00.

GENUINE 6x BEAVER SUITS from \$65 English Cords for Hunting Suits. Samples, with instructions for self-measurement, sent free.

Only White Labor Employed, and none but Experienced and First-Class Cutters.

A SMALL STOCK OF UNCALLED FOR PANTS, VESTS, COATS, OVERCOATS, ULSTERS, AT AN IMMENSE REDUCTION.

Nicoll the Tailor's Grand Tailoring Emporium

727 Market Street, San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY, 6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hoadley Straw Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address BYRON JACKSON, Prop'r.

Engraving. Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the Mining and Scientific Press, San Francisco, at favorable rates.

M. COOKE R. J. COOKE PIONEER BOX FACTORY, Corner of Front and M Streets, Sacramento. ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOK & GREGORY

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.



Volume XX.]

SAN FRANCISCO, SATURDAY, DECEMBER 4, 1880.

Number 23

A Court in a Car Seat.

We generally keep our ears open as we speed along in the cars, and though we make no effort to overhear private conversations, there are often sounds launched so forcibly upon the air that they float about as common property. Such sounds we catch and consider, if they seem to us worthy of a thought. One of our latest fishings from the sound waves in a railway car was a case of pastoral admonition and counsel between a Catholic priest and several of his parishioners whom he chanced to meet. First there was apparently a hearing of a case in dispute between two of the men, and, as the disagreement was described on one side and the other, there seemed material to give two lawyers a week's work and proportionate fees. But the two disputants had evidently agreed to accept the arbitration of the priest, and by mutual consent the railway car was selected as a convenient tribunal. It was a dispute about the shares in a crop, to which each was entitled according to the labor and seed which each had invested in the joint enterprise, and we were interested to notice the calm way in which the "father" restrained each man to the essential points, and how he stated to them the relations which each man's interest bore to the other. It is not necessary to go into the details of the dispute. It was just such as those which often bring the disputants to enmity and to the expense of litigation. As it was, the matter was adjusted and each one seemed to accept the arbitration. The lesson is a good one, whether one puts faith in priests or not, for every community holds good men without the "cloth," whose judgment can be had in the interest of the good of neighbors, and men struggling for a livelihood need seldom waste their little substance in the quarrels which support the throng of little lawyers.

The car-seat trial being over and the journey still unfinished, we listened while the priest gathered his several believers about him and addressed them, in a conversational way, about the material affairs in which they were engaged. He said he regretted to see that many of his flock were undergoing hardships and not securing from their farming the results which should attend the diligent labor they bestowed. They could not, he said, from the crops they were growing, support their families and pay the rent which the landowners demanded. He believed they could do something by counseling together, either to increase the yield of the crops they were growing, or they could find out something else to produce which would pay better for the labor. He was sad to see many disposed to break up their little homes and go out empty-handed in search of other locations which he was sure did not promise better than the old lands. He feared that discouragements, actual suffering and perhaps death would result to many, from setting out with no provision for a new start in new fields. He believed that if priest and people would study the subject together they could find out some other lines of farming which were well adapted to the location, and which would make them more prosperous, and he promised them his best efforts to advance their temporal prosperity as well as their spiritual welfare. Little as we personally like the priesthood, we could not resist admiration for the genuine kindness and wisdom of the man. A man with so much of philanthropy, true humanity and practical sense must be a blessing to his followers, whom, as we saw, were unlettered foreigners, and really in need of guidance in their life endeavors.

We cannot all go to priests for advice in our efforts for the rewards of well-applied industry, but we can commune together about our work and each can help the other with his bright thoughts and dark experiences. Life is too short to enable all men to work out success alone. Some men can do it, but as a rule we can aid each other in a few moments to results which we might waste a decade in working out alone. Let, therefore, a feeling of friendly sympathy and true helpfulness prevail. Let us discuss together our problems and help each other to right resolutions. Let us be neighborly in the sense of the parable, and our work and our lives will be the better for it.

The Coal Cruelty.

We do not profess to know all the ins and outs of the coal business, but it seems plain that those who assume the responsibility of providing for the comfort of the people, as coal importers and coal dealers, have been either cruelly negligent of their duty or else criminally cruel in their business policies. It is stated in behalf of the coal dealers that there is no combination to restrict supplies and advance prices, but that the scarcity came without design and that the high prices are consequently unavoidable. Now, while poor people are shivering and eating cold or half-cooked food; while the little ones are being hunted down by death in the damp houses, and adults

after, where such outrages upon the comfort, strength, and even the life of their fellow beings will be suitably handled. We are loth to believe that the present cruel condition in coal is the result of design. It is almost too painful to think of; but whether the result of neglect or intention, it is a wrong beyond words to describe, and which those dealing in coal should never allow to occur again.

Milk and Mystery.

EDITORS PRESS:—I saw an article in your paper on city milk. Perhaps my experience may be of some interest. I engaged on a San Francisco milk ranch one afternoon and went to work at once. We had not a drop of milk for tea, and, after tea, we commenced to milk and had less than 13 half-cans of milk from the cows. To my surprise we put into the wagon 21 full and overflowing cans and started for the city. After the return of the wagon I

which gave our correspondent so much trouble. If any of our city milk consumers find anything in their milk which puzzles them, we shall be glad to examine it for them if samples are furnished. We believe that San Francisco has better milk, as a rule, than any large city in the country; but it is not well to rest in fancied security. Bad milk is one of the most insidious foes a man can admit to his household, and all should be on the watch against it.

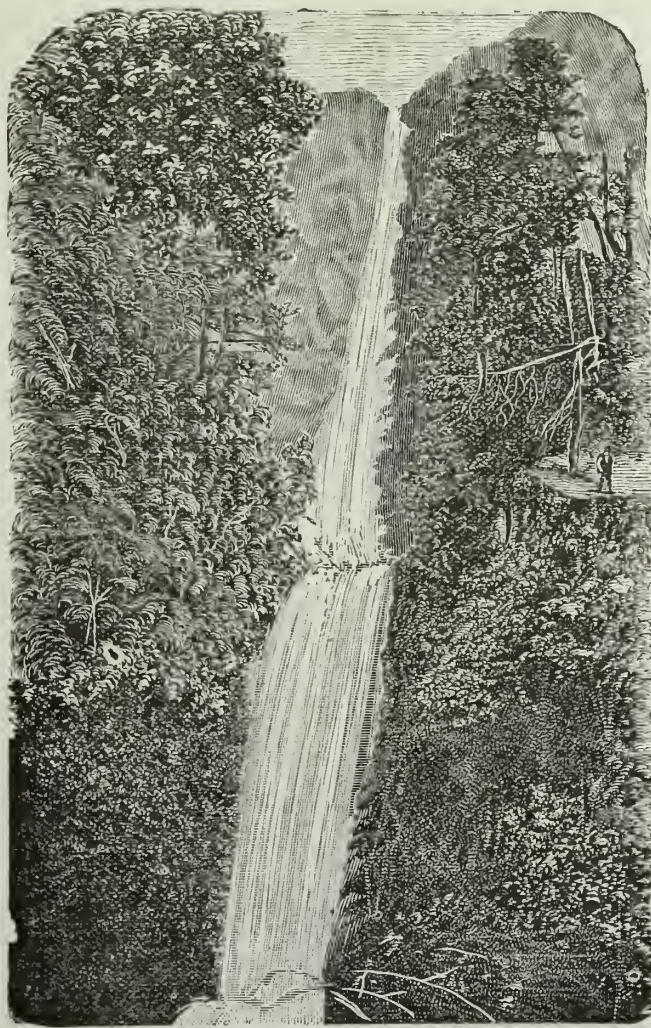
The Harrow.

Riding along in the cars the other day we overheard a conversation between two farmers. They were comparing notes and experiences concerning different methods of culture and the different implements employed. We were not surprised to hear one of them enter upon a tribute to the harrow and its invaluable service in California agriculture. Among other good uses to which the speaker had put the harrow was in his hop growing. Formerly he had harrowed and then run a narrow roller over the surface when leaving it for the summer, but he had abandoned the use of the roller and now kept the harrow running from time to time until the vines had started well. He was told at first that the harrow would tear his vines all to pieces and ruin the yield, but he persisted nevertheless and found that there was no injury to the vines, and by using a harrow of adjustable width, with handles like a plow, he could guide the implement quite close to the plants without injury to them. The result was his soil was reduced to a perfect tilth on the surface and all evaporation of water as from densely packed ground was avoided. The hops showed the wisdom of this treatment by large yields. The conclusion from his experience was that the harrow was about the best cultivator after all.

The principles involved in this farmer's experience with the harrow are becoming better understood every year in this State. The value of a finely divided surface in the prevention of evaporation and consequent waste of moisture which should remain stored in the soil until the plant roots can reach and use it, is becoming better appreciated. Farmers are coming to see that a harrowing which satisfies the average farm hand is not such a harrowing as will give him the largest crops, and some of our best farmers go frequently to the fields and send their men harrowing again and again until the surface becomes mellow and fine as garden mold. It is a vital point in the agriculture of a country like California, and it promises well for the future that there is such a general disposition among our agriculturists to avail themselves of the true practices. Of late years there have been great improvements in harrows and several implements have been brought forward which make it much easier to mellow the surface of a field than it formerly was. They do it much more quickly, more effectually and at much less cost of labor of man and animals. Twice as much harrowing with twice as good a harrow will as a rule prove the most profitable treatment a farmer can give his soil.

Another Waterfall on the Columbia.

In our issue of November 6th, we gave an engraving of La Tourelle falls on the Columbia river together with some interesting statements concerning this mighty water course of the North. Along the same river there are many cascades, and another of them is shown on this page. It is known as Multnomah falls. The engraving is from Mr. Conklin's forthcoming book, "Picturesque Northwest," to which we have frequently alluded. The "Multnomah" falls are about 700 feet high, and divided into two sections; the upper being 500 and the lower 200 feet. The first section falls into a pool, carved from a rock, about 20 feet in diameter, filled with the finest mountain trout, and festooned with the finest maiden-hair and other delicate ferns. At this pool, hemmed in by the botanists' choicest studies, from fern to mountain timbers, and protected and ornamented by rocks and boulders, a general formation of the whole producing a concave grotto in the side of the mountain, over and down which "Multnomah" chooses her leap, is a model picnic ground, where one can be scared into superstition by the echo of his own voice,



MULTNOMA FALL ON THE COLUMBIA RIVER.

are contracting the many diseases which spring from exposure, it is perhaps not worth while to split hairs about the exact cause of the present cruel coal famine. In any way we can look at it the coal dealers are to blame. They can calculate quite accurately the consumption of coal, and it is their duty to the public to mix enough humanity with their greed to take measures to secure a good supply to meet the consumption. Ordinary business sense would order them to do this, and, as coal is abundant at the mines and there has been no general sinking of ships, we do not see that there is any excuse for not having coal enough on hand. Of course we know that ships have been in demand, and rates high, but there has been no advance in carriage cost commensurate with the almost prohibitory price which coal now commands. Therefore we say that the doubling of the price of a ton of coal is either the result of culpable business negligence, or something worse. If it be the result of preconcerted action among dealers not to bring so much coal here as the people need, then their action is inhuman, and if earthly tribunals do not meet such wrongs, there is an here-

washed the cans, but it was a much more difficult job than I expected, as there was some curious stuff in the bottom of the cans difficult to remove and a mystery to me.—M. J. O'B., Merced.

This statement of experience on a city milk ranch cannot prove very consoling to our city readers, who use milk from the back lots. Our correspondent evidently chanced upon one of the most pronounced of milk-making establishments. We did not know there was such an institution in the city. Watering milk is, of course, a sort of a classic art with milkmen; but no milkman can increase his product as described by our correspondent by the use of water alone. There was evidently an emulsion of whitish, sweetish matter, which padded out the amount of milk and gave it a rich, heavy appearance, which would deceive the unthinking into the idea that they were securing a very creamy liquid. Of course, setting for the cream would have dispelled the illusion, but the milk-maker was doubtless wise enough to sell his mixture to some restaurant or other establishment, where it was to be doused into coffee soon after it arrived. There are so many ways of "ennobling" milk, that it is impossible for us to tell what the nature of the deposit is in the cans

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

The Past and Present of San Luis Obispo.

EDITORS PRESS:—Last spring we stood upon our hillside, a kale deep in clover and native grasses, and looked over a wide valley lovely with its fields of growing grain, gay with its beautiful wild flowers and bright with its promise of an abundant harvest. The sea breeze rustled the oak leaves, swayed the grain stalks and bore to us the perfume of the pink and white orchard blossoms. The autumn has come, and we stand upon our oak knoll nearly ankle deep in the sand and dust and look out upon the yellow stubble fields, brown meadows and barren hilltops. The corn is cut, the hay is stacked, and the grain is harvested. The sweet apple blossoms are changed to goodly fruit, which has been gathered. The clear brightness of the spring morning is exchanged for the soft November haze of the "Indian summer," and plenty broods over the valley, while the land rests and the laborer waits for the welcome rain.

From this wooded elevation we have enjoyed the pastoral landscape before us for the last 12 years, and during that time we have witnessed many changes in our county and neighborhood. A sunny May morning of the last spring marked the anniversary of our first introduction, and looking backward we know that progress and improvement are written all over the face of the country. The only enclosure in sight 12 years ago was the one that fenced in our homes. The ranch houses, miles apart, at that time were venerable looking adobe dwellings, with deep doorways and grated windows. There were no fruit flowers to scent the air, or pretty gardens in which one might dream away a leisure hour; but there were acres and acres of mustard and thistles, and miles of rich valley land that waited to be introduced to Yankee plows and harrows. The agricultural interests were mostly confined to the raising of sheep and cattle.

An American woman living in the country in those days was a "lone cretur," who had to learn to be independent of society for her happiness and amusements. In the principal town and county seat the festivities of the year were comprised in the observance of the Mission Saint's day and the celebration of the anniversary of Mexican independence. We existed without a railroad to the port or telegraphic communication with the outside world. We used to ride nine miles in a buggy over the roughest road and steepest hills, in a series of terrors and panics, whenever business or pleasure made it necessary to go to the steamer landing. We were often obliged to wait there one and sometimes two days before the advertised craft would come to take us away. Whatever fondness for old ocean might have lingered in our sea-sick souls was turned into disgust by tedious days of waiting. Now this nine miles is a pleasant ride in a rail-car, with only one bridge and trestle to close our eyes upon, and say a little prayer of thanksgiving over when it is safely passed.

We have seen the straggling village of San Luis Obispo grow into a smart little town. It has even tried to be a city; and partial citizens will gravely tell you that it "has a future." The best portion of the lands in this county was held in large tracts (Spanish grants), and "Uncle Samuel's" settlers could get no foothold. We have seen from our hill rookery an almost endless procession of white-covered wagons pass down the coast, with their living freights of roving geniuses and wandering "Pikes" "looking for a piece of government land to squat on." The same outfits that went down one season would go up the next to Oregon, Washington Territory, or somewhere, and perhaps down again a year or two later. Some people, like some plants, never do take root anywhere.

Our county is one of the regular tourist's track, unless he chooses to wander southward by the stage, or leave the steamer for inland explorations. It is our good fortune not to have been greatly written up, or too much advertised as a health resort. A well man is better than a sick one in any community, and San Luis Obispo is not ambitious to be a morgue for Eastern invalids. Our excessive modesty in this matter of sounding our own praises has saved us the presence of disappointed people, confirmed invalids and inveterate grumblers. It has spared us the petty jealousies of some of our sister coast counties, and put away from us much of that *seeming* prosperity which never did exist in *fact*, but lived and moved and had its being in *fancy*. Only once in all these years have the Obispoians put on airs and tried to do great things; and not till they forget the bruises of that tumble will they walk loftily in the future.

Upon our own home grounds we see the light green of the pepper tree, and the blue green of the Australian gum tree, blending with the dark green of the native oaks. We see the sunny slope covered with vines and fruit trees. We gather grapes, and apples, and pears, and peaches, and plums, and apricots and almonds, and remember the time when all these good things were brought us by steamer from San Francisco.

The testimony of a disinterested party in favor of the producing capacity of this section may be worth something. The last time I came down the coast to Port Harford, we heard the stewardess of the steamer remark that the shipments from our landing exceeded those of any place farther south. The piles of bags and boxes waiting transportation might accurately advertise the resources of the county. There were not less than 1,000,000 cents of wheat raised in San Luis Obispo the present season. We wonder if the next 12 years will bring us as many changes as the last 12 have done, and whether we shall be here to make a note of it. San Luis Obispo, Nov. 16, 1880. D. M. S.

Shasta County Notes.

EDITORS PRESS:—As notes of labor and progress are called for to spread before the readers of the PRESS as a Thanksgiving feast, I bring my little contribution from Shasta county, as we in this corner of the earth have our share of blessings for which to be thankful. Some account of an experiment in

Sorghum Culture

Will perhaps be interesting. Last spring a small piece of land was rented from Mr. Frisby, proprietor of the Redding grant, for the purpose of testing its adaptability for sorghum culture. A part of the seed was planted the latter part of April, after which there was a nice shower which proved to be the last of the season. On the 8th of May the rest of the sorghum, also a variety of garden seeds, were put in. This later planting never had a drop of rain and there was no irrigation. In the soft, sandy loam, seed soon germinates, and Oh, how wonderfully they grew! On the 8th of July we took our camp kettle down (our garden was 10 miles from home), and dined on delicious Marbled sweet corn; we had previously brought home summer squashes and string beans. Our garden seeds were obtained from our tried and true seedsmen, James J. H. Gregory. It was a beautiful sight to see an acre of sorghum towering above one's head, and watermelons fairly piled up. What a satisfaction there is in gardening such land, and what would it not be worth near the city? As we were too far away to watch our garden, crows pulled up considerable corn, and watermelons disappeared by dozens before they were fairly ripe. Can any of the little boys tell what rodent or biped is the chief enemy of the melon?

For grinding up the sorghum, a mill was made of highland white oak, consisting simply of two wooden rollers 14 inches through. Work was begun some six weeks later than it should have been, and the mill was not very satisfactory. For boiling, a home-made pan six ft. by two was used. With these simple appliances, a little more than 100 gallons of excellent syrup were made from one acre, pronounced by several who had made it in Eastern States equal to any they had ever seen. A good iron mill beginning early in the season would probably grind more than double the quantity.

The varieties planted were Chinese imphee and Minnesota amber. Further experiments will be needed to decide which variety is the more profitable. The amber made a beautiful, light syrup resembling honey in color; but the considerably darker product of the imphee was quite universally pronounced to have a pleasanter flavor. Then the imphee matured a large quantity of seed while the amber had almost none. A little African imphee made but a slow growth and failed to mature.

The experiment is considered a very promising one, as the feed alone will pay for the labor of raising it. Hens at once increased laying when they had free access to the seed. We hope to see the experiment on a much larger scale next year.

And what of

Oak Highland?

I seem to hear some one ask. The homesteads are not abandoned although we have been tempted to dwell temporarily among the orchards and gardens of the grant. New settlers still continue to come in occasionally. Our grain last spring was well described by some one who wrote, "Grain on the chaparral land beats all creation on the home stretch," so ours after being almost drowned out all winter, began to grow surprisingly when warm weather set in and matured good heads of plump grain.

One of our neighbors by irrigating raised an excellent garden on the red highlands. A neat school house is already built, and school progressing finely since the 1st of Sept. I have no doubt time will yet see all these lands under a high state of cultivation, but probably 20 years will not find it, as my early enthusiasm painted it in five. I now realize how slowly, and at what expense wild land is subdued in California. If I had time I would like to tell the readers of the PRESS what I have seen accomplished in a year or two on the Minnesota frontier. Or would it be quite loyal to my adopted State to show up the bright side of another? [Certainly it would.—Eds. PRESS.] But baby Frankie, playing with his toes, seems to grumble, "Mamma has no time to write for papers now, I am sure," and I believe he is right, though grandma says he is the best baby she ever saw—and grandma has seen many a baby in her day. Mothers will understand how the best of babies steals the time and taxes the strength.

MRS. J. M. K.
Anderson, Shasta Co.

Santa Barbara Notes.

EDITORS PRESS:—The weather has been very dry the past two weeks, so the farmers have employed the time harvesting the Lima bean. Some, over half, of the threshing has been done, and the prospect good for the balance to be saved. The yield is fair. Some of the low land where the yield would have been good in a drier season gave us too much vines and few beans. On the whole, we are very well satisfied with the result.

Very little corn or small beans were grown here this season, as the prices the past year would leave no margin for the producer. The price for Lima beans, new crop, at the wharf at Carpinteria, has been about 3½ cents per lb.; some few have been sold at 3¼ cents. At those prices it is much the best crop that we can raise here on our rich lands. Some good beans have been grown on the hill lands this season.

The rates of freight for the shipping of fruit to San Francisco at the going prices. I have been shipping some apples and pears to San Francisco, the freight, wharfage, etc., costing one cent per lb. Give us reasonable rates and we could have some margin left for our labor and care. We have some very fine apples and other fruits of which we are proud, and hope some time to have a market opened for our products.

O. N. CADWELL.
Pomona's Retreat, Carpinteria, Cal.

THE VINEYARD.

Vineyard Notes.

EDITORS PRESS:—It is now about 10 years since the elegant volume of Tsudichum, upon the vineyards of France, appeared. Seven years ago we obtained and translated some quite exhaustive accounts of the phylloxera and its habits; and it is interesting to compare the current accounts of the ravages of this pest with our old notes concerning soils, treatment and profits in various districts since devastated. The sulphur remedy appears to be the only recent discovery relating to this pest. The wines of Chateau Lafitte were worth 1,800 francs a barrel in 1845. The estate which produces this delicious wine does not exceed 70 hectares in extent, and was sold in 1791 to Mr. de Vandemere, of Holland, for 1,200,000 francs. It has since been twice resold, and the last owner was no less a personage than M. de Rothschild, who paid the enormous sum of 4,000,000 francs for it, and who is said to have realized 1,000,000 francs from the vintage of 1869. This is one of the infected districts.

To show how nice are the discriminations made in France as to the superiority of certain localities, M. de Rothschild had previously owned the adjoining property, Braue Mouton, the vineyards of which ranked only as second class. Silicious sand and quartz pebbles are abundant in the soil of Chateau Lafitte, now so nearly worth its weight in gold. The sub-soil is a friable sandstone. How it is that the "Black Sauvignon" grape distills from these, and daily flagons of sunshine, the bouquet which "recalls the flavor of almonds and the odor of violets," is one of the mysteries of this fascinating subject.

It is not the men who have taken out all the wheat-making materials from our grain lands, returning nothing to them, who will create this almost fabulous value in Californian vineyards. The fellows who, failing to see anything which posterity has done for them, waste nothing upon posterity, may possibly add to the consumption of the product. But some of the descendants of the planters of the old pear orchards of Detroit and Massachusetts bay may be, even now, selecting, testing lands, planting at once a vineyard and a vast hereditary fortune, to ripen their valuers year by year during a couple of centuries.

A vineyard is an investment on long time, and I do not see why there is so much haste to be rich, that one must over-stimulate the productiveness of young vines. M. Gaudry, writing in the *Journal de Viticulture Pratique*, of the culture in Greece of Corinth and Sultana grapes, says that the scarification of the vines by cutting off a ring of bark from the trunk, for the purpose of augmenting their productiveness, was found to cause deterioration of the product, and the government, therefore, levied a tax on the scarified vines. Except during the flowering season, copious irrigation is resorted to as often as once a month. The vines are so densely covered with fruit that the leaves can scarcely be seen. M. Gaudry's description of the various manipulations in preparing these grapes for market are very instructive. Life in the vineyards of Greece seems applicable to our circumstances, excepting the social pleasures of the vignerons, in which the ancient poetry of Homeric times is revived. For the "gay bonfires which reflect their splendors in the dark waters of the Corinthian gulf," around which the leafy summer huts of the peasants are grouped, the evening dance, the feast cooked over the glowing coals, we should probably have a camp of Chinamen, and the music of their speech.

There are no Sultana grapes in bearing in this region, simply because the vines were close pruned this year, whereas bearing shoots should

be left uncut, as also those of the Emperor. This lesson is not likely to be forgotten. We feel that we have a great deal to learn, and perhaps the maxim, "make haste slowly," is an important part of it.

JEANNE C. CARR.

Pasadena, Nov. 6, 1880.

Black Knot on Grapevines.

EDITORS PRESS:—Perhaps your readers may recollect something of the various theories, remedies, etc., advanced by different writers in your columns in regard to the above disease, some months since. I mentioned that I had taken a hoe, drawn away the earth from the affected vine, and then, with a hatchet, chafed and pounded the offending knots from the vine.

Some friendly writer stated soon after that he could not see on what principle I thus treated my vines, unless that it was that like cures like, for he maintained that it was a bruise that caused the disease. I had taken the ground that it was too great a flow of sap, or bleeding, caused, in many instances, by too late pruning.

Now for the result and my theory: Vines thus treated, having been pruned before they commenced to bleed, have in every case rallied and borne a good crop of fruit, many of them showing no further signs of the disease except old scars; while others still show some remnants of small knots, but not enough to impair the vigor of the vine to any perceptible extent. My theory is this, removing the dirt, and chafing and pounding the knot (not the vine) breaks up the cells of the knot, and the atmosphere dries it out and kills it more effectually than if cut with a sharp knife.

T. C. STARR.

San Bernardino, Cal.

[What other observations have our readers made this year on the knot?—Eds. PRESS.]

ARBORICULTURE.

The Wanton Destruction of our Forests.

EDITORS PRESS:—The grandeur of the primeval forests of California have been a prolific theme for the wielder of the pen, in describing the natural beauties of our glorious State. Of late years the woodman's ax and the careless fire-brand of campers as well as the malicious torch of those who are on mischief bent, have made sad havoc with thousands of acres of handsome timbered land, and bald, bare stretches of mountain country now meet the eye of the mountaineer in his wanderings through our unrivalled hills.

The legitimate felling of timber for the manufacturing of lumber is a worthy and commendable industry, deserving of encouragement; but the reckless waste of such good material by fire is a wanton extravagance, and should be severely condemned. The perpetrators of the crime of arson in the grand forests of our mountains should be as severely dealt with as the fire-bug when caught at work in a civilized community. Thousands of acres of heavy timbered country have been wantonly destroyed by the fire-fiend, to the sorrow of all who admire the beautiful in nature as well as to the disgust of those who hoped in no distant future to bring into the market the fine quality of lumber which as yet is too remote from market to be profitably handled.

The Coast range of mountains west of Red Bluff have been lighted up these autumn nights with raging fires. Acres upon acres of a splendid quality of pine timber have fallen before the remorseless fire. The smoke of the smoldering ashes enshrouds the valley in the day time, and the glare of the splendid but ruinous fire lights up the canyons and deer trails at night, making a beautiful panoramic view for miles. In its march the ruthless fire destroys thousands of dollars worth of sugar pine, spruce, fir and other good building material, which in the near future may be wished for by the very ones who so recklessly and wickedly applied the torch.

John Lyle, a mountaineer who owns considerable property in and around the vicinity of Toomes' camp, gave the writer several interesting incidents as to the wanton destruction of timber on the Coast range of mountains. He says the few Indians who are left around and above Paskenta have in the last three years felled thousands of fine sugar pine trees simply to procure the pine nuts growing on the trees. In their natural wild state the Indians never cut down these monarchs of the forest, well knowing if they did so their source of food would be destroyed. They then climbed the trees and plucked the fruit; now, however, they waste their strength and destroy the "goose that lays the golden eggs," by cutting down those trees which have the heaviest crop of nuts on them. The writer was under the impression that the State authorities have the power to put a stop to this wholesale destruction of our beautiful forests. Local authorities do not seem to have any jurisdiction in the matter. If any of the readers of the PRESS can suggest a remedy for the growing evil it will be appreciated by many interested citizens of Tehama county, as well as thousands of others throughout the State. The ruin is widespread and serious, and the attention of our legislators should be drawn to the terrible destruction

which is year by year increasing in its magnitude. FELIX.

Red Bluff, Cal.

[The subject is an important one. The United States authorities are sharp in the prosecution of those who wantonly cut trees on the public domain, or at least there have been heavy damages recently inflicted upon trespassers. Private owners can surely prosecute under existing laws; if not, then a proper law should certainly be framed for their protection. To whom does the land belong, to the United States, to the State, or to individuals?—EDS. PRESS.]

THE SWINE YARD.

Experience with Poland-Chinas.

EDITORS PRESS:—In reply to yours, asking my experience with Poland-China swine, I will say that I have kept Poland-Chinas for the last few years, and I find many good points in the breed. In the first place, they are very easily kept, which is a desideratum not to be despised by the farmer, for the less feed it takes to make a pound of pork or lard, the more money to the producer.

They are very quiet in their habits, which accounts for their easy keeping qualities. They do not run and worry themselves as some other breeds do. They are excellent grazers, and after they are a few weeks old, will thrive and even fatten on alfalfa pasture. In fact, I know of no breed that will do as well on alfalfa, squashes, beets, or, for that matter, corn; and I know that I can make greater weight with any given amount of food on Poland-Chinas than I can on Berkshires. I kept Berkshires for two years side by side, and part of the time in the same pens with Poland-Chinas, and the latter always made the heaviest weights, and were much quieter and more docile in their habits.

The Poland-Chinas are always covered with a good coat of hair, and never have mange, while hogs, with thin, light-colored hair, are very subject to the disease in this part of the State. They are easily fattened, yielding a goodly portion of leaf lard, as well as firm, solid pork, and, from their peculiar form, furnishing the largest ham in proportion to size of carcass of any other breed, while the shoulder is very light.

They are good breeders, excellent mothers, and make most excellent crosses on our native stock in this State, imparting their easy fattening qualities as well as size, vigor, etc. In fact, I consider them the most valuable breed for this purpose that can be used.

Feeding Pigs.

I feed no corn except to sows suckling pigs, and to young pigs for a short time after they are weaned. I feed alfalfa, squashes, beets, Jerusalem artichokes—anything but grain—until the pigs are dropped; then I feed a small amount of grain with the squashes, beets, or whatever I am feeding at the time. In this way, the sows always give plenty of milk for the pigs, and they are healthy and robust, and if I have any sour milk from the house, it is put where the young pigs can get it at their leisure.

T. C. STARR.

San Bernardino, Cal.

HORTICULTURE.

Meeting of the State Horticultural Society.

The State Horticultural Society held its meeting on Friday the 26th. There was a fair, although not large attendance, and those present showed much interest in the proceedings.

Mr. Jas. Shinn showed a branch bearing three large Japanese persimmons of a yellow variety, which he values particularly on account of its freedom from astringency.

Col. Warren presented a fruit which he called the Cape gooseberry. It is also known as the Strawberry Tomato (*Physalis*), and is eaten fresh or in tarts, pies or preserves. Several species of this genus are natives of the United States, and four are claimed as belonging to California, but of these only a few kinds are eaten.

President Hilgard being unable to attend on account of other pressing duties at the University, Vice-President J. V. Webster occupied the chair. In the absence of Secretary E. J. Wickson, C. H. Dwinelle was chosen secretary *pro tem*. The minutes of the last meeting were read and approved. Mr. G. C. Swan, of San Diego, was elected a member of the society. A communication was read from the janitor of the Academy of Sciences to the effect that the society could have the use of the hall of that institution for \$3 per month, being the same amount paid for the room now used. On motion of Mr. Hatch the offer was accepted.

Notice of a motion to change the hour for the

meeting of the society to 12 o'clock having been given at the last meeting, the subject was now taken up. Mr. Dwinelle said that as he had advocated the change he would explain that his only wish was to consult the convenience of those who lived out of the city and had to leave by early boats or trains. Personally he had no choice in the matter. Those most interested must decide for themselves.

On motion of Mr. Hatch the change was adopted.

The stated discussion on noxious insects was opened by a very able and interesting paper by Dr. Behr. He said that the subject was so wide that it could not be exhausted. He had selected for consideration some of the insects infesting the *Pomaceae*, the apple, pear, quince, etc. Even with this limitation he must concentrate very much. In the course of the reading, various phases of the insects were illustrated by drawings on the blackboard.

Mounted specimens of three moths of the genus *Carpocapsa* were shown. One was the too well-known codling moth, the parent of the apple worm. Another infests our wild hazel nut, and the third in the larval state gives motion to the so-called Mexican "jumping bean."

Since ants colonize scale insects and other destructive species by carrying them to plants where they can conveniently visit them to gather the wax and honey-dew which they secrete, ant-hills should be destroyed. Spiders, on the other hand, should be encouraged, as they devour immense numbers of insects, and even their deserted webs entrap great quantities of noxious species.

A species of *Gryllotalpa*, or mole-cricket, was shown, which often does much damage among young trees. Frogs and toads prey upon it, and the latter in particular should be preserved, and, if necessary, introduced in gardens and nurseries.

Mr. Jessup, of the committee on stated subject, being called on said that pressing business had prevented him from preparing anything in the literary line. He, however, brought specimens of apples showing the damage done by the common apple scale-bug. Although they were of a fair size, their appearance and market value were much injured by the oyster shaped scales on their surface. About each scale was a depression, showing how much of the juice of the apple had been absorbed by its tiny occupant. Under each scale is a mass of tiny white eggs, ready to hatch in the spring into a new brood of juice-suckers. Currant branches were also shown literally covered with another form of scale which has rendered fruit unmarketable and destroyed bushes in many places.

Mr. Dwinelle said that he had been able to do little in preparation for the meeting beyond writing to several gentlemen who, from personal experience and observation, could give some valuable facts as to the losses of fruit-growers from insect ravages, the feasibility of fighting them successfully, and the cost incurred and financial returns.

The oyster-shell bark louse shown by Mr. Jessup is, by some of the most eminent naturalists, set down as the worst insect enemy of the apple tree. Although so minute, the sucking of the juice by its legions enfeebles the tree, so as to render it unprofitable, and even to kill it. Specimens of apple twigs had been sent to him at the University from one of the oldest and formerly most successful fruit regions in the State, on which there were three or four species of scale insect within an inch. They were so numerous that the point of a pencil could hardly be put down without touching one or more of them. About a year ago he examined a garden in Oakland, and found a scale which he thought had spread from an acacia tree to other plants. It was spoiling almost everything, from a magnolia tree to a rose bush. Specimens sent to Prof. Comstock, at Washington, were pronounced the same as those on the acacia. This is not the only pest which the acacia has brought and bred amongst us. An insect related to the scales, although without a hard covering, has spread from them in Marin and Santa Clara Co. It is the size of half a pea, white with red markings (a species of *dortheisia*).

At San Rafael the acacias had generally been cut down, but the insect is still harbored by neglected locust trees on the roadside. Acacias should not be planted near fruit trees. We have enough ornamental trees without them.

Mr. Dwinelle called on Mr. Blowers, of Yolo county, to give some facts in regard to injury to his vineyard.

Mr. Blowers said that 8 years ago the vine-hopper appeared and did much damage to his vines. He turned in sheep in the autumn and they ate the leaves and other trash which could furnish shelter for the insects through winter. This treatment with thorough winter cultivation kept the pest in check so that no serious damage was done. After neglecting this precaution for two years, the vine-hoppers had so increased as to cause serious loss. These and grasshoppers had shortened his crop at least 2,000 boxes of raisins of 20 lbs. each worth \$2 at wholesale, but of course in estimating loss the cost of making and boxing raisins should be deducted. This autumn he again brought in sheep, and is now flooding his vines to a depth of from six inches to two ft. Precautions will be taken to destroy such insects as may take refuge on the levees which surround the checks into which the vineyard is divided.

The larva of a sphinx or humming-bird moth lives on the grape leaves. It is generally of a flesh color and two or three inches long. For a time this year his neighbor, Mr. Briggs, employed 100 men in picking these from his vines.

Before this was done many of the vines had been stripped of their foliage.

Mr. Dwinelle remarked that Mr. Blowers should have told how he avoided this pest. The fact was that he knew that the large moths about his petunias at dusk were the parents of the worms. He found that when the moth had its proboscis in the flower it could be caught by a quick boy or man seizing it from behind. It was then pulled in two. As many as 500 were thus destroyed on an evening.

Dr. Behr said that each female moth would lay about 80 eggs. The insect is a species of *Phitampelus*.

Mr. Cooke introduced the Hon. Young, of Sacramento, a member of the Legislature. Mr. Young said that he had come to get information on the important subject under consideration, as he believed that it would come up before the Legislature this winter. Last year the Viticultural bill was passed, and he believed it a good measure. Some figures were given as to the relative value of the wine products of France and California. He believed that the industry in this State was in its infancy. This year owners of vineyards showed a profit of \$75 to \$100 per acre, and had a prospect of better returns in the future. The State is as well adapted to other fruits, and by proper fostering of this interest, the taxable property of the State can be increased by \$100,000,000 in a few years. It can be made equal to any other of our resources. He wants to know if the agriculturists will give their support to laws enforcing proper care of orchards so that they shall not spread insect pests. He has thought that a commission might be appointed, with almost absolute power, to investigate this subject and prevent the spread of noxious insects. He will assist in carrying out the wishes of agriculturists in this matter in any way in his power.

Mr. Cooke stated that he had studied the habits of the codling moth for three years, and found that in this State at least there are three broods or generations per year; that in August, furnishes the larvae which winter over and come out as moths in spring. The pest has spread this year faster than ever, mainly by means of empty fruit boxes carried back to orchards after being mixed with those from infested districts.

Last year Bear valley was cleared of the moth by a frost, which destroyed the apple crop and left the insect without its necessary food. The insect can be destroyed, but only with the aid of proper laws, compelling general effort against it.

The Natoma Water Company spent about \$150 in cleaning 2,500 trees, and secured a fine crop of fruit, but the late pears were badly damaged by insects coming from across the fence where a neighbor neglected about a hundred trees. Although he knew his fruit was wormy and worthless, he would not destroy it, nor allow others to do so. The only apples which Mr. Cooke had seen in San Francisco this season that were free from the apple worm, were from Santa Barbara.

Mr. Jessup moved that a committee of five be appointed by the chair to report at the next meeting on the necessity for legislation, relating to noxious insects and to recommend measures to be taken. Carried.

Messrs. Cooke, Jessup, Hatch, Behr and Dwinelle were so appointed.

Mr. Hatch said that on one occasion, when he had paper bands about his trees to protect them against the insect, he neglected to have them examined for two weeks. In the meantime, larvae gathered under them, completed their changes and escaped as moths.

Dr. Behr stated that scale insects sometimes increase by parthenogenesis as does the aphid. Their changes need further investigation. The winged form may be a neater instead of the male as generally supposed. Mr. Klee, gardener at the College of Agriculture, corroborated from his own observation the statement by Dr. Behr, that scale insects are carried to new plants by ants. Mrs. Nelson Carr brought a twig of a tree which was infested with scale insects. On his recent visit, Prof. Comstock saw it, and advised washing it with soap-suds. Mr. Carr said that he had seen people drive nails into the base of trees infested with scale, claiming that the iron taken up by the sap destroyed the insects.

Mr. Hatch said that he carried a lot of currant bushes from San Jose to the foothills of Solano county. They were infested with scale, but the insects all died soon after the change without the use of any wash. His currants had this year been exceedingly profitable.

Mr. Dwinelle suggested that the insects were cooked by the increase of temperature.

Mr. Hatch assented.

Mr. Cooke announced that he had been encouraged by success in small experiments in destroying the phylloxera with iron and sulphur, and intended soon to try the same on a large scale. The remedy had been suggested by Mr. Hatch's observation, that vines on a soil containing iron were free from the insect, while others near but on a different formation were dying. He thought the insects would be killed, and the vine strengthened at the same time.

Mr. Dwinelle suggested that the first step toward a successful war on the insects should be a careful study of their habits in our climate by a thoroughly educated entomologist, who should be paid to devote all of his time to the subject, and to devising means for their destruction. He referred to Prof. C. V. Riley's eminent services as State Entomologist in Missouri.

Mr. Blowers warmly advocated the appointment of a State Entomologist and an appropriation to pay for his services.

The Chair said this would be a matter for the consideration of the committee already appointed.

Subject for next meeting, "A State Horticultural Fair and the Rules to Govern it. Adjourned to meet next month at 12 o'clock.

C. H. DWINELLE, Sec'y pro tem.

Cross Fertilization of the Almond.

EDITORS PRESS:—I read with interest the article on "cross fertilization of the almond" in the PRESS of Nov. 20th. According to your invitation at its close, I send you a bit of my experience. I have had charge of a small lot of almond trees (300 or 400) for the past eight years, at least most of the time. I have seen every crop. I noticed the letter of Mr. Meserve some time ago. As our fruit was, the most of it on the trees, and as the trees are somewhat mixed, Languedoc, paper shell, Bidwell, and here and there a seedling, after reading the letter I made an examination. I found that the Languedocs that stood nearest to the paper shells did seem to average better than those farther off; but in one or two instances I found trees at a distance, say 100 ft., as full. As to those near the seedling trees at the time of the examination, I had no thought of them. But I recollect that the best tree in the lot this year, in one instance at least, stands on the leeward side of a seedling, but a sweet nut. There is but one place where there was a bitter seedling in the midst of Languedocs, and there was no noticeable difference on either side, far or near. The seedlings have been set in where the others died out. The others were mixed when put out. All of them are from 8 to 12 years old. The Bidwells bear a fair crop every year. The Languedocs don't average five lbs. to the tree. Paper shells still less, except last year, when some of them did quite well. I don't think this climate so near the coast (about one mile) suitable for the almond.

With you, I think the new things should be thoroughly proven before we depend much on them. I take notice I lost a good share of my grapes on my arbor by trusting to the bluestone remedy for the mildew. S. WHITMORE.

San Diego, Nov. 22d, 1880.

From Another San Diego Grower.

EDITORS PRESS:—In your last issue, you ask for the experience of almond growers upon cross fertilization of the Languedoc, referring to the letter of Mr. Meserve upon the subject. My experience is limited, but as it corroborates that of Mr. Meserve, I will give it. I have an orchard of about 10 acres that has been out four years. At the northeast corner of it there are five paper-shell trees, variety not known. For the last two years these trees have been full of fruit, and all of the Languedocs near them have born well, while all the others have had but little fruit. I am satisfied that Mr. Meserve's theory is correct, and I shall, in the spring, bud one or two branches of each of the Languedocs with the paper-shell.

LEVI CHASE.

San Diego, Cal.

Orchard Insects.

At the last meeting of the California State Horticultural Society, held in this city November 26th, the appointed topic of discussion was insect pests of the fruit grower. Dr. Behr read the principal paper, as follows: Like all countries in which cultivation of the soil is comparatively new, California for a long series of years has been exempt from insect pests. It is only in the last three or four years that we have reason to complain, and become awake to the necessity of devising some means of stopping the ravages of some of the prevalent insect fiends. The first step toward bringing the devastation to a halt is to study the habits of the enemy, and, as most of the insects during their lifetime appear in different forms, to get acquainted with the different disguises under which the destroyer makes his appearance. Frequently he commits his ravages only under one form, and appears in our gardens afterwards, under the innocent garb of beetle or moth, as an unsuspected visitor. Such, for instance, is the case with the destructive ptinus, with the trochilium tribe, and with our latest plague, the codling moth, about which a very able compilation has been published by Mr. Cooke in Sacramento. I have very little to add, for this monograph could serve as an example how such work ought to be done. There is only one thing in the pamphlet which needs further investigation, and to which I want to direct the attention of our fruit growers, that they may assist me in its investigation. At page 17 the author speaks of a

Second Generation of the Codling Moth

In August. Now the word generation implies that the codling moth of June and July is the offspring of the one appearing at the end of the rainy season. It is not quite clear, but it appears to me that the moths in August are only individuals whose transformations have been retarded, a circumstance which occurs frequently in the insect kingdom, and is one of

CONTINUED ON PAGE 370.

PATRONS OF HUSBANDRY.

A Few Reasons Why the Farmer Should be Thankful.

[Written for the RURAL PRESS by MRS. MARIA B. LANDER.]

That Thanksgiving wave set in motion under hand and seal of our highest magnate of liberty, has, we trust, set into quivering ripples of thankfulness every human drop forming our great American sea of humanity, and as the surging drifts of proclamation echo from the tallest spire to the curling smoke of the humblest cot, so is seen the necessity of the heart of the husbandman beating in unison with those who sit in high places; for alike do they partake of the bounties of nature, and for the same great purposes of creation, namely, that of sustenance and life. The sum of days and years is but a test of individual power, and they who seek commercial marts or professional or learned pathways ever turn to man and his governing motives as the pivot upon which all business plans must center, while they who turn the soil to mellowing sun and wind must perforce watch the piling and shading of those sky turrets, the drapings of the sunset, as well as notice the wreathings of sun, moon and stars, whether they be in hazy vaporous form, or are likely to turn the few straggling dew-drops of a late summer into freezing kisses of the frost crystal. From this heavenward view the practical mind naturally turns to bursting buds, opening flowers, springing grass blades, and in each letter of change see an omen or forecast of the season which holds his planting, fruitage and seed harvest as promissory note from mother earth; hence is each day of farm life an unconscious communion between the great cause and effect, and almost imperceptibly is the heart softened and room made for purring rills of thankfulness. Does the husbandman owe his all to nature?—is there not for him a wider inheritance?—does not science and literature, both foster children of nature, spread before him healthy digestible truths?—does he not profit from the gleanings of the shattered overwrought brain of the midnight oil devotee?—is not the plow oft-times guided by brain power holding such problems as will whirl his class into that progressive state whose doors are but lately opened to those "not to the manor born?" In the advancement of ages have not his labors become, comparatively speaking, mere by-play, as inventive genius has annihilated the legion of laborers by the potency of steam; and yet again has there not been opened avenues hitherto unknown, in which those robbed of the birthright of hand-labor by these much-abused inventions might turn to equally honorable as well as profitable employment?

Let us for a moment open the door of the ancient Sudras of India. The great body of these people were left on agriculture. Witness a few of their laws: If a master was spoken of contemptuously, mouths were burned; if to insult, then tongue was slit; if by simply listening to the reading of sacred books, burning oil was poured into the ear; if a Sudra was murdered, such life was weighed on an equality with dead cat, dog, crow; and if to such Sudra was given freedom, he could not receive; for, says the law-giver, of a state which is natural to him, by whom can he be divested? Even the soil which father and son must perforce till could never be owned by him. At a later period we find the "Children of the Sun," in Peru, a most perfect form of absolute paternal government, encouraging agriculture to such a degree that the reigning Inca, on festival days, turned the soil with his own hands and with a golden plow, yet the lion's share of these earth products was placed in "granaries of the sun," and subject to the dictates of the reigning Inca; no man, not even a family man could own a foot of ground, but at marriage a moiety of land apportioned, and with the birth of each child another fraction of earth; thus was made, or could be made, none poor or rich, all alike sharing the bounty of a living, and the deprivation of even a possibility of rising to property honors.

'Tis to Europe alone we are indebted for the rising shades of equality, and the crudeness of that form is exemplified by the shadowy distance between lord and servant; that of landlord and tenant being a misnomer upon that greater liberty indigenous to the soil of civilized Europe. No need to contrast our lot with the hordes of Asia and Africa that cannot conceive of the thankful throes of that heart that beats for self and kindred, but throbs only at the behest of such tyranny as absorbs both liberty and life for the aggrandizement of despotic rulers.

Patrons of our mystic home circle, tillers of the soil and toilers in this garden land of the United States, have we not a nut for which to be thankful indeed, judging by the progress science has already made; may we not think that this liberty nut, an heirloom to all native born, and given for the asking to all foreign born, is not yet fully opened, but in centuries rolled in the near future will make greater strides upon the infallibilities of to-day than has been done upon the sacred and long held infallible past. Yes, for all temporal gifts, as well as the glorious possibility that stretches into the future, we sound the peans of praise and thanksgiving, and though the acreage of the patron's household be small or great, its base is

still a sacred home-plot, upon which may be reared sections of heavenly light which culminates only in that ethereal waste made brilliant with the sprinkling dust of worlds. This, the glorious heritage of the poorest American citizen, and if by caprice of fortune this land gift dwindle into little more or less than six feet of "God's acre," his children have still unsullied the heirship of that liberty which is meted alike to President, capitalist or laborer.

These are mere crumbs gathered from the grand old Thanksgiving table set by our forefathers, but even these are enough to cause our people to rend the air with "God save the commonwealth."

Martinez, Nov. 28th.

Meeting of the National Grange.

We are indebted to Bro. George Noyes, of the *Massachusetts Ploughman*, for the following account of the opening of the National Grange in Washington, D. C., November 18th. He writes:

The fourteenth annual meeting of the National Grange was held this week in Washington, nearly every State in the Union being represented. The meeting was held in Willard Hall, and among those present were the original founders of the Order, with two exceptions, viz.: William Saunders, W. M. Ireland, John Trimble, F. M. McDowell, J. R. Thompson, and A. B. Grosh. Seldom has it been our fortune to look upon a finer body in one assembly. It was a harmonious and happy body. Among the members of the convention were several members of Congress. But one spirit and purpose prevailed. The ladies also lent their welcome presence to the gathering, adding greatly to the brilliancy of the scene. The very substance and reliance of the country were represented there. William Saunders, the first Master of the National Grange, made an address of welcome, which was most eloquently and feelingly responded to by Put Darden, of Mississippi. Mr. Saunders was full of feeling and impressiveness in his address, and wielded a visible influence on all who heard his remarks. He expressed the wish that the National Grange could be put in direct relations with the subordinate Granges in all parts of the country, so that at any time desired it could execute their will or co-operate with them in their purposes.

That, he reminded the assembly, was the real idea in the original formation of the National Grange. He likewise hoped that the headquarters would be permanently located at Washington, which is the place of its birth.

Master J. J. Woodman's address was a remarkably able and clear presentation of the history, motives, sentiments and purposes of the Order, and held the close attention of all to the close. He said that the grand objects of the organization were the general improvement of husbandry and the increase of the general happiness, wealth and prosperity of the country. The obstacles it had to contend with at the first were recited by him, one of the chief being the attempt of ambitious men to get control of the Order for political purposes. It was to oppose the combinations of dealers, shippers, and transportation companies, who sought to control prices and increase profits without regard to the ruin they were bringing on others, that this Order was established. Also to secure intimate social relations among agriculturists, for the advancement and elevation of their pursuits, with an appreciation and protection of their true interests. This portion of the address was almost like a new declaration, and it left a profound impression on all minds.

Master Woodman advised the encouragement of the subordinate Granges, since the very existence of the Order depends on their prosperity. He showed the several ways in which such encouragement might be given, and also offered timely and valuable suggestions to the Granges themselves. County and district Granges were likewise endorsed as of great value in aiding to break up the isolation which exists among farmers, and to unite them in better business and social relations. The amendments of the Constitution and digests were also touched upon. The reference to the Agricultural Department and the Government aid to agriculture was one that elicited general approval. A request was impliedly made that the Commissioner of Agriculture be made a Cabinet officer. The example of European states in encouraging agriculture in every possible way was strongly commended. The subject of patent rights received the speaker's attention; while the subject of transportation was treated with a thoroughness which it fairly deserves. That is a matter with which the Order has to do directly. What the speaker had to say on the Agricultural Department and Government aid to agriculture we give, as follows:

The Agricultural Department, and Government Aid to Agriculture.

Admitting the correctness of the axiom, that "the earth is the source of all wealth, and labor develops it," every reflecting mind must be impressed with the fact that the wealth and prosperity of a nation depend largely upon the condition and prosperity of its agriculture. Hence a wise statesmanship would seek to require that agriculture should be fostered and protected by governmental aid. This principle in political economy has been acknowledged, and is practiced by most of the nations of Europe, and the advantages which accrue from this policy of government are everywhere admitted to be of inestimable value. In some instances, saving the very life of the nation itself. But there, as a general rule, the moneyed powers own the soil, control the labor and constitute the government. Therefore it is not so difficult to obtain

legislation for the protection and advancement of agriculture, as in this country, where the soil is owned by the farmers who perform the labor, and content themselves with being an *inert factor* of the Government.

If departments of agriculture, experimental stations, agricultural colleges, academies and schools; schools of agricultural chemistry, animal physiology and technology; stock, dairy and experimental farms, are necessary there, to preserve and increase the fertility and productiveness of the soil, they are just as important, and would be quite as valuable here. Educated and skilled labor, and the application of science, is quite as necessary to secure success in agriculture as in manufactures and the mechanic arts. If it is good statesmanship and wise economy to maintain such institutions there at public expense, does not wisdom and the best interests of our government demand them here? where the whole people constitute the government, and its success and perpetuity depends upon their intelligence, prosperity and contentment.

The establishment of the agricultural department was a step in the right direction; and the efforts of the present Commissioner to remove it from the influence of politics and make it serve the interests of agriculture, must meet the hearty approval of all good citizens, and especially those engaged in the cultivation of the soil. The act of Congress providing means to enable him to prosecute the experiments in sugar making begun under the most embarrassing circumstances, is also an indication of increasing favor, and will meet with general approval; but in my judgment it is not asking too much to request the new administration to make the Commissioner of Agriculture a member of the President's cabinet, where he can have a voice, and exert an influence direct with the Government. The recent establishment of experimental stations and agricultural colleges in some of the States, and the growing popularity of the agricultural colleges, heretofore established, is another sign of progress, and indicates that the good seed which has been sown is bearing fruit. Let us continue to sow the seed, in full faith, that we may hereafter reap an abundant harvest.

In discussing the transportation question, Master Woodman cited the publicly expressed views respecting the growing power of corporations in this country by such men as Senator Carpenter, Horace Greeley and Senator David Davis, which will bear many perusals and much reflection. They are opinions which it behooves agriculturists in all parts of the country to heed at this time. In conclusion, the speaker proceeded to condense and formulate his views in the following truly impressive manner:

Conclusion.

The relation of National State, Pomona and subordinate Granges should be of the most intimate and fraternal character, and all legislation so directed as to produce united action upon all questions affecting our common cause. Practical business co-operation should be encouraged among our members, and all doubtful enterprises involving the common funds of the Order or liability of Granges, should be avoided. Business should be conducted upon business principles. Business operations which cannot be made self-sustaining will result in ultimate loss, and the experiment of salaried agents by State or subordinate Granges should not be repeated. Where associations have been formed upon the co-operative plan and wisely managed, they have generally proved successful—in some instances surprising the most sanguine expectations of Patrons. But nothing can do more to popularize our Order with the farmers and bring it into general favor than an active, bold and determined policy to ameliorate the condition of agriculture and protect it from the grasping avariciousness of combined and incorporated power.

Our organization is an experiment, and its power to remove the great obstacles in the way of a prosperous agriculture in this country, has not yet been fully tested; but the efforts which have been made, and the steps taken to bring about these results, have been crowned with sufficient success to establish its ability, if properly directed, to accomplish that object, and the time has come when the test must be made. The conflict is upon us, and every member is expected to do his whole duty. It remains to be seen whether this country is to be controlled by the rapacious railroad transportation companies, managed by a few men "who recognize no responsibility, except to their stockholders, and no principle of action, but personal and corporate aggrandizement," or by the sovereign people.

It is encouraging to know that we are receiving influential allies from the commercial and manufacturing interests of the country, and if we stand firm and bring the whole strength of our Order into action, the contest can not be a protracted one or the results doubtful. Then let every Patron do his duty. Do not enter the field half-hearted; damp zeal is like damp powder—it will not burn, and has neither fire nor force in it; but work in earnest and make your work practical. It does not require the gift of eloquence to convince fair-minded men of the benefits of the Grange, and the practical advantages of membership. There are no faults in our organization to apologize for, and but little prejudice to overcome. Every principle of the Order is founded upon equity and exact justice. There is no law or rule that gives one member greater rights or privileges than another. There are no favored few, no privileged class—*all stand alike upon the same platform governed by the laws, and protected by the same power.* Our declaration of purposes challenges the admiration of all classes and professions of men, and no one has been found to criticize them. This movement is one of the most important known to history, and the first attempt of the agricultural class of a nation to maintain their social, intellectual and political equality. As the means of social advancement, enlightenment and liberalism, our Order possesses a power hitherto unknown; and guided by the light of its principles, it must overcome every obstacle and hold its way steadily onward, "bringing all within its influence nearer to the good, the beautiful and the true."

Let every member then be inspired with faith, hope and zeal in building up the Order and extending its sphere of usefulness, until in these quiet Grange halls all over our land shall exist a power and go out an influence which shall carry hope and good cheer not only to the husbandman, but to the toiling millions of the world and make our country in truth not only

"The land of the free and the home of the brave," but "The land of the good and the home of the blessed."

Next week we shall probably be able to report the organization and farther proceedings of the meeting.

"California Farmers" Insurance Matters in Santa Clara County.

EDITORS PRESS:—Thinking that you might wish to inform your many readers of what we are doing here in that "Insurance matter," we are happy to inform you that your humble servant and Mr. I. A. Wilcox have been sued upon their policies, and that the suit has been brought in San Francisco; said suit is instituted to recover a "call for deposit."

The policy holders of this vicinity held a meeting at the Farmers' Union two weeks since, and from the full attendance and the vigorous expression of opinion we conclude that they do not propose to be worn out, nor have they abated an iota of their antipathy "toward" this institution.

A committee of seven of our most substantial

citizens was selected to conduct our defense, whose feelings in the matter prompt them to exert their abilities for the mutual benefit of all policy holders, and men who endorse the "flat policy" business to such a degree that they flatly refuse to "settle up" as long as they retain their present understanding of matters.

The policy holders deposited with the committee a liberal amount of coin amply sufficient to conduct an able defense. The committee have employed Messrs. Fox and Kellogg to conduct the defense, and they propose to critically examine both the line of defense and the vigor with which it is conducted. N. J. HAINES, San Jose, Cal.

AGRICULTURAL NOTES.

CALIFORNIA.

DEL NORTE.

EGG PRICES.—Crescent City Courier: Eggs are very scarce in the market at the present time. Dr. Reins informs us that he paid as high as four bits apiece for some last week, which he was obliged to have. At that price a person with a few dozen good laying hens could soon accumulate a fortune, but this is an exception, as the price generally ranges from two to four bits a dozen.

HUMBOLDT.

CONDITION OF LIVE STOCK.—Eureka Standard, Nov. 20: The election excitement is over and what now most interests many Humboldt is the condition of stock, weather, and the programme for the coming winter. One thing is evident, and that is, sheep and cattle are, and will be in poor condition to face the coming storms, should they be prolonged or severe. They are in a much worse condition than they were last year at this time. The feed is very poor, owing to the lateness and lightness of the rains, which gave the grass but a slow and fragile start, and the frosts which are now stunting it. In some sections of the county stock men did not cut the usual amount of hay by 25%, so there will not be much forage for stock, in case farmers intend to feed during the stormiest part of the season. We are not penning this with the intention of injuring the reputation of the grazing capacity of our country; but facts are facts, and it is useless to try to obscure them. We have given this subject much attention; have been over many of the ranges; have conversed with leading ranchers from Rainbow, Elk ridge, Bear river, Garberville, Mad river, etc., and they bear us out in our surmises. Should we have moderate rains, followed by good grass-growing weather all may yet be well; while on the other hand should the rains be heavy and followed by cold blustering weather, sheep and cattle will die by the thousands. Humboldt is the best stock county in the State, but the ranges here—as we have observed in nearly every grazing county in the State—are crowded to their utmost capacity, and even more. On ranches that will easily graze 2,000 sheep, winter and summer, in a fair, over average year, we frequently find from 2,000 to 4,000, and oftentimes 5,000 sheep trying to graze on them. The result is fore-shadowed. For, whenever the soil is not capable of furnishing the necessary amount of grass, the stock must starve and die, and nothing but disappointment and loss can arise from such management. There is more money and less risk in a reasonably stocked ranch than in one where the grass never has a show to peep out of the earth's surface. It is noticeable that cattle are decreasing in numbers and that sheep are substituted in their stead.

KERN.

IRRIGATION SURVEYS.—Californian, Nov. 23: The party in charge of H. B. Joice, fitted out by Mr. J. H. Schuyler, of the State Engineering Department, for the purpose of exploring the mountain system from which Kern river derives its waters, returned Tuesday, having occupied five or six months in the performance of that duty. They state that the opportunities for the storage of water in the upper part of its course are remarkable and surpass those of any river in the State south of San Francisco.

MENDOCINO.

ICY COLD.—Dispatch, Nov. 25: The nights and early mornings have been so tremendously cold for a few days, that the question comes up whether the climate is not changing toward that of the Atlantic side. Here in Ukiah the thermometer has been down to 18, water pipes have been frozen and burst, and the gum trees in front of the Christian church and in the Court House yard lock as if they were nearly or quite dead, the leaves being all shriveled up.

NAPA.

BIG GRAPE CROP.—St. Helena Star, Nov. 27: Papers of the State frequently speak of 10-ton crops of grapes as something remarkable. It is a big crop, but St. Helena has beat it time and again. C. B. Worrell had, two years ago, 15 tons an acre on 6 acres. This year he had 107 tons on 6 acres. Of this, 65 tons was first crop, and 42 tons second crop; and he estimates that he would have had 60 tons out of second crop but by damages to it by wind and frost. He had 200 tons of grapes from 20 acres of bearing vines. Probably there are other vineyards in the vicinity that could make as good a report.

SAN BERNARDINO.

FROST FREAKS.—Riverside Press, Nov. 27: Commencing with Wednesday of last week a severe wind storm swept the Pacific coast. The strongest wind in this section was on

Thursday. The gale of that day subsided at night and a severe frost visited several localities. As usual the frost went in streaks. Some localities visited severely by the cold last winter were this time exempt, while other localities which were exempt last winter this time suffered. The damage on the whole is not severe. The northern part of Riverside settlement suffered most: small nursery trees were cut back somewhat and occasionally orchard trees had the bark split. Some young orchard trees were killed. In some parts of Riverside even in exposed localities the tips of tender lime and lemon trees were untouched. This is the third winter in succession in which frosts have been heavy enough to do material damage to citrus trees. This is the earliest heavy frost this country has seen for years. Two years ago the damaging freeze came early in December, and last year it came just before Christmas. This year the hardest frost was in the morning of the 12th of November. San Bernardino suffered very much, especially that portion lying in the moist land section of the valley.

CITRUS FAIRS.—The third annual citrus fair of southern California, will be held at Riverside during the week commencing March 7th, 1880. The Southern California Horticultural Society intend to hold a citrus fair in the spring, and fixed upon April 4th to 9th inclusive, but have concluded that that date was too late, and will therefore probably fix upon the week commencing March 14th. The traveling citrus fair will leave for the East soon after March 21st, and will open up in St. Louis probably about the 5th of April.

SAN DIEGO.

A RAISIN KING GOING SOUTH.—*News*, Nov. 27: We understand that Dr. Chandler, who resides in Yuba county, has been negotiating for the purchase of the Kerreu place, in Poway valley, that it has been offered at \$3,500, and that he has signified his acceptance of the offer, and is to take possession on the first of January next. It is said that he proposes to enter quite largely upon the business of growing grapes for raisins.

SANTA CRUZ.

GRAPE FIGURES.—*Courier-Item*: The grapes on Ben Lemonad are mostly gathered, but on Vine Hill the vintage was not more than two-thirds secured. Messrs. Mel, Lewis, Waterman, Anderson, Jarvis and Fitch are making wine on the hill, and Jackson Syllar in Santa Cruz. Mr. Mel expects 25,000 gallons, and other parties from 5,000 to 15,000 gallons, though at this time it is not possible to arrive at exact figures. Owing to improved cultivation and a favorable season the yield in some cases is enormous, and the average is abundant. Mr. Mel has one vine from which 200 lbs. of grapes have been picked this year, and we were told of other single vines yielding over 100 lbs. From 1,800 vines, set closely on a hillside and only covering about two and one-half acres, Mr. John W. Jarvis has gathered 57,600 lbs. of grapes, being an average of 32 lbs. to the vine, or nearly 29 tons from the field. These were weighed at his wine house and not "estimated" as crop reports too often are. Inquiries and observations in other vineyards warrant the assertion that from 20 to 30 lbs. to the vine has been realized from many acres of vineyard in this county. With wine grapes selling at from \$15 to \$20 per ton, and table grapes averaging at least double these prices, it does not require a tedious computation to estimate the profits of grape culture in this county. It is not our purpose now to discuss exhaustively the cost of producing grapes, the advantages and drawbacks of the business, and the inducements that exist to attract the farmer into grape growing, but these points will be considered in the future. This survey of our vineyards was taken at this time to establish the statement made in the *Courier-Item*, and in other places concerning the climate of this county. These observations prove that there are hundreds and thousands of acres of land in this county well adapted to the cultivation of the vine, within easy access to home and outside markets, that are exempt from frost even in such an exceptional year as this. The unusual cold of the past week has really been a blessing to Santa Cruz growers, as it has indicated both the exposed and the sheltered places, and enabled present and prospective vinticulturists to locate vineyards for late varieties where they will be forever free from the frost bite, and the attention of grape growers in other localities who look out to-day upon curled leaves and frozen fruit, will be directed to the foothills and canyons of the Santa Cruz mountains where the purple vintage clusters in unchilled security, and the "Flaming Tokay" crimson with unfrosted fervor.

SACRAMENTO.

WHEAT SOWING.—*Record-Union*: Parties returning from the upper Sacramento valley state that wheat sowing upon summer-fallowed lands is about completed, and the volunteer fields have been harrowed and put into condition for the rainy season. The acreage of wheat sown upon summer-fallowed ground is unusually large, and preparations for winter plowing are equally extensive.

THE OUTLOOK.—*Folsom Telegraph*, Nov. 27: Farmers generally have been improving the late pleasant weather in seeding their summer-fallowed ground, and should warm rains now moisten the earth, a speedy growth will be insured. A larger area of summer-fallowed land has been sown this fall than for several years past, and should the winter prove favorable, a larger harvest will be the result. Cattle and

sheep that have but recently been brought from the mountains find as yet but little to sustain them on the brown, naked hills and plains, but with the coming rains a supply will soon be afforded that will be more than ample for their keeping.

SAN JOAQUIN.

GRATTAN'S DOUBLE GANG PLOW.—*Independent*: Dr. Grattan who is not only a skillful physician and successful merchant, but likewise an intelligent and enthusiastic farmer, invented a double gang plow some years ago, and the implement promises to be brought into a more general use than the inventor contemplated. The plow was tested last Monday on John Mitchell's ranch, in Stanislaus county, and was found to work admirably. The field selected was hard, sandy soil, packed by cattle running over it all summer. The implement is a double gang of twenty plows, ten turning the soil in one direction and ten in the opposite, with a shovel plow in the cluster in front. Each plow cuts a width of 7½ inches, and the entire gang a breadth of 14 feet. The plows can be set to work the soil to a depth of from one to six or seven inches, but four inches is about the average depth. After a very successful trial on level land, a piece of hog-wallow was selected, and there it worked equally well. John Mitchell, Frank Ross and a number of other well known practical farmers were present, and were delighted with the success of the trial. It was drawn by ten horses, averaging a weight of about 900 pounds. The animals drew the plow along with apparent ease. The plow is chiefly designed for cross plowing, summer-fallow and for seeding, and really ought to be called a double-gang seeding plow. With a team of twelve horses it will plow forty acres of land in a day.

SONOMA.

CLOSE OF THE VINTAGE.—*Santa Rosa Republican*, Nov. 27: Grapes by the wagon and carload have been pouring in the wine cellars for more than a month until they are overflowing. A few sharp frosts are bringing the vintage to a close. It has been bountiful beyond comparison, and the weather was highly favorable for harvesting the crop. The trees are yet covered with green foliage, though leaves are beginning to fall. There has been no rain since April, and the grass is brown and dry. Ranchmen esteem it providential that rains do not come early. The dry grass makes good feed, though pastures are the color of brick yards, and look anything but inviting to the eyes of persons not familiar with our seasons. It has been a prosperous summer in our valley. Warehouses and bins everywhere, are overflowing with grain. All our products bring fair prices, and we have marketed much wool, wine and wheat. Diversified farming, with a denser population devoted to the cultivation of smaller tracts than in some other places, renders this region prosperous. There is really no reason why farmers should not be thankful that they have a freehold to the soil. Our climate is magnificent compared with the Atlantic States. About the middle of November winter sets in there, and farmers are sheltering cattle from the cold winds and snow storms. They are abroad with red comforters and thick mittens, and the roads are a glare of ice, or honeycombed with frost. Here the days are all too short for the farm work pressing at the beginning of the season for plowing and seeding, which will go on through several months. The temperature is just right for open air employment. There is a filmy veil of blue haze hanging over the landscape, like the smoke of Indian summer. The moon is nearly at its full, and every evening when the last rays of sunshine light up the crest of the Coast Range, the day is prolonged by moonlight. Belated teamsters profit by it, and make return trips after nightfall from the depot, leaving clouds of dust filling the air, while their empty wagons are heard rumbling along over the stony roads, a long way in the still night.

ACTIVITY IN LUMBERING.—*Cor. Santa Rosa Democrat*: Guerneville is at present one of the most business-like towns in the State. Everything and everybody is on the rush. The lumber business, including sawn lumber, shingles, pickets, posts, etc., is very prosperous, and seven carloads on an average leave here daily. The trade in cord wood and tan bark is also active, and twenty carloads of wood could be shipped daily, if it were possible to obtain cars. It is said that sixty cars loaded with wood from here are lying at Donahue's waiting to be unloaded. The four mills in this vicinity, Guerne & Murphy's, French & McFadyen's, Korbel Bros. and Wyman Murphy's are running to their full capacities. The first named is shipping three cars daily, and expects to keep it up until after Christmas. R. B. Lunsford's shingle mill is running, but Mr. Lunsford is going to erect a saw mill in the spring, which will make five in a radius of less than a mile.

POTATO DIGGER.—*Petaluma Courier*, Nov. 27: Wm. Zartman, of this city, has made a potato digger which beats anything in that line we have ever heard of. A man with a span of horses can dig from 200 to 250 sacks a day, according to the yield and lay of the ground. It requires about eight men to pick up, sack and stow away the potatoes. With this plow potatoes can be dug cleaner than with Chinamen, and sacked and placed in the barn at an expense of about five cents a sack. This includes the entire cost of digging, sorting, sacking, handling and placing the potatoes in the barn. The plow costs about \$16. We get our information from farmers who have been using the plow this year.

YOLO.

SORGHUM.—*Woodland Democrat*, Nov. 27: J. J. Rackerby, who lives on the Sutter side of the Sacramento river, just below Knights Landing, was exhibiting to our business men on Saturday a sample of syrup which he had just manufactured from cane grown on his place. The syrup was clear and of rich amber color, and the taste very pleasant. It was pronounced of superior quality by many who gave it a test. Mr. Rackerby has some acres of cane, which he raised this season from seed sent him from the East. He has machinery of sufficient capacity to turn out 60 gallons of syrup per day, and is also preparing to manufacture sugar from the cane. If the present experiment proves successful, he will cultivate about 75 acres next season, and give the producing of syrup and sugar from the amber and early orange cane a thorough test on a large scale.

NEVADA.

THE TURKEY DRIVE.—*Reno Gazette*, Nov. 24: The grand Thanksgiving drive of 500 turkeys was stopped at a point about a mile out of town. The owner has been bringing in small lots to-day in a wagon. Turkeys can be driven at the rate of ten or twelve miles a day. They will always stay with the wagon when a halt is made, and at night will roost on the wagon or an adjoining fence. Chickens conveyed in coops, will, if released in the sage brush, return before sundown to the wagon, and most of them will re-enter their coops, the remainder roosting on the wagon.

On the Primary Structure of Insects.

(Read at the meeting of the Arthrozoic Club, San Francisco, on Wednesday, Oct. 27th, by Dr. H. BEHR.)

The only animals that possess real organs for flight are insects. The bird's wings are but modifications of the anterior pair of feet.

This circumstance shows clearly that the wings of the insect cannot be modified feet; it is a proof that their origin is entirely different from that of the bird's wing, because the same organ cannot exist at the same time in its original form and in a modification.

To trace up the origin of the insect's wing, we have to retrace our steps to the lower type of arthrozoa and its repetition in the larva and chrysalis state of the typical insect.

We all know that the body of the arthrozoic animal, be it worm, myriopode, arachnide or insect, is a compound of segments, linked together pretty much like the vertebral column of higher animals, only that the arthrozoic column, forming an external skeleton, includes and protects all the viscera, which, in the vertebrate animals, are included in a second cavity. In this case it is especially the respiratory apparatus that interests us. There is no common entrance into this apparatus like the tracheæ of higher animals. Each joint of the many jointed animal has on each side its private entrance, called spiracles, which leads into a system of tubes called tracheæ, and bladder-like extensions called air sacks.

These tubes and bladder-like expansions connect amongst each other, in different ways, and form a system of air-conducting vessels, diminishing in size in proportion as they branch off, and embracing with their last dendritic ramifications, the last ramifications of the vascular system.

There is a certain analogy in this arrangement with the respiratory organs of vertebrates, but a vast deal of difference arises from the circumstance that in the vertebrate animal the respiratory organ occupies only a part of the animal, when in the insect it pervades the whole animal.

The more we advance from the homogeneous form of the worm and the myriopode to the differentiated form of the crustaceæ, arachnides and insects, the more we observe a tendency of the single organs to come to definite numbers and lawfully fixed position.

The typical crustacean and arachnide consolidate the anterior segments into the form of the cephalothorax, developing in the higher crustacean the number 10; in the arachnide the number 8.

In the insect the cephalothorax of the previous group separates into head and thorax; the latter in the coleoptera even separating the prothorax from the middle and posterior segment in the shape of what is called neck (collum).

The number of feet in the perfect insect is always six, a pair for each segment of the three joints of the thorax. In the typical insect two pairs of wings are added, always inserted in the middle and posterior segment of the thorax.

It is not a mere coincidence that these two consolidated segments never possess spiracles, so far as I know.

The wings are a modification of the respiratory organs of the insects, no more serving for respiration, but for locomotion. The point of insertion is the spiracle; the nervulation of the wing is the system of air tubes, or tracheæ; the double membrane expanded between them is an air bladder flattened out into a plane.

Agassiz, in a most interesting treatise, has directed the attention of entomologists to the fact, that the transformation of the metabolic insect, repeat, in their worm-like larva, the myriopode; they imitate by the cephalothorax of the chrysalis, the crustacean and the arachnide.

Now the larva possesses the two spiracles on each segment. In the chrysalis the cephalothorax has no spiracles; but in the winged

classes, even in this imperfect state, abdominal air bladders begin to form, perhaps to vicariate by their expansion for the tracheæ and spiracles of the meso and metathorax, whose activity is no more a respiratory one. I have not yet found an exception to this arrangement, but it is possible that the law does not exist in the same purity in the ametabolous groups.

News in Brief.

The typhoid fever is epidemic in Grass Valley.

The total four per cent. bonds registered is \$528,100,950.

The Montenegrins are to occupy Dulcigno with 40,000 men.

There are 20,000 cords of wood piled in the outskirts of Bodie.

The recent severe weather damaged the cotton crop 500,000 bales.

The skating is now excellent in many places along the Carson river.

Important discoveries in gold placer diggings are reported from Alaska.

Ground has been broken for the new railroad shops at West Oakland.

The ship building of the country declined 101,566 tons during the past year.

The outbreak of a horrible war with fearful butchery is reported at New Calabaria.

The total vote in the Presidential election was 9,192,595. Garfield's plurality, 3,401.

DE LESSEPS says that everything is ready to commence work on the Panama canal.

The ministers of St. Louis have decided to bring suits for a violation of the Sunday law.

Work on the Oregon railroad is vigorously progressing, over 200 graders being employed.

J. W. MORSE has been appointed General Passenger Agent of the Union Pacific Railroad.

In the fighting at Dulcigno, the Turks lost 300 killed and wounded, and the Albanians 400.

HANLON AND LAYCOCK, the oarsmen, have been matched for a race on the Thames, January 17th.

KHYBER PASS, the sole remaining fruit of the British campaign in northern Afghanistan, is about to be evacuated.

FRANCIS HOTCHKISS died suddenly at New Haven, Conn., Monday, and his wife, on hearing the fact, fell dead.

The control of the Missouri, Kansas and Texas Railway Co. is to pass into the hands of the Missouri Pacific Co.

GEORGE W. WILLIAMS, a negro member of the Ohio Legislature, is organizing a gigantic exodus of blacks to New Mexico.

The President has issued a proclamation this week, declaring that Chinese vessels are not subject to any discriminating duties.

The chief of the geological survey in western New Mexico reports the discovery of a prehistoric city 40 miles from Santa Fe.

The Secretary of the Navy has approved the course of Commissioner Hughes, relative to the captain of the British steamship Sandringham.

The volcano of Mauna Loa, on the island of Hawaii, is in active eruption again. Rivers of lava 30 to 50 miles long are flowing down its sides.

The steamer *Simcoe* foundered in Lake Michigan on November 24th. The captain and 11 of the crew perished. Five succeeded in reaching land.

DESPITE the energetic remonstrance of the representatives of European powers and of the United States, the persecution of the Jews continues in Morocco.

The Ute Commissioners have gone to Los Pinos to pay the Uncompahgre Utes \$25,000, being their portion of the \$75,000 paid to the Utes under the treaty.

On the 24th, a party of miners going from Georgetown, Colorado, to the North Park, were precipitated in an immense snow drift, and two of them were killed.

THERE is now about \$85,000,000 in gold bullion in the United States Treasury, of which it has been decided to coin monthly \$10,000,000 of the denomination of \$5 and \$10.

POURPARLERS are passing between the United States and the French and German Governments for exchanging opinions relative to the employment of the existing silver coins.

GEN. WALKER, Superintendent of the Census, characterizes as entirely erroneous, the recently published statement that the money for the census of Indians has given out and that the work is a failure.

The track of the Southern Pacific railroad is now laid 18 miles east of the Rio Miembras. Track-laying has moved slowly the past few days, owing to the scarcity of rails, but a supply has gone forward.

The Bessemer Steel Works, the Albany and Rensselaer Spike Mill and Burden's Water Mill of Troy, N. Y., shut down last week on account of low water; 1,000 men are thrown-out of employment.

ROBERT, son of President Lincoln, received the most votes on the electoral ticket in Illinois.

The Union Pacific Railroad Company has reduced the passage rates from Omaha to Ogden from 7½ cents per mile to 6.

TELEGRAMS from Berlin inform the State Department that the cases of American naturalized citizens, who have been arrested in Alsace and Lorraine on charges of owing military service, have been decided in accordance with the claims of the government. The release of Weil has been already reported, and now it is announced in his case, as well as in the previous one of Gettes, that all fines and penalties imposed by the German Government have been remitted.



Woman's Mission.

Amid the verdant mountains grand
Where beauty clothes the hills,
Adown whose lovely emerald slopes
Laugh sweetly rippling rills;
Where all the air is fragrance sweet,
The birds sing songs of love,
And Nature with her grandest strains
Uplifts the soul above;

In such a clime, where beauty reigns.
A baby girl was born,
With soft dark eyes and seraph brow,
One bright auspicious morn;
Yes, she was born to bless the world
And cheer God's huddled poor;
One of His helpers, faithful, strong,
That opens Heaven's door.

Upon whose head rich blessings fall,
Into whose generous hands,
Rare gifts for good to human kind
To sunder slavish hands
To bind the broken, cheer the faint,
The widows tears to dry,
To hear with all her pitying soul
The helpless orphan's cry.

More blest to give than to receive;
A cheerful giver, too;
Beloved of Him who loveth well
His faithful helpers few.
For out of many called to work
The chosen ones are rare,
They're sent to earth to garner in
God's priceless jewels fair;

And so the heavenly dews are shed,
The bright celestial flowers
Of Faith and Hope and Charity
That bloom in Eden's bowers,
Are sown within the child's heart
And bud and blossom there,
And in their peaceful loveliness
Breathe fragrance on the air.

Faithful messenger of love divine,
To bless the human race,
How doth thy peaceful mission shine
With radiance of His grace.
So calm and trusting is the soul,
So happy, bright and free,
The loving spirit, kind, yet bold,
Upon life's stormy sea.

Oh woman, thy great mission here
Is heavenly charity;
To give without a stint or fear,
A priceless rarity.
All that is lovely, good and pure,
All things that charm the soul away,
All that the hearts of man allure,
Are found within thy quietly sway.

We love thee as we love the flowers,
We love thee for our mother's sake;
We love thee as we love the showers
Which lilies lift their bell to take;
We love the last, pure gift of God,
Who called thee "Woman," best of all;
E'en when we dwell in Heaven's abode
Our hearts shall bless thy tender thrall.

—John Newell.

Making the Most of Things.

[Written for the RURAL PRESS by a WORKING WOMAN.]

"My daughter, you must learn to make the most and the best of everything," thus said the trembling, aged mother. None but those who have passed or are passing through the fire of adversity can realize how difficult it was to learn this lesson.

The romance of coming to California had passed—the hard realities were around us. In coming here, the first object in view was the hope of adding a few years to my husband's life; but we had children to educate, and had to live from day to day. No matter how much or how little money people may have, it goes very fast. A year of camping, by the wayside, in the mountains, at the lakes, including tolls, feed, food and incidentals, for four, is an expensive undertaking, at the best. Then, the children two years away from us, at school, did not reduce expenses.

Having glimpses of the magnificent possibilities of this young State, the "gude-mon" caught the "unco-spirit" of speculation. Water ditches and mining investments did not prove remunerative. He said to me one bright September day: "Mother, you better take the children and go to a mountain town to live, and do the best you can on \$40 a month. I think in two years I can recover myself financially as, in a measure, I have in health."

We had heard of a little place, near a good school, high up in the beautiful hills, where fire-wood could be had at the cost of cutting and delivering; where purest spring-water sang merry songs all the year, and evergreen trees and purple manzanita berries made the stormiest winter day bright. But I was not quite prepared to exchange lofty, hard-finished apartments for low-ceiled rooms, or plate-glass windows for 9x13 panes, 12 to a window. The wood-work of the cabin was not painted, the floors were smooth, but full of cracks that admitted air and dust freely. In the States, at the old home, the out-houses, for calves, pigs and poultry, stood on firmer foundations than this four-roomed cabin, which was the very

best we could obtain, and hope to live within our means.

"True, my daughter; but come to the porch. See here, on this 20th day of November, 1876, are full blown roses, sweet mignonette and blue periwinkles. Look at the shadows on the artificial lakelet; hear the song birds; see the oaks, alders and willows, yet clothed with green. See the wildness of the young pines, covering with their green glory the red hillocks of the worked-out mining camp. Look, farther on down the western hills, how clearly defined the distant Coast range of mountains. Think of the vast wheat fields and thrifty towns that lie 'twixt us and them." Think of the workers with pick and spade, plow and harrow, earning bread for loved ones. Think of the parallel lines of railroad, and steamers and barges on the river, all carrying wheat, wool and fruit to the marts of trade to help feed the millions who dwell in the cities of the world.

"This is a young State! To earn daily bread in the quickest possible way was of more vital importance than laying solid foundations for board houses. At home you occupied and enjoyed the foundations laid by three generations of fathers. Here we are all pioneers, rough hewing as we may, laying foundations of character and moral worth for our children's children.

"Now, look closer at the old mill and the line of gray rock, 100 ft. long by 50 ft. high. Think of a well (shaft) 700 ft. deep, and of the patient labor necessary to excavate to that depth, and then to tunnel in search of the shining gold with which to buy bread and shoes for the wives and children! The interests of the wheat growers on the plains and these toilers in the mines are really one and the same—both are bread winners; both build up the State; both must be protected. Think again, my daughter, of the thousands of men and women who toil under ground in the salt and coal mines of the old world and do not have a square rod of earth or a green tree to call their own. Then thank God your lot is cast in glowing, glorious California! Take courage, set your woman's wit to work, bring order out of this chaos, comfort out of apparent discomfort, luxuries out of this poverty of conveniences."

The cabin, as we still call it, was 35x16, outside measure, divided into three rooms and a pantry. The whole length of both sides had a wide porch; the north end a rougher board lean-to (16x12 ft), and windowless. This could serve as a kitchen. The boys at once elected to camp on the west porch nine months of the year, or until the rain should drive them in. We let the darlings have 500 ft. of good seasoned boards, a saw, jack-plane, hammers and nails. They made their own bedsteads, swinging book shelves, a lounge frame, kitchen table (and our best table, too), bee-hives and a nicely finished sash and glass front cabinet for mineral specimens. They did not do all in the first month, but during the year; also shelf-clothes-presses. Two planed wide boards four ft. long, one upright six and one-half ft. high, secured top and bottom by cleats, with a thick cloth curtain open in the middle, gave us two shelves and a space four by five ft. to hang garments in, at the foot of each bed. Trunks were covered and cushioned, the outside to serve as ottomans and the inside as pack-away-places; in summer for flannels with camphor; in winter for summer garments.

Our living room, 14x15½, we newly papered and white-washed; then put in it a cheap but bright carpet, a lounge, ottomans and easy chair covered with seal brown that harmonized with the picture frames and organ case. Pine shingles, bits of brown cambic, 10 cents' worth of gilt paper and a little patience, make prettier brackets for saucers of rooted ivy and smilax than we could buy in the town. To-day, four years later, the living green half covers two sides of the room; engravings, photographs and bright homey chromos look restful and happy under the green drapery.

Each spring wild flowers have been brought from canyons and acclimated in shady places. Ferns have learned how to grow in the same soil with violets, only closer to the water, and in the shade. A thousand times I exclaim: "My darling boys, what a comfort you are to me. How could I live without your clatter and noise and mischief, and bits of dawning wisdom!"

After all, adversity has its compensations, chief of which is we learn to endure privations cheerfully. We learn to love each other more than we could when we had only to express a wish and give the order, to have it supplied. Now it is devise and plan; consult and talk over this, that and the other possible way, until the object attained or completed seems almost a creation of our own. It has an individuality characteristic of the family, and we hear "why, that looks like mother," or "I should know that was my boys' work."

The boys' bedroom on the west porch, high and dry above the ground, was festooned with climbing roses. When the south wind blew they hung up a blanket. When the north wind came down fresh with ozone from sugar pine forests and a smack of crisp frost in it they shifted the blanket, as we used to shift the fly-tent on the plains.

Of the north end of the east porch we made a dining-room, lining the roof and festooning the top sides with blue calico. A two-barrel water box touched one corner of it, always full of sparkling crystal pure cold water fresh from the hearts of higher mountains. Three hundred days in the year the sun shines and it is a comfortable place. By the water box we wash

dishes, and all summer rinse, sun-dry them and keep them in a dry-goods-box cupboard, all within a turn around, and onestep of the table.

When it rains, or on frosty mornings, we breakfast as the Scotch working people do, one at a time, with our dish of porridge and bite of bread. Then the boys, full of life and sunshine, are off to the hills at boy work, or to the sluice boxes, learning to mine in a small way, or to school, with books and dinner buckets. The evening meal on these cloudy days is spread in the carpeted living-room, where music, fun and frolic follow, until time to study the stars, or dream of them, if they are obscured.

The early mornings are always given to study. Geometry, algebra, history or spelling lessons come first; then the RURAL PRESS, Scribner's, and a daily paper, and new books. They are as necessary as daily bread. In the beginning, we bargained with each other to not use tea, coffee, chocolate or tobacco, in any form, and whatever sum of money any family of four in the neighborhood were expending for these articles, we would lay aside for books. From this saving (my boys thought \$50 a year the smallest sum used by any of our neighbors), we have paid for a two-stop organ, \$125; school books, and \$30 worth of good books—our joint selection.

Four years have passed. The oldest son is teaching school and preparing for college. Our dear old mother's tired hands are folded over a pulseless breast. We know she has passed into the summer-land of the life that knows no more tears or pain. My precious husband, also, recovered his fortunes in that bright land, where moth and rust cannot corrupt; where, with open purse and generous heart, all his earthly life he had laid up treasures by giving to the poor and needy. No harsh or unkind word ever fell from his lips into the ears of the needy or discouraged. My little laddie's highest ambition is to be as "good a man as papa." My first-born says: "Oh, mother! can I become as good a man as papa would have me be?"

Life has not all been sunshine, but we have found silver linings to the darkest clouds. We have learned in our cabin home to live on much less than \$40 a month. Many days have been dark and dreary, but over all, through all, we have recognized a loving All-Father's care and sustaining strength, and this blessed Thanksgiving week we are full of hope and courage for the future.

Nevada Co., Cal.

The Studies of Nature.

[Written for the RURAL PRESS by JOHN TAYLOR.]

Nature is ever a fruitful theme for reflection, meditation and reverence. The fall of the year, when all nature, in its garb of green, begins to die, wither and fade; the brown-tinted leaves, the steady dropping of the same, with a weird sound, as if the earth was a grave—a universal coffin for all the beauty of summer and spring time. The very atmosphere has an influence of sadness for man, and I suppose for beasts, which may account for the migration of fish and fowl to warmer climates and clearer waters. Reflections of a saddening nature find escape through the pen, even when the spirit should be most exalted over nature's bountiful harvest of good things. Many to-day have harns full of food for man and beast, homes enriched by love and the blessings of childhood; but many wander to and fro, having none of these creature comforts. All are not gifted alike. The strong should help the weak, the learned teach the ignorant, and thus fulfill the law of God.

One beautiful sight I must describe. A vessel of clean, clear water was found one morning covered with a mass of solid ice. Lifting it out of the water entire, it presented underneath one of the most beautiful appearances of tilagree ever beheld. Leaves thin as gossamer stood out in bold relief, shimmering in the sun as a thing ethereal—so varied and fantastic, and so real withal, that one could scarcely believe ice could be so attenuated and appear in such natural leaf form. We carried our trophy to the house for inspection. Under the glass, it revealed a perfection of form and outline truly wonderful. There was a rose bush just above where the ice was formed. Had that anything to do with the perfect leaves in ice form? Or is it only a freak of nature, in its infinite and endless variety, presented for man's instruction and pleasure?

Alas! for the permanence of all things earthly! While we looked and admired, the leaves faded, trembling into nothingness, just like the outcast's dream of heaven. But though the tangible image is gone, the photograph remains on memory's tablet a thing of beauty forever. How often we pass by nature's beautiful handiwork without a thought, because it is common. How much better to fill life's book with scenes of beauty in nature than much which engrosses the mind of man! We cannot and do not know how soon we may be called upon to live upon the record planted in the mind when leading an active and busy life. Is it not well to store up for such a time a feast of that which belongs to the pure, good and beautiful?

JOHN TAYLOR.

Mt. Pleasant, Nov. 19, 1880.

[The appearance on the ice to which our correspondent so fittingly alludes was doubtless a good view of the crystalline forms which are produced in the process of freezing, and had no relation to surrounding objects, except as a poet might trace the semblance.—EDS. PRESS.]

The San Francisco Fruit and Flower Mission.

[Written for the RURAL PRESS by L. C.]

"Nature's voice is sweet
Wherever heard; her works, wherever seen,
Are might and beauty to the mind and eye;
To the lone heart, though oceans roll between,
She speaks of things that but with life can die."

Starr King has said: "If the eye could see what dollars would go on missions of mercy; would strengthen the interests of truth; would put wings on good ideas; would endow beneficent institutions with new power; would carry sympathy and help to the bed of some poor sufferer; kindle a fire upon the desolate hearth; spread a meal upon the table of destitution; clothe a pallid and shivering child, or give it some training of mind or heart—those, a man might say, are the Christian coins."

What organization can be more worthy of liberal support than the "San Francisco Fruit and Flower Mission." This society was formed some two years ago as an adjunct to the "Young Women's Christian Association." At first but one hospital was visited—the City and County—but the work has gradually and steadily increased, until it was deemed advisable, with the consent of the Y. W. C. A., for the society to become a separate and independent association. This was accomplished during October of this year—the young ladies comprising the society having elected a Board of Trustees of prominent business gentlemen, and an advising committee of married ladies. There are at present about 50 members, and besides the hospital previously mentioned, the ladies visit regularly the German, French, Children's, State Woman's and Clay Street hospitals; the Old Ladies' Home, Scandinavian and Jewish Homes, and several free Kindergartens. Flowers, fruit and other delicacies, and reading matter, are taken to the inmates, and what pen can describe the delight with which they are received?

"By the breath of flowers,
Thou callest us, from city throngs and cares,
To the free childhood's heart,
Fresh with the dews of tenderness."

Is not this a fitting theme at this season of Thanksgiving? Is it not a fitting time to make an appeal to the generosity and benevolence of California?

At the approach of winter, fruit and flowers are urgently needed by the ladies of the "Mission," in order to keep a constant fresh supply in the various hospitals and charitable institutions within their district. Suitable books, papers and magazines will, also, at all times be acceptable, all of which are forwarded free of charge by Wells, Fargo & Co.'s express. The place of meeting to receive donations is 713 Mission street; the time, Thursday of every week; the Secretary, Miss C. B. Story, 30 McAllister street, who will supply all necessary information. Flowers packed in boxes, between layers of wet paper, can be sent from long distances, arriving at their destination in perfect condition.

A little effort of memory, a little effort of will, is all that is needed. Can we not do so much?

"And still through every age and hour,
Of things that were, and thinks that he,
Are breathed the presence and the power
Of everlasting charity."

Married.

LEMMON-PLUMMER—In Oakland, Thanksgiving Day, by the Rev. Dr. L. Hamilton, John G. Lemmon, botanist, Oakland, formerly of Michigan, to Sara A. Plummer, botanist, Santa Barbara, formerly of New York. No cards. Michigan, New York and New England papers please copy.

Our earnest congratulations are tendered. Mr. and Mrs. Lemmon will reside in Oakland the coming winter, and will be pleased to welcome botanical and other friends at their new herbarium rooms, north wing Blake house, corner Washington and Twelfth streets, on the Thursday following Thanksgiving (December 24) from 1 to 4 P. M., and also on Thursday afternoons thereafter.

Rest For The Weary.

What a strange thought! All this restless world is seeking rest. Those who drag their weary bodies home night after night and fall down upon restless beds, worried with the anxieties and cares of business are yet seeking rest. It is not found in poverty; perhaps it lurks under the rich man all the while he lies groaning upon his couch or stands with wrinkled brow perplexed with care. Where is rest? What is rest? It is the divine principle of peace within that comes from God. As well seek roses upon the pallid cheek of death as rest out of God. The needle never rests till it turns to the pole. If a little child is frightened at play he comes running into the house to mother. She takes him to her bosom, presses kisses upon his brow, and while she sings some lullaby of love, all fear fades from his face and he sleeps in peace. God wants to fill a mother's place for the whole world. If it be misfortune, or poverty, or gloomy forboding that makes one unhappy, God can give him rest and breathe a lullaby of love above his tempest-tossed soul that will still its raging. Rest, peace, is a principle that lies within us and not without. Some, possessing it, have found a crowned head uneasy. Oh, that every anxious, longing heart would look away to him who walks among the golden lamps of heaven! "Take my yoke upon you and ye shall find rest unto your souls."

Chaff.

A MAN of Augusta, Georgia, on receiving a doctor's bill for medicine and visits, wrote that he would pay for the medicine and return the visits.

THE English language is wonderful for its aptness of expression. When a number of men and women get together and look at each other from the sides of the room, that's called a sociable. When a hungry crowd call upon a poor minister and eat him out of house and home, that's called a donation party.

A LITTLE girl six years of age, who had attended public worship in a hall, went with a relative, for the first time, to a church, and described it on her return to her mother: "The minister stood on a piano and preached; he read a hymn, and all the people stood up and turned their backs on him, and looked up to a bedroom where four persons stood and ung the hymn."

A YOUNG man who was desirous of marrying a daughter of a well-known Boston merchant, after many attempts to broach the subject to the old gentleman, in a stuttering manner said: "Mr. O—, are you willing to let me have your daughter Jane?" "Of course I am," gruffly and quickly replied the old man; and I wish you could get some likely fellows to marry the rest of them.

Happy Meal Times.

It is a good rule as far as possible to drop before coming to the table the care and fret and labor needful to get up the meal and the worry about the work of clearing all away. Give yourself a breathing space of quiet and rest while you eat, and make it as pleasant for all the rest as you possibly can. This pleasantness of home turns on very little hinges. It is simply making the best of the circumstances, or the other way. Turn to the right or to the left and you are walking among flowers or pushing into a hedge of prickly thorns.

How differently all the family feel when mother sits down pleasantly and chats cheerfully, or when she snaps out, "I wonder why you don't keep the dinner waiting all day?" or some similar rebuke to one and another of the children as they come in. Family jars are such evil things; they do so break up all the peace of households, and are in no sense profitable. No one's burden was ever lightened by scolding nor any heart made happier.

There is something refining and elevating in a neatly spread table, even if the cloth is the coarsest and the fare the plainest. But it pays to have little surprises in the way of favorite dishes quite often, and they often cost less than the old regulation dishes of meat and potatoes and bread. New ways of cooking the same article are in effect new dishes and are very acceptable to the household. A great deal of variety can be gotten out of very inexpensive materials.

But the food is of far less importance than the spirit with which it is eaten. Food taken in a moody, sullen or troubled spirit can never digest properly. Hence the cruelty of making table-time the occasion of bringing up the misdoings of children. Yet how many people have we known who pursue just this course! The arrears of the day seem to be brought up to the tea-table for adjustment, and frequently a little culprit is further cheered by the remark from his father, "I will attend to your case, sir, about bed-time." Such a father merits being shut up in the power of giant despair for a while at the mercy of his "grievous crab-tree cudgel" until he learns a little more humanity. It is a kind of retributive justice that children go away from such a home hating its walls, and that father is left to totter down to his grave as best he can, unsupported and uncheered. I knew such an old man not long ago whose grown up family scattered out far and wide and left him alone at the old homestead. Not one would live there. "And," said he complainingly, "when I proposed to go and live with my son Franklin through the winter, don't you believe he wouldn't have me." He has gone to his reward now, such as it is, and they have divided up the property among them, but there were no grateful remembrances of the hard hands that had scraped it together. As we sow we shall reap. An old Spanish proverb says: "There are no ungrateful children." If our children really have cause to be grateful to us they will not fail of loving remembrance. —Olive G., in *Farm and Fireside*.

BUY A HOME.—Every man should own his home if he can. That philosophy which tells a man to drift over the uncertain life without a home, is like a ship out in the open sea at the hazard of the storm. A man who owns his home is like a ship that has arrived in port and is moored in a safe harbor. One man should be no more content to live in a home that is not his own, if he can build one, than one bird should take the risk of hatching in another one's nest. If a windfall has come to you, buy a home. Do not let anybody tempt you to put all your money back into the pool. Take out enough to buy a home, and buy it. Put the rest back if you will, gamble with it if you must, but buy the home first. Buy it, and sell it not. Then the roses that bloom there are yours; the clematis and jasmine that climb upon the porch belong to you. You have planted them and seen them grow. When you are at work upon them you are working for others. If there are children, there are flowers within the house and without. Buy a home.

Young Folks' Column.

Our Puzzle Box.

Cross-word Enigma.

My first is in seven but not in two;
My second is in dollar but not in sou;
My third is in ink but not in pen;
My fourth is in now, also, in then;
My fifth is in tear, but not in sigh;
My sixth is in prove, but not in try;
My seventh is in gain, but not in lose;
My eighth is in pump, but not in hose;
My ninth is in early, also, in late;
My whole is the capital of a Western state.

CEPHIA.

Blanks.

(The blanks are to be filled with the same words curtailed.)

1. Has the ——— ceased beating yet, or can you still ——— it?
2. I saw the burglar ——— Jules to a post in the coal ———.
3. Having paid our ——— to Jonesboro, we wish to know how ——— we must travel.
4. Suddenly our ——— stopped, and looking at the shore ahead of us our blood ran cold at sight of a monstrous ———.
5. Across the ——— door a ——— extends to prevent the entrance of animals.

OLD JOE.

Rhomboid.

- ACROSS.—1. Reputation. 2. A bundle. 3. Dislike. 4. A business paper.
DOWN.—1. In nocturnal rambles. 2. An exclamation. 3. A winged animal. 4. Destiny. 5. A malt liquor. 6. Myself. 7. Found in Providence.

JENNIE.

Charade.

With proud affected mein,
A care for none like self,
My first trips through the streets
A man-like dainty elf.

In Africa's desert plains,
Amid the lovely waste,
Where foot of man ne'er trod,
'Tis there my second's placed.

A tiny flower plant,
Upon the tidy lawn,
My whole doth early bloom
To herald spring-time's dawn.

UNCLE CLAUDE.

Household Furniture.

1. A vehicle and to indulge.
2. A vegetable, a feminine name and a vowel.
3. To vibrate, a termination and a scat.
4. To guard, and to dress.

S. U.

Answers to Last Puzzles.

NUMERICAL ENIGMA.—Philadelphia.

SYNCRATIONS.—1. Dire, die. 2. Four, for. 3. Force, forc. 4. Main, mine. 5. Burn, bun.

PROBLEM.—Four feet.

DIAMOND PUZZLE.—

F
A
L
E
F
L
A
M
E
E
M
U

BLANKS.—1. Mace, acme. 2. Levi, vile, evil. 3. Peal, leap, pale. 4. Mite, item, time.

The Origin of "Uncle Sam."

[Written for RURAL PRESS by JUNIUS XAVIER.]

How many of the young folks, if questioned, could give the origin of the appellation of "Uncle Sam?" I venture to affirm that comparatively few could give a correct answer. It is amusing to even question adults and hear their absurd replies. Some will say that it found its origin in the breast of envy; for as England had the cant appellation of John Bull, it would be out of fashion if we did not give birth to a like title. Another would ingeniously remark that some old "Uncle Sam," seeing that his name and U. S. was somewhat correlative, assumed the responsibility, and named us accordingly. Others will give versions more consistent with wit than probability. But the true reason why its origin is not more generally known is, I suppose, owing to its age and sectionalism. It was in the year 1812, when Congress had declared war against England, that a contractor by the name of Elbert Anderson started for Troy, N. Y., to make extensive purchases of munitions for the army; therewith purchasing a large quantity of pork, beef, etc. It happened that the inspectors at that port were Ebenezer and Samuel Wilson. The latter (universally known as Uncle Sam) had charge of a particular set of workmen, whose duty it was to overhaul the provisions for the army. The cases were to be marked "E. A., U. S.," meaning Elbert Anderson, United States. The duty of marking these cases was devolved upon a facetious and witty man. So one day, while performing his duty, some of the workmen who happened to be idle asked him what those letters meant (at that time "United States," abbreviated, being new to them); whereupon he replied that he did not know, unless it meant Elbert Anderson and Uncle Sam (meaning Uncle Sam Wilson). The joke soon took among the men, and was promulgated with rapidity throughout the State. All during the war this joke was the topic of conversation at the camp fire.

Now, I trust that, as a great many young folks read this paper, they will not fail to impress this upon their minds, and be ready at any time to give an intelligent answer as to the real origin of our Uncle Sam.

GOOD HEALTH.

Cold Feet and Sleeplessness.

A writer in the *British Medical Journal* thus discourses on the above subject:

The association between cold feet and sleeplessness is much closer than is commonly supposed. Persons with cold feet rarely sleep well, especially women. Yet the number of persons so troubled is very considerable. Cold feet are the bane of many women. Tight boots keep up a bloodless condition of the feet in the day, and in many women there is no subsequent dilatation of the blood-vessels when the boots are taken off. These women come in from a walk, and put their feet to the fire to warm—a most effective way to cultivate chilblains. At night they put their feet to the fire and have a hot bottle in bed. But it is all of no use; their feet still remain cold. How to get their feet warm is the great operation of life with them—in cold weather.

The effective plan is not very attractive at first sight to many minds. It consists in first driving the blood vessels into firm contraction, after which secondary dilatation follows. See the snowballer's hands. The first contact of the snow makes the hands cold, for the small arteries are driven thereby into firm contraction, and the nerve-endings of the finger-tips feel the low temperature very keenly. But, as the snowballer perseveres, his hands commence to glow; the blood vessels have become secondarily dilated, and the rush of warm arterial blood is felt agreeably by the peripheral nerve-endings. This is the plan to adopt with cold feet. They should be dipped in cold water for a brief period; often just to immerse them and no more, is sufficient; and then they should be rubbed with a pair of hair flesh-gloves, or a rough Turkish towel, till they glow, immediately before getting into bed. After this, a hot water bottle will be successful enough in maintaining the temperature of the feet, though, without this preliminary, it is impotent to do so. Disagreeable as the plan at first sight may appear, it is efficient; and those who have once fairly tried it, continue it, and find that they have put an end to their bad nights and cold feet. Pills, potions, lozenges, "night caps," and all narcotics, fail to enable the sufferer to woo sleep successfully; get rid of the cold feet, and then sleep will come of itself.

Baby's Bow Legs.

These need not cause anxiety in all cases. If the child is healthy and has good, nourishing food and pure air—the two great essentials for making good blood—it will probably outgrow its bow legs naturally enough as its strength increases. Rubbing the legs with your hands in the morning may help to strengthen and to straighten them, holding them straight as you rub them. If the case is pretty bad, the two legs may be bound together with comfortable bandages during sleep, rubbing them well before and after binding them. If the child is quite young, it may be kept from standing on its feet for a few months, giving nature time to straighten the crookedness while the limbs are growing stronger. A carriage and a high chair are helps toward carrying out the plan.

All the things that have been mentioned as curative agencies may be used as preventives. A healthy child, with wholesome food and pure air to breathe, if kept from standing and walking while too young and weak will not have bow legs. Scrofulous children are more likely to suffer in this way, and those that are very fleshy. Don't take pride in your fat baby. Excessive fat is really a disease, instead of a sign of health. Fatten your pigs as much as you fancy, but do not deliberately fatten your children. Give them plenty of good, growing food, and they will be plump enough for symmetry, and not too heavy for comfortable activity. It is no wonder that the little legs bend under the heavy weight of some fat little toddlers. Such children should not be encouraged to stand or walk until they have grown strong enough to do so of their own accord, and then should not be allowed to walk too much.—*Sanitarian*.

THE DIARRHŒA OF INFANTS.—During one of the discussions on the alimentation and diseases of infants, which now occupy so much attention in France, M. Jules Guerin stated that the addition of a little charcoal (about half a teaspoonful of Belluc's or other finely-powdered charcoal) to a nursing-bottle full of milk exerts a most remarkable curative effect upon the diarrhœa of infants. He has repeatedly seen children who had become exhausted by seven or eight days' duration of an obstinate diarrhœa regain all the appearance of health in two or three days. At the same time that the charcoal is added, the milk should also be diluted with a half or a third of sugared water, the children taking the mixture without any repugnance, and no vomiting being induced.

FOR CHAPPED HANDS.—A good preparation for chapped hands is composed of quince seeds and whisky. There is no rule as to proportion. Put the seeds in a bottle, and pour in enough whisky to cover them. As this thickens, add more whisky, until it is of the right consistency. This healing preparation is far superior to glycerine, as it dries off quickly, and leaves a most agreeable odor. Try it, and you will never want to be without such a valuable addition to your toilet necessities.

DOMESTIC ECONOMY.

Cooking Flank.

Arthur's Magazine gives the following method of cooking flank: There were five pounds, at five cents a pound. We took it home, salted it well, and put it in a covered stone jar in the cellar. The next day we put half of it on to boil in only water enough to cover it well, watching it so that we could have it cooked to suit us just at the right time for dinner. Boiling water was added a little at a time when needed. We pared and sliced in two some potatoes, and laid around the edges of the beef, so that as the water boiled off and the meat browned nicely the potatoes would brown likewise. We turned the meat gently, that both sides would roast alike. When the deacon came his dinner was lifted on a hot platter and he said it was the nicest dinner he ever ate.

The gravy and the fragments of roast beef that adhered to the bottom of the kettle were left in it, covered up, and set away, and made the nucleus for the next day's noonday meal. The pieces of cold roast beef and potatoes left were also put back into the kettle. The next day, about half an hour before noon, we put a quart or so of boiling water into the kettle with the fragments, and while it was boiling, and Lily setting the table, we made a pot-pie. We took some creamy milk, a lump of butter as large as a walnut, a pinch of salt, and hurried and made a soft dough with prepared flour, rolled to half an inch in thickness, cut in strips and laid across the meat and potatoes in the kettle, covered up closely, set the platter under the stove to warm, rang the bell for father, who was in the bottom field, and in 20 minutes he was eating his dinner. The pot-pie was very nice, and light as a puff. The taste of roast meat gave it a fine flavor.

CANDIED ORANGE AND LEMON RINGS.—

Make this preserve in connection with the following one: Cut the fruit in even slices quarter of an inch thick, scrape out the pulp with a teaspoon, without breaking the rings, and put it with the juice into a bowl to use as directed in the next recipe. Soak the rings in cold, salt water overnight; then drain them, put them into boiling water and boil them thirty minutes; lift them out of the water without breaking them, drain them on a sieve until cool, and then dip each one in brandy, laying it again on the sieve. Meantime make a syrup, using for every dozen oranges a pint of the water in which the rings were boiled and a pound of loaf sugar; boil this syrup, skimming it until it is clear, and keep it scalding hot while you dip and drain the rings three times. Let them dry three or four hours, then beat the syrup again scalding hot, and dip and drain the rings three times more. Dip and drain the rings in the scalding hot syrup three times every morning and afternoon until they are candied, then dry them thoroughly and pack them in boxes, with white paper between each layer of rings. Close the box and keep it in a cool, dry place. These rings can be used in fruit cake and for ornament on many sweet cakes and fruit compotes. The syrup should be bottled for use with cakes or stewed fruit.

LEMONS TO PICKLE.—Take the finest, with the thickest rind you can get, cut them deeply from end to end in more than one place, but not quite through, and fill the incisions with salt; put each on end, and lay them in a dish near the fire, or in the sun, if the weather is hot; dissolve the salt, and repeat this during three weeks; then put them into a jar with a handful of white mustard seed if it be large, a quarter of a half pound of bruised ginger, half that quantity of cloves and allspice, and a very little turmeric; boil in vinegar and pour it upon the lemons when cold. Some people, however, add to it garlic. It can scarcely be ready in less than six months, but will keep for many years. For limes or small lemons, the same method must be pursued, only they will not require above half the time.

POTTED FRUIT.—Take about seven or eight pounds of beef and a pound of fat; add pepper, salt, ginger, mace; put into a stone jar with half a pint of cold water; stand the jar in a deep stewpan of boiling water, to boil slowly for eight hours, taking care that the water does not reach to the top of the jar; when it is done take it out and mince it fine; when it is smooth and like paste, mix in some of the gravy and some fat; press into the pots and pour on top clarified or melted fat; tie it down tightly and keep it in a cool place.—*Jewish Cookery Book*.

SAUCE FOR VENISON STEAK.—Put one cup of stock, small teaspoonful of salt, half a teaspoonful of pepper, and a very little cayenne, two or three cloves, and a few allspice in a saucepan; let all boil up, then stir in a piece of butter half the size of an egg, in which a teaspoonful of flour has been well mixed; one teaspoonful of currant jelly, one wineglassful of claret; heat it once more, pour it through a strainer, so as not to remove the whole spice.

BEEF HEART.—Wash it carefully, and stuff it nicely; roast or bake it, and serve with gravy, which should be thickened with some of the stuffing. It is very nice hashed, with a little port wine added.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine. St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.
Per line..... .25 .80 \$2.00 \$ 5.00
Half inch (1 square).....\$1.00 \$3.00 7.50 24.00
One inch.....2.00 5.00 14.00 40.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.

DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, December 4, 1880.

TABLE OF CONTENTS.

EDITORIALS.—A Court in a Car Seat; The Coal Crucity; Milk and Mystery; The Harrow; Another Waterfall on the Columbia, 361. The Week; The Railroads and the People; Neighborhood Improvement Associations; Sorghum Sugar, 368. Harvesting Cinchona Bark; The Treaty with China; Labor in San Francisco, 369.

ILLUSTRATIONS.—Multnomah Fall on the Columbia River, 361. Orange Leaf With Red Scale; Mowing the Cinchona Tree, 368.

CORRESPONDENCE.—The Past and Present of San Luis Obispo; Shasta County Notes; Santa Barbara Notes, 362.

THE VINEYARD.—Vineyard Notes; Black Knot on Grapevines, 362.

ARBORICULTURE.—The Wanton Destruction of Our Forests, 362.

THE SWINE YARD.—Experience with Poland-Chinas, 363.

PATRONS OF HUSBANDRY.—A Few Reasons Why the Farmer Should be Thankful; Meeting of the National Grange; "California Farmers' Insurance Matters in Santa Clara County, 364.

AGRICULTURAL NOTES from the various counties of California and Nevada, 364-65.

NEWS IN BRIEF, on page 365 and other pages.

HORTICULTURE.—Meeting of the State Horticultural Society; Cross Fertilization of the Almond, 363.

Orchard Insects, 363-70.

HOME CIRCLE.—Woman's Mission (Poetry); Making the Most of Things; The Studies of Nature; The San Francisco Fruit and Flower Mission; Rest for the Weary, 366. Chaff; Happy Meal Times; Buy a Home, 367.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; The Origin of "Uncle Sam," 367.

GOOD HEALTH.—Cold Feet and Sleeplessness; Baby's Bow Legs; The Diarrhea of Infants; For Clapped Hands, 367.

DOMESTIC ECONOMY.—Cooking Flank; Candied Orange and Lemon Rings; Lemons to Pickle; Potted Fruit; Sauce for Venison Steak; Beef Heart, 367.

ENTOMOLOGICAL.—The Red Scale of the Orange, 369.

Business Announcements.

Eureka Trick and Novelty Company, New York.
Saws—United States Manufacturing Company, Chicago.
Seedsman—J. P. Sweeney & Co., S. F.
Blue and Red Gums—Geo. R. Bailey, Oakland, Cal.
Brown and White Leghorns—George Trefzer, Napa City.
Seed Catalogue—James J. H. Gregory, Marblehead, Mass.
Garden Seeds—Thos. Meherin, S. F.

The Week.

The storm which we hailed as our last issue went to press was not so general or enduring as one as we thought. There is, however, a downpour now in progress which seems quite business like and promising. This storm was heralded from the lower counties a day or two ago, and it comes as the result of a fixed southerly wind which seems to be the orthodox manner. The season has thus far been quite peculiar; in fact peculiarity is so general with California seasons that those who have seen most of them manifest least surprise. It is, however, quite unusual to have heavy frosts come upon summer dust without the intervention of rain. There are parts of the State where the roadway dust was untouched by rain drops and yet the pumps and waterpipes in farmyards were frozen to bursting. So far as the practical usefulness is concerned the rains have come in good time for the growth of field crops and if there should ensue a season of mild weather, which would not be surprising, there would be a quick growth of feed which would be of great value to those whose cows have come in and need fresh, succulent food to start them well upon the season's milking.

The rains will be hailed generally with rejoicing, for idle men and teams will be sent to the fields, planting of trees and shrubs and plants will begin, and a general spirit of activity will take the place of the enforced idleness of the last few weeks. Last year's crops are well in hand and secure from the weather. The gathering of all things of value has been quite complete, for the time was long, and there is a general readiness for the duties of another year, which now promises to be a prosperous one.

The Railroads and the People.

Those who are interested in the important problems involved in the relations between the people and the railway corporations, will do well to read an article in the December *Scribner's*, by F. B. Thurber, a leading merchant of New York city. There is nothing especially new or original about the article, but it is an excellent compilation of the indictments found against the transportation companies by Congress, by legislatures and by the people. It affords abundant evidences of the evils which have crept in with the growth of corporate power and privilege. It shows that it is absolutely necessary that there should be some action had to curb these evils, else institutions intended to serve the people, will altogether rule the people, as they do now in part.

While referring those who care to pursue the subject at length to Mr. Thurber's article in *Scribner's*, we propose to outline the case of the people against these corporations as he sets it forth. First, then, is the general and dangerous power of the few when they can control the property of the many. This is laid down in a report of a Congressional committee in 1874, as follows:

In the matter of taxation there are to-day four men representing the four great trunk lines between Chicago and New York, who possess, and not infrequently exercise powers which the Congress of the United States would not venture to exert. They may at any time and for any reason satisfactory to themselves, by a single stroke of the pen, reduce the value of property in this country by hundreds of millions of dollars. With the rapid and inevitable progress of combination and consolidation, these colossal organizations are daily becoming stronger and more imperious.

Mr. Thurber shows that in the early history of transportation companies, the rates of carriage were based upon the cost of such service to the company. The newer policy is to make the rate dependent upon what the material will stand, without regard to the cost of the service. Thus, when a commodity rises in market price, the company takes occasion to add something to the rate for transporting that commodity, and thus the company aims to turn into its own coffers the reward which belongs of right to the producers. The late advance in the overland rate on wool just as the price was rising and the trade was becoming buoyant, will serve Californians as good evidence of this disposition of the company, and the effect upon the market is of a nature to be long remembered.

Another general art of powerful transportation companies is their intrusion into elections and the action of law makers, and the general corruption resulting from their wholesale purchase of public servants. Instances of this crying evil are cited from the report of the New York legislative committee appointed to investigate the affairs of the Erie railway. Jay Gould, when sworn, testified that "he could distinctly recall that he had been in the habit of sending money into the numerous districts all over the State, either to control nominations or elections for Senators and members of the Assembly. Considered that, as a rule, such investments paid better than to wait till the men got to Albany, and added the significant remark, when asked a question, that it would be impossible to specify the numerous instances as it would be to recall to mind the numerous freight cars sent over the Erie road from day to day." What a comment is this upon the corruption in American legislatures!

Mr. Thurber pays attention to the railway affairs of this State by instancing the wealth so quickly amassed by our railroad magnates, arguing that such fortunes could only result from the power of the monopoly to tax all productive enterprises, and thus magnify their own fortunes. He writes:

It is little more than 15 years since Huntington, Hopkins & Co., were hardware merchants of limited means in Sacramento. They built the Central Pacific railroad, and deservedly made fortunes, estimated at from three to five millions each. They found the railroad enabled them to tax the production and commerce of the entire Pacific coast. Twelve years have rolled around, and recent estimates, based upon legal proceedings necessary in the estate of Mrs. Hopkins, place the partnership wealth of Mr. Leland Stanford at \$34,543,308; that of Mr. Charles Crocker at \$34,495,458; that of Mrs. Hopkins at \$25,280,972; while Mr. Huntington's wealth is estimated even higher than that of Messrs. Stanford and Crocker.

Mr. Thurber places well his comments upon this local matter. No one would deny these men a splendid fortune for their enterprise and public service in carrying through so grand a work, but the people should certainly see to it that the position they thus gained, should not be used as a lever to wrest from the mass of the people a tribute which restricts their industries, and yields such vast treasure to the magnates, that they must be burdened by its very immensity. It is useless to inveigh against such men for securing all they can. Human nature is too weak generally to resist such an opportunity, but the people are to blame for not taking effective measures to regulate the operation of the privileges they grant and the beings they create, so that the public shall be served, and not oppressed.

Mr. Thurber takes strong ground that the cases brought against monopolies by the farmers of the Western States, and which are popularly known as the "Granger cases," were indeed a signal victory for the people, and the justice in them has been approved by the Supreme Court of the United States. But the people are quietly allowing the impression to prevail that these efforts on the part of the agriculturists were failures. It is true that the benefits of the acts were not realized, because they were at once

thrown into the courts for adjudication, and meantime, by alternate bribery and persecution, as each served the purpose, the monopolies restrained the prosecution of the reforms which these acts foreshadowed. It is plain enough that a corporation cannot be superior to the well-being of the people. It is the highest duty of statesmanship to see that the public receives no detriment at the hands of those whom it endows with peculiar powers and privileges. The highest courts of the country have decided that laws enacted to promote this end are just laws. It therefore remains with the people to say how long they will be oppressed because a monopoly is disposed to exact more than it deserves for the service it renders. It is for the people to determine to what extent the creature is to be allowed to defy its creator. There is only one way to reach and correct the evils of monopolies of every kind, and that is, to show the people the wrongs they lie under, and there will spread abroad a sentiment and a will which will not yield until the evil is restrained.

Neighborhood Improvement Associations.

The dwellers in the southeast quarter of the town of Berkeley, Alameda county, have organized an "association for the promotion of neighborhood improvements." Two enthusiastic meetings have been held, simple by-laws for the guidance of the organization have been adopted and officers have been chosen. For president, one of the most popular and stirring citizens of the neighborhood, Mr. George D. Derwin, was chosen, and he is to be aided by an enthusiastic force of subordinates and committees. The ladies of the neighborhood are co-operating zealously and they hold a share of the offices. The society seems to be charged with a spirit of improvement, and as Berkeley is naturally beautiful for situation and as her citizens are generally loyal to their homes, we expect to see a work done which will speedily advance the town in all qualities which go to make up excellence in a suburban village.

We have upon former occasions alluded to the work of village and neighborhood improvement societies at the East, and we are glad to know that similar effort is to be put forth in this State. We trust that it will attract the attention of villagers everywhere throughout the State, and that our host of beautifully located and envied towns and hamlets will be brought into truer harmony with their surroundings by the growth of trees, the excellence of their roads and the general neatness of their highways and door-yards. In order to remind our readers of some of the directions in which village improvement may be advanced, we shall mention some of the results which the Berkeley Association aims to secure by co-operative effort. The objects of the association are to encourage and promote the improvement and ornamentation of the streets, stations and public places of the locality, by planting and cultivating shade and ornamental trees; establishing and maintaining walks; grading and draining roadways; clearing the streets, avenues and sidewalks of unsightly weeds, refuse matter and rubbish; promoting the introduction of water and its utilization for sprinkling the streets; the consideration and promotion of such a system of sewerage as may be best adapted for the sanitary condition of the town; encouraging system, order and tidiness, and generally to do such other acts as may tend to beautify and improve the neighborhood as a place of residence.

Taste and comfort alike demand that these natural advantages should be reinforced by individual effort and co-operation. This it is the design of the association to promote. A vast deal has been done wherever improvement societies have been organized, in the way of stimulating citizens to adorn their private grounds, or, at least, to keep their grounds and fences in good order, removing weeds and rubbish from the sidewalks, etc. "What most detracts from the good appearance of any village is the slovenly look which comes from badly hung gates, crooked fences, absent pickets, and general shiftlessness about private places, and it is by encouraging citizens to take a pride in attention to these details that the association will do its best work. This result may be accomplished almost entirely without the expenditure of money. It is in attention to little things, and in securing the co-operation of private owners—a co-operation which will call for an inappreciable amount of labor—that the most telling work of the society is to be done."

The first work of the Berkeley Association will be in the direction of tree planting—shade and ornamental. As a preliminary movement a committee of experienced men has been appointed to select a list of trees (chiefly deciduous), adapted to the soil and locality, and to ascertain the terms upon which they can be delivered in quantities to the association. Through it they can be furnished to private owners, or planted by contract, under the auspices of the association. It is desired that along every street and avenue (those projected as well as those opened for use), shall be planted shade trees during the present winter. If practicable, clumps of evergreen trees, for wind breaks, should be planted in needed places, under professional supervision. It is obvious that the effect of these, in a very few years, would not only add largely to the beauty of the landscape, but modify the effects of the occasional high winds. Other work will be evolved as the as-

sociation grows in experience. It is proposed that the revenue of the association shall be derived from a membership fee of \$1 per annum from each person over the age of 16 years; from contributions of non-residents, in consideration of the planting and care of trees, fences, grounds, etc.; from donations and life membership fees from public spirited individuals.

We trust, as we have said before, the pioneer effort at Berkeley will be emulated in all parts of the State. In the hope that there may be such a disposition to organize we will soon give the simple articles of association, and by-laws adopted by the Berkeley society, in case they may be suggestive to those who desire to begin similar work. The main point in organizing village improvement societies is to enlist the active support of every resident in the community, and especially the active co-operation of the ladies. Colonel Waring, an enthusiast on the subject, in a little book on Village Improvement Associations, from which we have already quoted, says: "It requires the sort of systematic attention to details, especially in the constantly recurring duty of 'cleaning up' that grows more naturally out of the habit of good housekeeping than out of any occupation to which men are accustomed."

Sorghum Sugar.

The announcement comes rather late to enable California sorghum growers to avail themselves of the benefits of the Illinois State convention of cane growers and sugar makers, which will be held in Springfield on Wednesday, Dec. 8th. California experimenters will, however, be interested in reports of the meeting, and we shall hope to present the leading facts about the improved practices. Dr. Newberry, who is Secretary of the Illinois Society of cane growers, writes: "It is an established fact that sugar can be made from sorgho in paying quantities just as certainly as flour can be made from wheat; but the methods of obtaining the best results are as yet imperfectly understood by the great majority of workers. It therefore behooves all such to meet and consult with those who have been more fortunate. All the light possible is needed that can be thrown on the subject from any source whatever. Many a point now more or less obscure may be elucidated by the experience of some shrewd and observant worker who has kept himself in the background. There are numbers of such men at work, and we expect interesting results from them." We trust this hope will be realized. We have not yet in California enough experimenters with sorghum sugar to warrant a State convention, but we have quite a number who have been attacking the problem this year. Much good could be done if these experimenters could describe the season's work in letters to the *RURAL PRESS*. We have this week the tidings of an amateur effort in Shasta county, in a letter which may be found under "Correspondence." Almost every week the subject protrudes in our "Agricultural Notes," as this week in Yolo county. Let the discussion be general. Let us have description of processes used, and the success or failure therewith. The aggregate of this information will give all a good start upon another season's endeavor.

We have just received from Minnesota a pamphlet written by Dr. James Wilhelm, of the Faribault refinery, given in answer to a request for information by Governor Pillsbury of that State. Dr. Wilhelm has, it appears, invented some sort of a central system by which each cane grower is to produce the cane, extract the juice, defecate it and condense it by a steam process into a crude syrup, which is then to be sold to a central refinery where it is to be made into choice white sugar and first-class syrup. The pamphlet is unsatisfactory in detail; that is, it gives hardly any idea of the new machinery which is to be employed, and the cost thereof. It is evident, however, that there is to be some sort of a closed pan for evaporation, and steam is to be used instead of fire heat, thus to guard against inverting the cane sugar. Upon this point Dr. Wilhelm says:

The ordinary process of sugar extraction in this country is so destructive, that it may safely be asserted that 75% of the sugar existing in the juice operated upon is entirely destroyed in obtaining the remainder. Thus we see that, theoretically speaking, the process of effecting the crystallization of sugar should be entirely under the operator's control, and practice has rigidly demonstrated the correctness of the theory. Hence the sugar producer has certain well-known indications to follow out, provided he desire to obtain his staple in the form of crystals. To accomplish this, a complete control of heat is indispensable; therefore, steam is the only thing to rely on.

This writer takes the ground that the open evaporators can only be useful in making small amounts of sugar and syrup for household use, and that before the industry can come upon a commercial basis there must be reconstrued to more costly and more perfect machinery. This machinery cannot be commanded by the individual cane grower, but if enough syrup can be assured from a neighborhood the refinery will come either by private enterprise of capitalists or by co-operative effort, as the large dairy factories at the East are created. We should like to know what the Faribault people fix as the price of the steam grinding and evaporating machinery which each cane grower is to have on his place. This seems to be the essential point in the whole proposition, and we do not see how it can be made cheap enough. However, we are willing to be convinced on this point and shall await particulars.

ENTOMOLOGICAL.

The Red Scale of the Orange.

Our Florida contributor, W. H. Ashmead, of Jacksonville, favors us with an engraving of this grievous pest as it appears upon the leaf of the orange. He contributed an illustrated article on the subject to the *American Entomologist* for November, from which we shall take leading points.

The engraving shows the scales as they appear in nature on the under side of the leaf, and at the lower right-hand corner is an enlarged figure of the scale. The insect was first observed by Prof. C. V. Riley, and was christened *Chrysomphalus ficus* in his manuscript notes. From specimens we sent Prof. Comstock and Mr. Ashmead last winter, they both decided that the insect called the red scale in Los Angeles county was identical with the red scale of the Florida orange trees. In his article in the *Entomologist*, Mr. Ashmead remarks that "this, or an allied species," is found upon the apple trees at San Jose. We are quite sure that it is not the same species, but, as Prof. Comstock determined from specimens we sent him, the San Jose insect was probably an unnamed species of the same genus *Chrysomphalus*. The confusion seems to have arisen from the term "red," as applied to this insect. When the red scale was heralded from Los Angeles, the San Jose apple growers observed that the scale insect, which fixed itself upon the skin of their fruit, produced a bright red spot—the scale itself was not reddish at all, but the portion of skin surrounding it was crimson. Noticing this the San Jose fruit growers called their foe the "red scale." This is our understanding of the matter from our amateur study. Prof. Comstock, who studied these insects locally last summer, will probably determine the position of the two insects in his report.

Concerning the manner in which the red scale of the orange was probably introduced to this State, Mr. Ashmead writes, in the article referred to: "The orange tree has but lately been introduced and grown in California, and this particular species is, therefore, not indigenous there. Where, therefore, did it come from, and how was it introduced into the State? These are two very important questions. Now, the commercial relations existing between the Californians with the people of China, Japan and Australia, point to one of these countries as its original home or starting point, from which it has spread. Indeed, many oranges have been imported from all these places, and it would not be surprising to me if, like our own long scale (*Aspidiotus Gloverii*), the red scale had been imported in the same manner, i. e., on the leaves, branches or twigs of an imported tree. It has evidently been introduced into Florida this way."

Mr. Ashmead attempts the first description we have seen of the red scale, as follows:

Eggs.—From 18 to 30 under each scale, less than .01 of an inch in length, ovoid, smooth, not quite twice as long as broad, of a bright yellow, promiscuously inclosed in body-walls of dead female.

Larva.—Length of body less than .01 of an inch, nearly twice as long as wide, bright yellow, ovoid, much wider towards head, being widest at thoracic segments; two very short anal setae, hinder margin rough from numerous small fleshy tubercles, with a few short hairs around margin, no indentations as in *Ceroplastes rusci*; antennae, 6-jointed (not easily made out with my microscope, which is of a low power); basal joint short and stout, nearly as wide as long; joints 2 and 3 less wide and of equal size; joints 4 and 5 about equal, each longer and thicker than 2 and 3 together; joint 6 much thinner, ending at tip in 2 long hairs, the inner being longest; an inner and outer hair on basal joint, with 2 inner and 2 outer ones on joints above these; legs ending in a feeble claw and 4 digituli, the two upper being longest; femora thickly swollen, with a distinct lobe near base, from which a sharp spine issues: I have never noticed this in any other scale insect.

Female Scale.—Form, round or circular, flattened slightly, rising towards center, of from a reddish to a blackish brown color, paler at margin, measuring from .04 to .12 of an inch in diameter; in the center is a slight depression, in larger specimens .02 to .03 of an inch in diameter, and of a bright golden yellow, with a small brown cap.

Our orange growers have arrested the progress of this insect to a degree of success by washing and syringing the trees with alkaline washes, and Prof. Hilgard has destroyed it with an infusion of Buhach powder. Mr. Ashmead cites the experience of Mr. Holmes, a Florida orange grower, as follows: "In my experiments for their removal, I have been most successful in the use of a strong brine of salt and water applied twice, at intervals of two weeks. It is heroic treatment and takes the leaves off, but the scale comes with them, and, if done just prior to a growing season, they soon send out a luxuriant new growth, and seem more healthy than before."

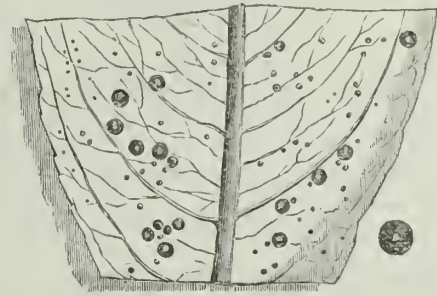
Wormwood for the Phylloxera.

We learn from an English exchange that in the Transactions of the Academy of Sciences published last month, M. Poirot brings to light a supposed new remedy against the phylloxera. Among the tracts in North America which are covered with wormwood M. Poirot has found an entire absence of flies, ants, worms and all insects. He thinks, therefore, that the phylloxera could no longer exist in proximity to this plant, and proposes its cultivation in vineyards, where it would serve as a green manure, and at the same time the re-establishment of the vine.

THE receipts for tolls on the canals in New York this year are \$600,000 greater than the last.

Harvesting Cinchona Bark.

Concluding the subject of cinchona culture, which we began Nov. 13th, we give below an engraving to show one of the methods by which the bark is obtained without destroying the tree. In South America, barks of all sorts and ages are collected indiscriminately, and in such a way as to kill the trees; such a system was evidently inadmissible in the case of cultivators. One of the improved plans is known as "mossing," and is illustrated herewith. Two parallel cuts, *c*, are drawn down the stem, the strip of bark, *a*, included between them is then raised from the incisions, and pulled off carefully from the bottom upwards, great care being taken not to injure the cambium, or sappy matter, left in the hollow; immediately the bark is removed, a thick coating of moss, *b*, is bound around the wounded stem. By this process, the cambium granulates, and forms a new bark. It is essential to observe that the moss is free from lichens. The strips of bark removed are about 1 to 1½ inches wide; such a number are taken as the tree will afford, leaving intermediate strips of somewhat greater width. At the end of 6 to 12 months, the bands left in the first instance are taken in the same way; in 12 to 22 months, the parts first stripped will be covered with new bark ready for re-stripping. The advantages claimed for this plan are that a crop of bark equal to half the total trunk-bark of the tree can be taken annually, without damage to the tree; and that this bark is richer in total alkaloids, and especially in crystallizable quinine, than natural bark. It appears, however, that this increase of total alkaloids is not observable in the renewed bark of trees at the maximum yield (over 8 years); but the proportion of quinine is augmented, and the value of the bark as a source of pure quinine is thereby raised. The enrichment of the renewed bark is said to be at the expense of the bark outside the mossed region; and it is said that renewal is prevented, or much retarded, by the least injury to the cambium. Further, the cropping cannot be depended upon oftener than once in 2 to 3 years; and this rapid cropping tends to shorten the lives of the trees. Finally, the op-



Orange Leaf with Red Scale.

eration can only be performed when the air is quite moist, and therefore at a time when the bark can least easily be dried. In some instances, too, the plan has been frustrated by the renewing bark being devoured by ants, who found an asylum in the moss. On the other hand, a number of trees which were left bare (unmossed) after the barking, renewed their bark fairly well. When sufficient supplies of moss cannot be procured, as for instance in Coorg, a substitute is found in detached leaf stalks of the plantain, and the leaves of wild cardamom, or of ginger. These should be applied in a dry state, and not with a smearing of clay, as has sometimes been done.

THE ALVARADO SUGARIE.—Being in the neighborhood of the Alvarado beet sugar factory last week we took occasion to call upon Mr. Dyer, the superintendent, who invited us to examine the works. Beets are now coming in freely and large quantities are being stored in long heaps and covered with straw to protect them from the frost. Meantime the factory is running full blast and turning out from 40 to 45 barrels of refined sugar daily. We observed that all the departments of the establishment were working regularly and harmoniously and that the appliances now employed were well adapted to the work required of them. We are not an expert in such operations, but the smoothness of the running and the confident way in which each man proceeded with the particular task allotted to him were evidence that the work was well in hand. The chemist, Mr. Kuhlburg, pronounces the material and machinery working to his satisfaction, and he is assured of a successful season. We hope to have at the close of the run a report of the work done and such items of the profits resulting therefrom as the manager sees fit to make public. We have samples both of the cube and granulated sugar, which we shall be pleased to show to anyone who is interested.

AFTER two years more coquetting with various places for bonus inducements, the Sweepstakes Plow Co. have determined to remove from San Leandro to Benicia, the citizens of that town having purchased and donated to them the buildings, wharves and other property formerly used by the Pacific Mail Steamship Co.

The Treaty With China.

The "Chinese question," which, to a certain extent was considered a local matter before the recent campaign, was, during that epoch, brought so prominently before the people of the United States, that it has become national.

On this coast, however, where it has been from force of circumstances more prominently brought forward before the people, it is better understood than in the East. When, therefore, United States Commissioners were appointed to revise the treaty with the government of China, the population of the Pacific coast was more deeply interested than others.

The telegraph now brings us news that a treaty has been concluded with China. While the text of the new treaty will not reach our Government for a month yet, the Department of State has received enough by telegraph to indicate its nature. Until ratified the treaty cannot be made public. It is understood that this document does not change the status of American citizens in China, nor does it enter into the commercial features covered by the Reed treaty of 1853. It is a modification of the Burlingame treaty, and is in accordance with Evarts' policy, restraining further immigration of Chinese to this country, while at the same time not going to the extreme of sending those back who are already here. It is understood that the treaty provides that no master of any vessel owned in whole or in part by a citizen of the United States, or of any foreign country, shall take on board from any port in the Chinese Empire, or other foreign ports, any number of Chinese passengers, male or female, in excess of the number of 15, to bring them within the jurisdiction of the United States. Any master of a vessel who violates this clause



"Mossing" the Cinchona Tree.

of the treaty shall be considered guilty of misdemeanor, and subject to penalties to be provided for in the way of fine and imprisonment. It further stipulates that the master of any vessel arriving in the United States from any foreign place shall be required to furnish to the collector of the district in which he arrives a separate list of all Chinese passengers on board his vessel. This list shall be sworn to, and any evasion or misrepresentation under this stipulation shall also be considered a misdemeanor. The fines imposed upon the masters are to be considered liens upon their vessels. The provisions of the present statutes forbidding importation of coolies and women for immoral purposes are not affected by the treaty. No Consul or consular agent of the United States can grant a certificate to any vessel leaving China for this country if she has on board more than 15 Chinese passengers. Of course it is explicitly stated that the limitations do not apply to persons officially connected with the Chinese government, or to persons rescued from shipwreck. This treaty will undoubtedly be ratified at an early day by the Senate, and will be a measure to satisfy all but the most extreme of the anti-Chinese element on the Pacific coast. The treaty itself is a modification of articles 5 and 6 of the Burlingame treaty, which read as follows:

Article V.—The United States of America and the Emperor of China cordially recognize the inherent and inalienable right of man to change his home and allegiance, and also the mutual advantage of the free migration and emigration of their citizens and subjects respectively from the one country to the other, for the purpose of curiosity, of trade, or as permanent residents. The high contracting parties therefore join in reprobating any other than an entirely voluntary emigration for these purposes. They consequently agree to pass laws making it a penal offense for a citizen of the United States or Chinese subject to take Chinese subjects either to the United States or any other foreign country, or for a Chinese subject or citizen of the United States to take citizens of

the United States to China or to any other foreign country, without their free and voluntary consent, respectively.

Article VI.—Citizens of the United States visiting or residing in China shall enjoy the same privileges, immunities or exemptions in respect to travel or residence as may there be enjoyed by the citizens or subjects of the most favored nation, and reciprocally, Chinese subjects visiting or residing in the United States shall enjoy the same privileges, immunities and exemption in respect to travel or residence as may there be enjoyed by the citizens or subjects of the most favored nation. But nothing herein contained shall be held to confer naturalization upon citizens of the United States in China, nor upon the subjects of China in the United States.

Labor in San Francisco.

San Francisco is peculiarly situated as respects its labor market. Being the only large city on the coast, the terminus of railway and steamship systems, it is continually receiving accessions to the number of unemployed laborers. People from the country send to the city for "help," and the "help" comes to the city when they want employment in the country. Again, whenever there is any dull times in the interior, those persons without permanent occupations come, when they can, to the city to find work. The men who have, during the summer, made a "stake" working in the fields, in the mines, or in the timber, come to the city to spend their earnings. These spent, they again join the army of the unemployed. It was only the other day we heard of 50 or 60 men engaging to go to Arizona to work for a dollar a day. These men of course accepted such wages only from necessity, and in order to have something to do. They were no doubt men who had been long waiting for jobs. The winter months usually bring numbers of laboring people to the city. We have, therefore, to take care of or look out for a very large proportion of unemployed people who do not really belong in San Francisco, but who are better off here than in small country towns.

It is to be hoped that not many years will elapse before we have a better system of small farms than now seems possible. When this happens there will be fewer of these floating laborers. Another thing we sadly need, is the formation of manufacturing establishments in our interior towns, so that they will get a class of people who have more permanent employment than harvesting gives.

We are led to these remarks by reading the report of the *Free Labor Exchange* of this city. The manager, Mr. G. W. Schroeder, says: "The great stagnation of business during the winter months, with corresponding lack of demand for help in the male department, was followed by an unusual demand for help during the whole summer, principally for farm hands and day laborers. The demand for such help has been generally in excess of the supply, standing orders for 70 and 80 farmers being kept up for several weeks without being filled. There has consequently been an increase of over 50% in the orders and engagements this year, as compared with last."

This illustrates our greatest difficulty. That is, we are short of laborers in the summer, and have more than we want in winter, and this the city feels more than the country.

In referring to female help, the report above alluded to says: "The demand has always been for twice as many girls as could suitably fill the orders. Every one, young or old, who was willing to assist in housework or take care of children, could always get \$10 a month and board. For nearly all occupations in this department, the demand continues for young, neat and reliable girls with references." Caro is taken in the selection of competent and sober help. The following is the summary of transactions for the year:

Male Department—Number of orders received, 1,119; number of persons called for, 1,750; number of persons engaged, 1,270. Nationalities—Irish, 333; English and Scotch, 38; Scandinavians, 26; Americans, 545; Germans, 141; various nations, 137. Occupations—Laborers, 370; farmers, 131; carpenters, 55; cooks, 41; waiters, 60; dishwashers, 64; general usefulness, 108; boys, 83; various occupations, 358.

Female Department—Number of orders received, 2,387; number of persons called for, 2,507; number of persons engaged, 1,213. Nationalities—Irish, 515; Americans, 456; English and Scotch, 24; Germans, 47; Scandinavians, 22; other nations, 149. Occupations—Nurse girls, 156; assistants, 180; chambermaids and waitresses, 49; cooks, 24; general house work, 316; various occupations, 191.

Total number engaged in both departments, 2,483. Total number of persons engaged during the three years, 8,038.

WHILE at Hawaii, Sir Thomas Hesketh received from King Kalakaua the decoration of the Royal Order of Kamehameha I., in recognition of the services rendered by him in sending his yacht from San Francisco to Socorro island, to the assistance of the distressed crew of the *Mathilde*, which was an Hawaiian bark. The ceremony of presentation occurred on board of the *Lancashire Witch* on the evening of the 17th of November.

Orchard Insects.

(CONTINUED FROM PAGE 363.)

the means applied by nature to preserve the species by some individuals, so that, should the season at the regular time of development and propagation be unfavorable, those may escape the general destruction. If we want to destroy the insect it is a matter of highest importance to be certain if in June we have to deal with a second brood or with a few stragglers reserved by nature for only certain emergencies. The original home of the codling moth is Middle Europe. I am not certain if it co-existed in the Atlantic States, or emigrated there as it evidently has done in California. The insect has been named and described already by Linnaeus, but it is only in the last 30 years that it has extended its ravages to the orchards of Sweden. In Germany, where it is too common, I have never observed but one generation. The insect is intimately connected with the cyclis of the vegetation of its food-plant—that is, the moth propagates at the season of blossoms, the female deposits the eggs in the excavated disc of the blossoms, where the egg rests till the disc swells and overgrows the seed capsule. This accounts for the peculiarity that frequently you find the worm amongst the seeds of the fruit without finding any trace of an entrance channel. The channel of exit is easy enough to find, but of course not before the worm intends to leave the fruit, or has left it. If there is a second brood, the egg must be deposited in a different way, and the larvæ must enter the ovary by other means, for there are no more flowers at that season and the disc has become fleshy and surrounded the ovary as a protecting wall. It is not impossible that there are such means, or that the larvæ of a second generation

Lives on Some Other Food.

To know all these things with certainty is of the highest importance, as all our hopes of success in the extermination of insect pests are founded on an exact and minute knowledge of their habits. Like most of the insects which, in their larva state, are inside feeders, the imago state is not frequently met with. Each apple of an orchard may be inhabited by a larva, and still the moth is rarely seen. It is, in its state of moth, very short-lived, and anything but active. It does not fly to the light, or else it would offer great facilities for its destruction. It seems not to take any nourishment, but is only intent on propagation, and as the maggots, after having left the fruit, generally crowd in crevices and underneath the bark, unfortunately, it has not to look a long time for a partner. In the essay of Mr. Cook, quoted before, the remedies at present known are discussed. There is only one suggestion I would make here. In Germany they apply a very simple remedy against a certain species of geometra moths, whose wingless females, when fecundated, creep up the trunk of fruit trees to deposit their eggs in the buds that develop during the winter. To prevent this a bandage of rough woolen stuff is bound round the stem over which the insect cannot creep. Frequently some sticky substance—viz: coal tar—is added to the bandage, and the efficacy of this measure is then demonstrated by the insects being found sticking in this mass. In the case of the codling moth the larva has to ascend the trunk for its hibernation as well as transformation. If we succeed in preventing it from doing so, the number of egg-depositing moths will be considerably diminished, for very few larvæ, when left on the ground, will escape destruction, especially when we allow chickens or pigs to devour the fruit on the ground. At the same time we must remove all the fruit from the trees as soon as possible, at any rate before any larva is advanced enough to leave the apple and hide in the web, in which the larvæ hibernate in little colonies. But whatever remedy we adopt in the destruction of this pest, we can only succeed by acting in concert, for the most careful husbandman will receive the destroyers from his careless neighbor.

The Only Insects

That really cause damage by infesting the surface of our fruit trees are some species of scale bugs, and the ravages of these insects are of considerably greater importance than those of the codling moth, because they destroy the tree when the codling moth only spoils the fruit. Two months ago we had in our midst Mr. Comstock, one of the highest authorities on these insects, the study of which he has made his specialty. So it is not necessary that I should enter into a discussion of the different species of lecanium and aspidiotus, as the way of living of all these insects is exactly the same. An attentive husbandman will get rid of them by applying the wash of tarwater, recommended by Professor Hilgard—that is, if he owns a piece of ground of some extent. If his orchard is small, and bordering orchards of neighbors, he has to apply the wash in concert with them, or else he pours water into a sieve, and receives every mouth a fresh supply of scalebugs from his less careful neighbors.

There is still some uncertainty about the propagation of these minute insects. It appears to me that the winged male, at least of some insects belonging to this group, appears not at fixed times, as in most aphidians, but in rather an arbitrary way—pretty much in the manner which the phylloxera has shown in California. This whole group, important as it is, has been studied very little, and there exists an uncertainty about some of the most essential points. For instance, I am not at all convinced that the winged insect is really the male.

I find nowhere a statement about a microscopical examination of the winged lecanium or aspidiotus. * * * Before I enter into the discussion of evils that may visit our orchards, I will mention some insects that are generally injurious to vegetation, but not like those mentioned before confined to our orchards.

Swarms of Grasshoppers

May invade our gardens and fields. Of course all herbaceous vegetation under such circumstances would disappear, but our fruit trees would merely be injured, but not destroyed. There is no remedy against this calamity. We must submit, and have only the consolation that we certainly shall be free from the destructive host the next year, and probably for a long series of years. As the wandering grasshopper prefers open plains and shuns woodland, the preservation of forests of some extent will procure a considerable degree of security against the ravages of this plague, whose real home is the steppe and the desert, from the dreariest recesses of which their hosts break forth as hordes of Tartars, Arabs, and other wanderers of the desert did in olden times, to destroy whatever they could reach.

Another orthopterous insect and near relation of the grasshopper is *Gryllotalpa*. This insect is not gregarious like its terrible relation, the grasshopper, but is plentiful enough to cause a great deal of damage. As it lives—at least during daytime—underground, it is sheltered against man and bird. Its size and strength protect it from carnivorous insects, and as far as I know the frog and the toad are its only enemies. The *Gryllotalpa* is a general destructor and not partial to full-grown fruit trees, whose roots it leaves alone when more tender substances can be found in the neighborhood. But it is very destructive to young fruit trees, and especially to seedlings, whose plantations it prefers to all other localities. The *Gryllotalpa* is solitary in its habits, but a single one can do harm enough. You may prevent a great deal of mischief if you keep frogs in your young plantations, or better, a few toads, as they are more sedentary in their habits and not so much given to roam about like the more lively frog.

In the Wood of the Apple Tree,

In England, the larva of a moth is found, *Zeuzera uculi*. I have read that it causes occasionally perceptible damage. In Germany, the moth is rare, and I always rejoiced when I discovered, in some neglected orchard, an apple tree, whose external appearance indicated that it was infested by the larva of this rare and beautiful moth. It is not at all likely that we shall suffer from this inside feeder, but in one instance I have found another, whose single larva will do more harm than a colony of *Zeuzera*. It is the larva of a large beetle, called *Prionus*. This larva attains the length of two inches. It is true it requires about seven years to attain this size, but these seven years are no benefit to the tree. It is a blessing that in general their larvæ prefer live oak, redwood, and other forest trees to orchard trees. But, perhaps, when there are no other forest trees in California, the *Prionus* may change his opinion and take kindly to our fruit trees. The beetle is not rare, but the giants of our forests evidently stand its ravages very well. In the case mentioned before, where I found a *Prionus* larva in an apple tree, the larva was the survivor, and managed very well to live on the dry wood of the tree, whose living wood yielded him food during the first year of his existence. I do not mention here the *Saperda*, as I know no instance of its having been found in California. I have mentioned the single instance of the *Prionus* having been found in the wood of an apple tree for a good reason. California is not the only country where I have witnessed the springing up of new cultures. As I have observed the same process in Australia, I have some material for comparison. Insect pests in new countries are of three-fold origin. Firstly, cosmopolitan, viz., the scale bug; secondly, immigrated, like the codling moth; thirdly, native insects, originally feeding on wild weeds, but adapting themselves gradually to plants that are introduced and cultivated. I do not yet know of an instance where native insects have injured orchards, but gardens they have. I have witnessed the process of a geometra moth, a cidaria, whose larva, a tiny, thread-like measuring worm, I used to find occasionally on epilobium and boisduvalia, and which now has taken to the fuchsia, in a measure, that in some gardens whole shrubs are denuded of their foliage. So let us consider not only how to prevent evils, but prepare ourselves for the reception of some that may befall us. But that in all that we do, let us remember that our only hope of success is action in concert. In connection with his paper, Dr. Behr said that it was an error to suppose that the ant and the scale bug were enemies and the former a destroyer of the latter. The ant is very fond of the honey-dew and wax which exudes from the bug, and in order to get it, frequently carried it to its nest and fixed it on roots in its galleries, thus aiding in introducing and distributing the pest. To protect the spider and kill the ant was the true way to preserve orchards from the scale bug.

GILDING.—For cheaply gilding bronzes, gas fittings, etc., the following mixture has been commended: 2½ lbs. of cyanide of potassium, 8 oz. of carbonate of potash, 2 oz. cyanate of potash, all dissolved in five pints of water, containing in solution ½ oz. of chloride of gold. The mixture must be used at boiling heat, and after it has been applied, the gilt surface must be varnished over.—*Boston Journal of Chemistry*.

H. H. H. Horse Medicine.

Stockton, February 4, 1880. H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy. This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address, TAYNTON & DERRICKSON, Clayton, Contra Costa County, Cal.

TRADE MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular. ISAAC B. MILLINGTON & CO., Chester, Pa.

SAVE YOUR HORSES! Safety, Security and Economy.

Haggard & Brown's Wagon Tongue Support. The undersigned has the agency for this coast. For trade price list or exclusive territory, address, W. E. LIVERMORE, Los Gatos, Santa Clara County, Cal.

CANDRALL SPRING SKELETON BUGGY.

LIGHTEST AND EASIEST RUNNING. Cannot be upset by cramping or sudden turning. Will pass over the roughest roads or car tracks without jolting. Especially adapted for mountain roads. Warranted for two years.

A. MERSEREAU,
No. 1927 Mission St., Manufacturer

DO NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use.

with over 1,500 Illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WARD & CO., 267 & 289 Wabash Ave., Chicago, Ill.

GILLES H. GRAY. JAMES M. HAVEN.

GRAY & HAVEN, Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO

Agricultural Articles.

READ THIS.



THE CALIFORNIA Spring Tooth Harrow PROVES TO BE THE MOST PERFECT IMPLEMENT FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

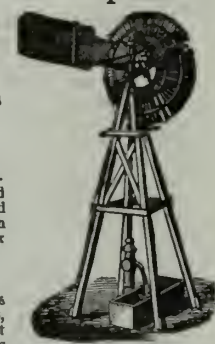
No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,
Nos. 900 & 902 K Street, Sacramento.
AND THEIR AUTHORIZED AGENTS.

The Famous "Enterprise,"

PERKINS' PATENT Self Regulating WINDMILLS, Pumps & Fixtures.



These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought iron crankshaft with double bearings for the crank to work in, all turned and run in babbitted boxes. Positively self regulating with no coil springs or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs. All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

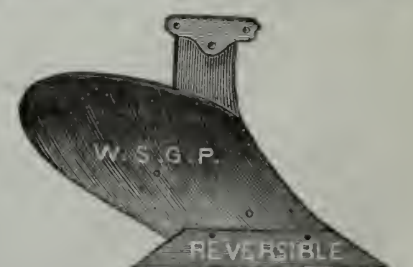
HORTON & KENNEDY,
GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale. San Francisco Agency, LINFORTH, RICE & CO., 401 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870. This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world. Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to MATTESON & WILLIAMSON, Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by THOS. POWELL, Stockton, Cal.

LAND Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to EDWARD FRISBIE, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

HENRY PIERCE, 728 Montgomery Street, S. F. Jersey Cattle, bred from importation direct from Jersey Island, and winners of most of the prizes at Oakland, Stockton and the State Fairs. "Victor of Yerba Buena," of noted butter strains on the island, and known to be the best Bull ever imported to this coast, now stands at the head of this famous herd. "King of Scituate," son of the famous 705 pound butter Cow, Jersey Belle, of Scituate, which now stands at the head of Mr. Pierce's noted herd, at Scituate, Mass., will soon be brought here.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Seraphina Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Gabilan Herd. The foundation of the Gabilan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxford, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 418 California St., S. F.

POULTRY.

ALBERT BURBANK, 43 California Market, S. F. Importer and Breeder of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry, Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Poku Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

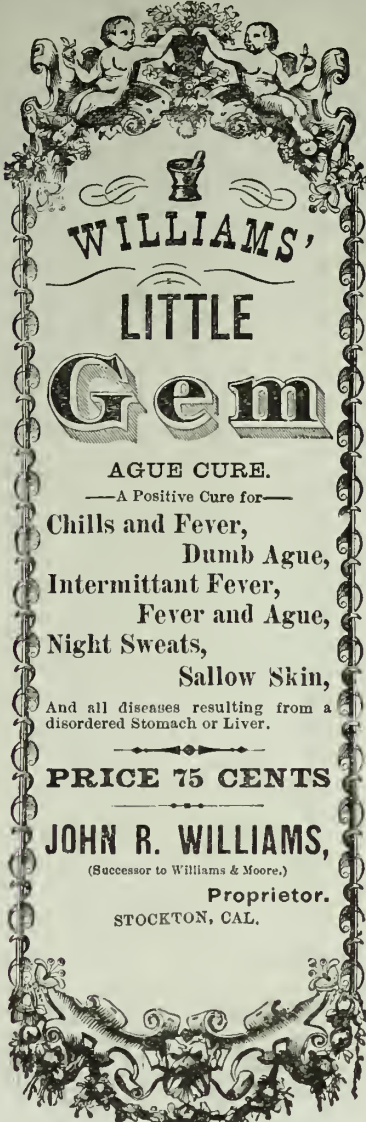
ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochins for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittent Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a
disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

70,000 SOLD YEARLY.

The growing popularity and usefulness of CABINET or PARLOR ORGANS is shown by the fact that SEVENTY THOUSAND are sold yearly in the United States. The best are the

MASON & HAMLIN ORGANS

Which have been awarded Highest Distinctions for Demonstrated Superiority at every one of the GREAT WORLD'S Industrial Exhibitions for thirteen years, without one single exception.

NEW STYLES

Are ready for the season with important improvements FOR LARGE CHURCHES, splendid organs, with great power and variety, at \$75, \$150, \$300, and less prices; FOR SMALLER CHURCHES, SCHOOLS, &c., \$34 to \$200 and upwards. SUPERB DRAWING ROOM STYLES at \$200 to \$510, and upwards; A GREAT VARIETY OF SMALLER ORGANS of equal excellence, though less capacity, or in plain cases at \$51 to \$200 and upwards. Also, furnished for Monthly or Quarterly payments, \$3 and upwards.

These organs are certainly unrivaled in excellence, while the prices are not much higher than those of very inferior instruments.

Before purchasing any organ send for latest ILLUSTRATED CATALOGUE (32 pp. 4 to), containing full descriptions and prices, including new styles, and much useful information for the purchase of any organ, which will be sent free and post-paid. MASON & HAMLIN ORGAN CO., 154 Tremont Street, Boston; 46 East 14th Street, New York; 149 Wabash Avenue, Chicago.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

Mining and Scientific Press Patent Agency.

THE MINING AND SCIENTIFIC PRESS PATENT AGENCY was established in 1860—the first west of the Rocky Mountains. It has kept step with the rapid march of mechanical improvements. The records in its archives, its constantly increasing library, the accumulation of information of special importance to our home inventors, and the experience of its proprietors in an extensive and long continued personal practice in patent business, affords them combined advantages greater than any other agents can possibly offer to Pacific Coast inventors. Circulars of advice free. Address, DEWEY & CO.,

Office MINING AND SCIENTIFIC PRESS AND PACIFIC RURAL PRESS, 202 Sansome Street, S. —1880.

Books on Agriculture, Etc.

The following among other books will be sent post-paid on receipt of publishers' prices, annexed:—Tobacco, its culture, manufacture and use, 500 pages, \$3.50;—The Patrons of Husbandry, 500 pages, \$3.75;—The Women of the Bible, 77 engravings, \$4;—Wells' Every Man His Own Lawyer, 612 pages, \$2.75;—American Husbandry, 2 vol., \$1.50;—Gray's Agricultural Essays, \$1;—Langstroth's Honey Bee, \$1.50;—Randall's Sheep Husbandry, \$1.50;—Agricultural Engineering, \$1.50;—New Bee-Keepers' Text Book, \$1;—Pacific Rural Handbook, \$1;—Ropp's Easy Calculator, \$1;—U. S. Land Law, 50 Cts.;—Woodward's Grapes, Etc., \$1;—Sugar from Melons, 25 Cts.;—Strawberry Culture, 50 Cts.;—Laynes Belles Lettres, \$1;—Holt's Map of California and Nevada, to subscribers, \$1;—Back Volumes PACIFIC RURAL PRESS (bound) \$5; unbound, \$3;—Picturesque Arizona, \$2. Address DEWEY & CO. Publishers, 202 Sansome St., S. F.

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.
BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00.
Pamphlet on the Care of Fowls, Diseases, Cures, etc., adapted especially to the Pacific Coast, price 15 cents.
Please send stamp for Price List to

M. EYRE, Napa Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST.
For two months, August and September, will sell eggs at \$2.50, for setting. C. F. NAYLOR,
304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

GRANCERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTEPELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....President.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.
CERTIFICATES of DEPOSIT issued for Gold and Silver.
TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTEPELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

ST. DAVID'S,

A FIRST-CLASS LODGING HOUSE

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The doors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

PATENT CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental.

To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 409 Washington St., Boston, Mass.

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 5 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,

Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.

THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 11 hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from Good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation. Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Raunches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,

Santa Cruz, Cal

SADDLES, HARNESS, WHIPS, LEATHER, W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR WEEK ENDING NOVEMBER 9th, 1880.

234,376.—STREET PAVEMENT—A. Bainister, Alameda, Cal.
234,115.—FRUIT DRIER—R. E. Burns, S. F.
234,250.—SHIRERS—W. V. Cruess, San Marcos, Cal.
234,255.—DRY WASHER—A. M. Dehman, et al., Oakland, Cal.
234,377.—BARREL TAP—Z. Fetterly and O. Dutton, Yolo, Cal.
234,138.—WINDMILL—E. J. Masters, Stockton, Cal.
234,378.—COMBINATION TOOL—G. H. Pierce, S. F.
234,207.—AUTOMATIC FAN—J. W. Scott, Seattle, W. T.
234,151.—BORING WELLS—W. W. Vaughn, Stockton, Cal.
234,379.—BELT—C. N. West, S. F.
9,454.—ORE FURNACE—(Re-issue)—J. Winterburn, Cambria, Cal.
234,159.—CAR AXLE BOX—C. M. and R. M. Wood, Healdsburg, Cal.

The following Canadian patents have been issued to Pacific Coast inventors.

11,437.—COLLAPSIBLE VALVE—Wm. Wilson, Oakland, Cal.
11,505.—FIBER DECORTICATOR—Thomas Threlfall, S. F.
11,704.—BARK PANS—Charles Jackson, S. F.
11,780.—ROCK DRILL—H. Richman and U. K. Arnold, S. F.
11,816.—EXPLOSIVE COMPOUND—A. Monmir, S. F.

NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific Coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

MACHINE FOR MAKING PAPER PULP FROM WOOD.—Rufus B. Lane, Stockton, Cal. Patented Oct. 12, 1880. No. 233,105. This invention relates to an improved machine for making a pulp from wooden blocks which can be used for paper-making; and it consists in the employment of a series of hard metal pins, which are placed in rows in such a manner, that two or more rows will make a continuous cut. The pins project from a surface or groove, which is suppressed below the general level of the disc or cylinder which carries them, said pins being adapted to scrape off the fibers of the wood in small particles or pulp, while the depression allows the pulp to be carried away from the cutting-face of the pins as fast as produced.

BREECH-LOADING FIRE-ARM.—Charles Slotterbeck, Lakeport, Cal. Patented October 5, 1880. No. 233,034. This device relates to certain improvements in breech-loading guns of that class in which the barrel is hinged to the fore-end of the stock, so that when unlocked it tilts in a vertical plane. It is especially adapted to be used for a single-barreled, breech-loading rifle, in which great solidity of action is necessary to prevent derangement in the accuracy of its shooting. It consists in an improved construction of the fore-end joint, by which a neater appearance is made; a joint which is stronger and less liable to become loose with use, and which supports the barrel, when open, upon a solid surface of considerable length.

GRAIN MEASURE AND REGISTER.—Charles S. Bell, Amador, Cal. Patented Oct. 12, 1880. No. 233,136. This device consists in certain details of construction and combination of parts, whereby the grain from the separator is measured, and the amount that passes through the measure is registered, and afterwards passed to the sack in the sack-holders. In this way the grain is measured accurately, and the amount thrashed is registered. The measure may be used for any purpose, such as measuring grain in ships loaded in bulk, in warehouses, etc.

SCRAPER.—Assaria Rewrick and John D. Gilmore, S. F. Patented, Aug. 31, 1880. No. 231,850. The scraper is formed in a cup-shaped triangular form. It is made by means of a die in which it is struck up, in such a form as to give the greatest strength with a minimum of metal. By this construction the scraper can be kept sharp with but little grinding.

STOCK CAR.—Lyman Woodruff, Ellettsburg, Org. Patented Oct. 12, 1880. No. 233,129. The object of this car is provide a series of stalls in which live stock may be transported on cars or vessels and fed and watered by the way. It consists in certain details of construction whereby the stalls can be taken apart and set up at will, and be accommodated to suit the space at disposal.

HARROW.—Silas Harris, S. F. Patented Sept. 28, 1880. No. 232,641. The object of this invention is to provide an improved means of securing teeth in harrows so that they will remain fixed, but may be readily removed when desired. This is attained by providing a cam or eccentric which will jam the tooth in place and hold it there. When it is desired to remove the tooth the cam is turned and the tooth loosened.

The California Silk Association.

At a meeting of ladies held at the house of Mrs. Theodore Hittell, 808 Turk street, S. F., "The California Silk Culture Association" was organized and the following officers were chosen: Pres., Mrs. E. B. Barker; Treas., Mrs. S. A. Raymond; Sec'y, Mrs. J. C. Merrill; Corresponding Sec'y, Mrs. Theodore Hittell.

The object of this Association is to promote silk culture in the State of California by all practicable means conducive thereto. Among the means will be, first, the collection of information in reference to all branches of the business; second, the distribution of such information in the way of lectures, circulars and pamphlets, the establishment of schools, and other means which seem calculated to awaken interest in the subject; third, encouragement of plantations of mulberry trees, suitable for the raising of silkworms, cocoons and the preparation of the silk for manufacturing purposes. The association does not propose to become a great monied corporation, or to carry on the business of silk culture as a matter of profit to its members, but to encourage and assist all who are willing to labor in this direction, until the great problem of silk culture in the State of California, which every body recognizes of the utmost importance to our prosperity shall be solved and become a practical success.

The society hopes to be able to induce every farmer who has lands suitable for the purpose, to plant a few trees, and raise a few worms, so that the capability of every section of the State may be tried. It is to be expected that there will be many failures; the members fully recognize the fact that there are great difficulties in the way, but at the same time they are convinced that silk culture in California can be made a success, and that every effort in the proper direction is a step forward toward the desired result. They do not wish large and expensive projects to be undertaken, or great risks incurred; on the contrary they will advise the work to go on generally from small beginnings and to advance only as success is attained. They believe the day will come, and is not far distant, when in many, if not most parts of the State, as knowledge and experience increase, silk can be successfully produced, and that its cultivation will furnish employment and means of subsistence to a large class of our population.

Water-Right Difficulties.

State Engineer Hall has just returned from a three weeks' official tour through Los Angeles and San Bernardino counties. He reports the people generally of the coast valleys as displaying an earnest and deep interest in the irrigation investigation which is in progress there under his direction. Their chief solicitude is for some solution of their water-right difficulties, in such manner that the constant litigation between rival claimants of water and the threatenings of riparian owners may be quieted. It will be remembered that recent decisions of our Supreme Court, in cases of this kind, have been rendered, guided by the Common Law rule of England, on the point of the rights of riparian proprietors along irrigation streams, which materially interferes with the privileges of water claimants by appropriation. One class of the southern county people say that if this rule is to be adhered to, the basis of their prosperity will be swept from under them; that no one will invest in agricultural enterprise depending on irrigation, when his water right is liable to be taken from him by some one living on the bank of the stream below, who, under this old rule of law, may demand that the waters be allowed to flow in the natural channel. These people say also that they must have legislation that will do away with these conflicts, or they will demand a division of the State, so that they may make laws to suit their climatic conditions, and not to be bound by those framed for the people of "merry old England." The State Engineer has been in consultation with many of the leading citizens of San Bernardino and Los Angeles, and says he has received much light upon the irrigation subject, and hopes to propose in his forthcoming report, some measures which will form a basis for the adjustment of the difficulties referred to.—*Sacramento Bee.*

THE YUBA DAM.—In our last issue we gave a description of the dam which was constructed on the Yuba river for impounding the mining debris. The *Sacramento Bee* stated that it was not working with good results; that the water instead of passing through the brush had taken a downward shoot through the sand, cutting a large opening through which the water and slickens passed. The *Marysville Appeal* denies these statements and says: "The water is passing through the brush in numerous places, just as was calculated upon, and it never has taken a downward shoot and cut out an opening, it being able to escape much more easily by filtering through the brush. It is true that thousands of sacks are being placed upon the slope of the dam, but over the entire length of it, simply as a weight to the brush-top. The work of weighing or facing the water slope of the brush was not provided for in the contract, but after the dam was completed it was thought best to have this done for fear of the water lifting the ends of the brush before the slickens would have time to settle there, and thus weigh it all securely."

Rainfall Table.

The following very useful table of rainfall at Sacramento has generally been taken as representative for the whole State, since at no other point, except of late years, have such full statistics been preserved. The work commenced by the late Dr. Logan is now ably continued by Dr. F. W. Hatch. The table explains itself, and the figures are brought down to the end of the last rainy season.

RAIN-FALL TABLE FOR SACRAMENTO—PREPARED BY THE LATE DR. T. M. LOGAN AND DR. F. W. HATCH.												
Arranged according to the seasons, showing the amount in inches of each month, during thirty-one years, to November 22d, 1880; also the quantity for every month, and the annual amount of rain.												
MONTHS.	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860
September	0.250	0.000	1.000	0.003	0.000	sp Hie	sp Hie	sp Hie	sp Hie	sp Hie	0.025	0.034
October	1.500	0.400	0.150	0.000	0.000	0.010	0.000	0.195	0.655	3.010	0.000	0.013
November	0.000	0.000	2.150	0.000	1.000	0.550	0.750	0.461	2.406	0.147	0.483	0.181
December	12.000	sp Hie	7.070	13.410	1.350	1.150	2.000	2.386	6.452	4.359	1.854	4.382
MONTHS.	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872
January	0.650	0.150	3.000	3.250	2.670	4.919	1.375	2.444	0.904	2.310	2.665	15.036
February	0.350	0.400	0.800	0.350	0.460	0.692	0.420	2.721	1.077	1.733	1.677	0.712
March	10.000	1.850	7.000	3.250	4.500	2.878	0.510	3.906	0.931	2.920	4.240	2.773
April	4.250	1.150	0.100	3.600	1.600	1.403	0.675	6.110	3.282	1.303	1.803	0.481
May	0.200	0.600	0.300	1.450	0.210	1.150	1.844	sp Hie	1.214	0.981	2.874	0.470
June	0.000	0.000	0.000	0.001	0.310	0.010	1.038	0.350	0.026	0.000	0.291	0.355
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
August	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	36.000	4.710	17.980	36.365	20.665	18.620	14.770	10.443	18.991	16.041	22.626	16.438
MONTHS.	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872
September	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
October	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
November	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
December	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MONTHS.	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884
January	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
February	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
March	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
April	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
August	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	36.000	4.710	17.980	36.365	20.665	18.620	14.770	10.443	18.991	16.041	22.626	16.438

Monday the market was quiet but firm. Foreign was similar in tone, and quotations were 6d higher. Malt is in large supply and values low. Of Malt there was a smaller supply and prices in consequence have been against buyers, although for cargoes there were signs of weakness at the close. Values of Round and Flat Corn were only separated by 6d@1s. Sales of English Wheat during the week were 40,011 quarters at 41s 5d 7d quarter, against 38,580 quarters at 46s 7d 7d quarter during the corresponding week last year. Imports into the United Kingdom during the week ending November 20th were 1,213,768 cwt of Wheat and 31,500 cwt Flour.

Freights and Charters.

The British ship *City of Sparta*, 1256 tons, has been chartered to load Wheat for Liverpool at £3 15s.

Eastern Grain and Provision Markets.

New York, Nov. 23.—Wheat closed weak. The receipts at the seaboard ports during the week ending the 20th, were 3,453,000 bushels. For the previous week they were 3,493,000 bushels. The visible supply is 24,190,000 bushels. At the close of the previous week the visible supply was 23,244,000 bushels.

Chicago, Nov. 30.—Wheat strong and higher; \$1.10 1/2 cash; \$1.10 1/2 December; \$1.11 1/2 January; \$1.12 1/2 February. Corn strong and higher; 42 1/2¢ cash; 42 1/2¢@42 3/4¢ January; 47 1/2¢ May. Oats excited and higher; 33 1/2¢ cash; 33 1/2¢ January; 37 1/2¢ May. Rye, 91¢. Barley, stronger, \$1.07.

Eastern Wool Markets.

New York, Nov. 23.—The week being broken by the Thanksgiving holiday, has had a tendency to check the attendance of buyers somewhat, and business no doubt suffered slightly in consequence. All things considered, however, the movement was very fair, and a hopeful tone was retained on most grades of stock. Manufacturers are not in all cases satisfied with the prospect for their product, but leading and popular makes of goods have formed a steady outlet all the fall, and still meet with attention in such form as to afford much encouragement and reflect a favorable influence upon less desirable stock. This, in conjunction with the reduced accumulation at the mills, leads to the opening of negotiations on desirable parcels to quite a full extent. The cost of Wool at all primary points also continues very strong, and dealers who have recently returned from the interior say that holders manifest great confidence in the future, with views much above a portion of this market. Texas and California advances are also stiff, with freight charges from the latter point higher, and there is still an absence of anything from foreign points calculated to lead to the belief that importations can increase. Values here are hardening, and holders, while meeting calls fairly, show no disposition to force matters. On choice XX 50 cents is asked, but dealers who have sold extensively this week say that it cannot be depended upon as yet. No actual speculative movement is heard of, but there appears to be an apprehension that outside operators may be attracted and create an unhealthy boom, not warranted by the legitimate influences of the position. The sales include 16,000 lbs of the Spring California at 27¢@32¢ and 170,000 lbs of Fall at 22¢@25¢.

PHILADELPHIA, Nov. 30.—Wool is steady and firm: Oregon fine, 30¢@35¢; medium, 30¢@40¢; coarse, 33¢@35¢; New Mexican and Colorado fine, 20¢@25¢; medium, 25¢@32¢; coarse carpet Wool, 20¢@22¢.

The London Wool Sales.

LONDON, Nov. 30.—At the Wool sales to-day, 6,300 hales were sold, chiefly Port Phillip, New Zealand and Sydney. There was a good demand. The market was firm.

BAGS—Bags are quiet and unchanged.

BARLEY—There has been quite a flutter in fine Brewing Barley, and sales of choice lots have been sold up to the rate of fine Standard Chevalier. We note sales: A brewer paid \$1 25 for 100 tons of very choice; 1,000 sks fair Coast Feed, 95¢; 450 do do, 92¢; 200 do poor dark do, 90¢, and 500 sks do do, 87 1/2¢.

BEANS—There is no change.

CORN—Large Yellow Corn has advanced to \$1.25 per cwt, and the feeling is strong.

DAIRY PRODUCE—There is more fresh Butter appearing, and the rate is declining. The best now for fancy is 47 1/2¢, and the trade reports foreshadow a farther decline. Cheese is unchanged.

EGGS—Eggs have also dropped about 5¢ per doz for fresh California. Some late Eastern eggs are in better condition, and supply the present store demand.

FEED—Bran has been advanced another dollar per ton to meet the increased demand owing to the absence of green Feed. Hay, however, is about 50¢ per ton lower. Other Feeds are unchanged.

FRUIT—Grapes are now hard to sell, and are lower than last week. Many lots are frosted and poor. More California Oranges are now arriving, and the best rule about \$5 per M higher than the Tahiti fruit.

HOPS—Hops are strongly held. The top of the quotations is generally 20¢, but some lots are held higher.

OATS—There is no special change. We note sales: 200 sks Humboldt Milling, \$1.37 1/2, and 300 do Coast Feed, \$1.20.

ONIONS—There is a farther advance both in Reds and Silverskins, as shown in our table.

POTATOES—Potatoes are a little higher than at our last report, but not quite so high as three days ago. There are abundant supplies now arriving.

POULTRY AND GAME—Turkeys have dropped since Thanksgiving, but Geese and Ducks are higher.

VEGETABLES—Marrowfat Squash is lower. Other vegetables are unchanged.

WHEAT—There has been a slight reaction and a decline of 2 1/2¢ on quotations. Holders, however, do not generally concede, and sales for the last few days have not been large. We note sales: 3,000, 1,000, 800, 500 and 200 sks No. 1, \$1.55; 200 do do, \$1.52 1/2; 4,800 do No. 2, \$1.50; 4,000 do do, \$1.47 1/2; 150 tons do, \$1.45@1.47 1/2; 362 sks do, \$1.45; 40 tons do, \$1.46 1/2, and 50 do off, \$1.37 1/2.

WOOL—The market is still unsettled and quotations somewhat nominal in absence of transactions.

LUMBER.

WEDNESDAY M., Dec. 1, 1880.	
PINE AND REDWOOD.	REDWOOD.
CARGO RATES.	
PINE—	
Rough.....16 00	
Surfaced.....30 50	
Flooring & Step, No. 2.....24 00	
REDWOOD—	
Rough.....16 00	
Surfaced.....23 00	
Retail Rates.	
PINE—	
Rough.....20 00	
Singles.....2 00	

Gold, Legal Tenders, Exchange, Etc.

[Corrected Weekly by SUTRO & Co.]

SAN FRANCISCO, Dec. 13 P. M.

SILVER, 1/2 GOLD BARS, 890@910. SILVER BARS, 10@18 ¢ cent. Is. count. EXCHANGE on New York, 15@20, on London bankers, 49 1/2 @ 49 1/2, Commercial, 50; Paris, 5 francs @ dollar; Mexican dollars, 90@91. LONDON Consols, 99 13/16; Bonds (4 1/2), 116. QUICKSILVER in S. F., by the flask, 2 1/2@45¢ lb.

GENERAL MERCHANDISE.

[WHOLESALE.] WEDNESDAY M., Dec. 1, 1880.

CANDLES.	OILS.
Crystal Wax.....17 @ 17 1/2	Pacific Glue Co's
Eagle.....12 @ 12	Neatsfoot, No. 1.....00 @ 90
Patent Sperm.....25 @ 30	Castor, No. 1.....00 @ 90
CANNED GOODS.	do, No. 2.....95 @ 90
Assorted Pie Fruits.....25 @ 25	Baker's A.....25 @ 75
2 lb cans.....3 50 @ 3 50	Olive, Pungent.....25 @ 75
Jams and Jellies.....3 75 @ 3 75	Possel.....4 75 @ 25
Pickles, 1/2 gal.....1 25 @ 1 25	Palm, lb.....9 @ 9
Sardines, 1/2 gal.....1 25 @ 1 25	Linseed, Raw, bbl.....90 @ 90
Sardines, qr box.....1 75 @ 1 90	Boiled.....95 @ 95
Hr Boxes.....2 50 @ 2 75	Cocoanut.....60 @ 60
Merry, Faulk & Co's.	China nut, cs.....70 @ 70
Preserved Beef.....35 @ 35	Sperm.....1 @ 1
2 lb doz.....3 50 @ 3 62 1/2	Coast Whaler.....35 @ 45
do Beef, 1/2 doz.....50 @ 50	Polar.....45 @ 45
Preserved Mutton.....25 @ 25	Lard.....80 @ 90
2 lb doz.....3 25 @ 3 50	Oleophene.....1 @ 1
Beef Tongue.....6 00 @ 6 25	Devon's Brill.....16 @ 17 1/2
Preserved Ham.....25 @ 25	Photoline.....1 @ 1
2 lb doz.....5 50 @ 5 50	Nonpareil.....19 @ 20
Deviled Ham, 1 lb.....3 00 @ 3 00	Barrel kerosene.....20 @ 20
do Ham, 1/2 doz.....3 00 @ 3 00	Downer Ker.....30 @ 30
Beefless Pig Feet.....3 00 @ 3 00	Elaine.....34 @ 34
3 lbs.....3 50 @ 3 50	PAINTS.
2 lbs.....2 75 @ 2 75	Pure White Lead.....6 1/2 @ 10
Spiced Fillets.....3 50 @ 3 50	Whiting.....12 @ 12
2 lbs.....3 50 @ 3 50	Putty.....1 @ 5
Head Cheese.....3 50 @ 3 50	Paris White.....2 1/2 @ 2 1/2
3 lbs.....3 50 @ 3 50	Ochre.....35 @ 35
COAL-Jobbing.	Venetian Red.....3 1/2 @ 3 1/2
Australian, ton.....@ 10 00	Eucalypt Mixed
Coos Bay.....@ 10 00	Paint, gal.....2 00 @ 2 40
Bellingham Bay.....@ 10 00	White & tans.....2 00 @ 2 40
Seattle.....@ 10 00	Eucalypt Blue & 3 00 @ 3 50
Cumberland.....@ 10 00	Ch Yellow.....3 00 @ 3 50
Mt Diablo.....4 75 @ 5 75	Light Red.....3 00 @ 3 50
Lehigh.....11 50 @ 12 00	Metallic Roof.....1 30 @ 1 60
Liverpool.....@ 10 00	SOAP.
West Hartley.....13 00 @ 15 00	China, Mixed, lb.....5 @ 5
Scotch.....@ 13 00	Hawaiian.....7 @ 7 1/2
Seranton.....@ 13 00	Cal. Bay, ton.....14 00 @ 22 00
Vancouver Id.....@ 17 50	Common.....6 50 @ 14 00
Wellington.....@ 17 50	Carmen Id.....14 00 @ 22 00
Charcoal, sack.....75 @ 75	Liverpool fine.....15 00 @ 20 00
Coke, bush.....50 @ 50	SPICES.
SAFETY.	Cloves, lb.....47 1/2 @ 50
Sandwich Id, lb.....15 @ 16	Cassia.....19 @ 19
Costa Rica.....15 @ 16	Nutmegs.....97 1/2 @ 100
Guatemala.....15 @ 16	Pepper Grain.....14 @ 15
Java.....24 @ 25	Pimento.....19 @ 20
Manila.....15 @ 15	Mustard, Cal.....@ 1 25
Ground, in cs.....25 @ 25	1 lb glass.....@ 1 25
FISH.	SUGAR, ETC.
Sac'to Dry Cod.....@ 44	Cal. Cube, lb.....@ 12 1/2
do la cases.....@ 5	Fine crushed.....@ 12 1/2
Eastern Cod.....7 1/2 @ 7 1/2	Granulated.....@ 12 1/2
Salmon, bbl.....7 00 @ 7 50	Golden O.....@ 10 1/2
Hr bbls.....3 50 @ 4 00	Cal. Syrup, kgs.....70 @ 70
1 lb cans.....@ 1 30	Hawaiian Molasses.....25 @ 30
Pk'd Cod, bbls.....@ 1 30	TEA.
Hr bbls.....@ 1 30	Young Hyson.....40 @ 65
Mackerel, No. 1.....9 50 @ 10 00	Moyune, etc.....40 @ 65
Hr Bbls.....65 @ 1 00	Country pk'd Gun-
In Kits.....65 @ 1 00	powder & Im-
Ex Moss.....3 00 @ 3 50	perial.....35 @ 75
Pk'd Herring, bx.....3 00 @ 3 50	Hyson.....30 @ 35 1/2
Boston Smk'd Hg.....65 @ 70	Foo-Chow O.....27 1/2 @ 32
LIME, ETC.	Japan, 1st quality.....40 @ 42
Plaster, Golden.....3 00 @ 3 25	2d quality.....25 @ 40
Gate Mills.....3 00 @ 3 25	FRUITS AND VEGETABLES.
Land Plaster, 10 @ 10 @ 12 50	FRUIT MARKET.
Lime, Sta Cruz.....1 25 @ 1 50	Apples, box.....25 @ 25
Cement, Rosen.....2 00 @ 2 25	Bananas, bunch.....2 00 @ 4 00
Portland.....4 00 @ 4 50	Blackberry, chst.....8 00 @ 11 00
NAILES.	Citrons, Cal.....100 @ 100
Ass'ted sizes, keg.....@ 5 00	Cocos nuts, 100.....7 00 @ 8 00

WEDNESDAY M., Dec. 1, 1880.

FRUIT MARKET.	VEGETABLES.
Apples, box.....25 @ 25	Asparagus, bx.....@ 1 00
Bananas, bunch.....2 00 @ 4 00	Beets, cts.....@ 1 00
Blackberry, chst.....8 00 @ 11 00	Beans, String.....7 @ 10
Citrons, Cal.....100 @ 100	do, Lima.....@ 3
Cocos nuts, 100.....7 00 @ 8 00	do, large, box.....5 00 @ 5 50
Cranberries, bbl.....14 @ 15	Lemons, Cal bx.....3 00 @ 3 50
Figs, black, bx.....50 @ 1 00	Carrots, bk.....30 @ 50
Grapes, common.....25 @ 30	Caulliflower, doz.....25 @ 1 50
Hr Morocco.....50 @ 60	Cilbe Peppers, sk.....@ 50
Conchion.....1 00 @ 1 25	do, Bell.....@ 50
Muscat.....30 @ 60	Cucumbers, box.....60 @ 75
Rose Peru, bx.....50 @ 75	Egg Plants, bx.....50 @ 75
Blk Hamburg.....40 @ 75	Garlic, New, lb.....50 @ 1 00
Tokay.....50 @ 75	Cantaloupes, cr.....@ 1 50
Limes, Mex.....12 @ 15	Carrots, bk.....30 @ 50
do, Cal, box.....1 75 @ 2 25	do, Lima.....@ 3
do, large, box.....5 00 @ 5 50	Caulliflower, doz.....25 @ 1 50
Lemons, Cal bx.....3 00 @ 3 50	Cilbe Peppers, sk.....@ 50
Sicily, box.....9 00 @ 10 00	do, Bell.....@ 50
Australasian.....5 00 @ 6 00	Cucumbers, box.....60 @ 75
Oranges, Cal M.....20 @ 45	Egg Plants, bx.....50 @ 75
do, Tahiti.....35 @ 40	Garlic, New, lb.....50 @ 1 00
do, Mexican 23 @ 30	Cantaloupes, cr.....@ 1 50
Pears, box.....75 @ 2 50	Carrots, bk.....30 @ 50
Pineapples, doz.....8 00 @ 9 00	Caulliflower, doz.....25 @ 1 50
Plums, bx.....50 @ 1 25	Cilbe Peppers, sk.....@ 50
Prunes, German.....75 @ 1 00	do, Bell.....@ 50
Quinces, bx.....75 @ 1 00	Cucumbers, box.....60 @ 75
Raspberries, ch't.....12 @ 14	Egg Plants, bx.....50 @ 75
Strawberry, ch't.....@ 10 00	Garlic, New, lb.....50 @ 1 00
Sugar Cane, bble.....@ 2 50	Green Corn, lb.....50 @ 1 00
DRIED FRUIT.	Green Peas, lb.....2 1/2 @ 3
Apples, sliced, lb.....6 @ 8	Lettuce, doz.....10 @ 10
do, quartered.....6 @ 8	Musbrooms, lb.....@ 1
Apricots.....20 @ 22	Parasips, lb.....@ 1
Blackberries.....@ 15	Horseradish.....@ 10
Citron.....28 @ 30	Rhubarb, bx.....@ 10
Dates.....9 @ 10	Squash, Marrow.....8 00 @ 10 00
Figs, pressed.....7 @ 8	Summer box.....75 @ 1 00
do, loose.....4 @ 6	Tomato, box.....50 @ 85
	Turnips, cts.....@ 50
	White.....75 @ 1 00
	Watermelons, 100.....@ 1 00

Signal Service Meteorological Report.

SAN FRANCISCO.—Week ending Nov. 30, 1880.

HIGHEST AND LOWEST BAROMETER.							
Nov. 24	Nov. 25	Nov. 26	Nov. 27	Nov. 28	Nov. 29	Nov. 30	
30.169	30.284	30.255	30.052	30.054	30.114	30.176	
30.042	30.169	30.052	29.938	30.016	30.039	30.100	
MAXIMUM AND MINIMUM THERMOMETER.							
55	54.5	52	57	50	53	53	
44.5	43	41.5	41.5	41	43	42	
MEAN DAILY HUMIDITY.							
72.3	57.7	70	58.3	66.3	60.7	71.7	
PREVAILING WIND.							
N	N	N	N	NW	N	SW	
WIND—MILES TRAVELLED.							
106	92	162	162	122	155	105	
STATE OF WEATHER.							
Fair.	Clear.	Clear.	Clear.	Cloudy	Fair.	Fair.	
RAINFALL IN TWENTY-FOUR HOURS.							
Total rain during the season, from July 1, 1880, 00.38 in.							

BAGS AND BAGGING.

[JOBBER PRICES.]

WEDNESDAY M., Dec. 1, 1880.	WEDNESDAY M., Dec. 1, 1880.
Eng Standard Wheat, 9 @ 9 1/2	45 inch.....94 @ 94
California Manufacture.	40 inch.....84 @ 84
Hand Sewed, 22x36, 9 @ 9 1/2	Wool Sacks,
22x40.....12 @ 12 1/2	Hand Sewed, 3 1/2 lb.....@ 47
23x40.....13 @ 13 1/2	4 lb do.....52 1/2 @ 55
24x40.....14 @ 14 1/2	Machine Sewed.....@ 49
Machine Swd, 22x36, 9 @ 9 1/2	Standard Gunnies.....@ 18
Flour Sacks, halves.....9 @ 10 1/2	Best Bags.....6 1/2 @ 7 1/2
Quarters.....5 1/2 @ 6	Twine, Detrick's A.....@ 35
Eights.....3 1/2 @ 4	A A.....@ 37
Heeslan, 60 inch.....@ 12 1/2	

DOMESTIC PRODUCE.

[WHOLESALE.] WEDNESDAY M., Dec. 1, 1880.

BEANS & PEAS.	BUTTER.
Bayo, cts.....90 @ 00	Peanuts.....9 @ 10
Butter.....1 30 @ 1 40	Filberts.....17 @ 18
Castor.....3 25 @ 3 50	ONIONS.
Red.....25 @ 35	Red.....@ 2 25
Pink.....90 @ 00	Silver.....@ 3 75
Sm'l White.....1 25 @ 1 50	POTATOES.
Lima.....3 50 @ 4 00	Petaluma, cts.....65 @ 70
Field Peas, blk eye.....25 @ 37 1/2	Tomatoes.....60 @ 70
do, green.....10 @ 15	Humboldt.....@ 2
BROOK CORN.	Kidney.....@ 80
Southern.....14 @ 2	Peachblow.....@ 75
Northern.....24 @ 32	Cuddey Core.....75 @ 85
CHICORY.	Early Rose, new.....@ 50
California.....4 @ 4 1/2	H'r M'n Bay, Chile.....@ 75
German.....6 1/2 @ 7	River, red.....@ 40
DAIRY PRODUCE, ETC.	Sweet.....75 @ 1 00
Cal. Fresh Roll, lb.....42 1/2 @ 45	POULTRY & GAME.
do Fancy Brands.....@ 47 1/2	Roosters.....5 00 @ 50
Pickle Roll.....37 1/2 @ 40	Broilers.....3 00 @ 4 00
Firkin, new.....36 @ 37 1/2	Ducks, tame, doz.....5 00 @ 6 00
Western.....@ 40	Mallard.....2 75 @ 3 00
New York.....@ 40	Sprig.....1 75 @ 2 25
CHEESE.	Teal.....@ 1 75
Cheese, Cal, lb.....13 @ 15	Widgeon.....1 25 @ 1 50
N. Y. State.....18 @ 20	Geese, pair.....2 00 @ 2 25
EGGS.	Wild Gray, doz.....2 00 @ 2 50
Cal. fresh, doz.....45 @ 47 1/2	White do.....1 00 @ 1 25
do, poor to good.....@ 42 1/2	Turkeys.....11 @ 13
Ducks.....@ 40	do, Dressed.....13 @ 15
Regon.....@ 40	Snipe, Eng.....15 @ 20
Eastern, by exp'ss.....35 @ 37 1/2	do, Common.....40 @ 50
Pickled here.....@ 40	Cal, doz.....50 @ 55
Utah.....37 1/2 @ 40	Rabbits.....@ 61 25
FEED.	Hare.....1 75 @ 2 25
Bran, ton.....@ 19 00	Venison.....5 @ 7
Corn Meal.....23 00 @ 24 00	PROVISIONS.
Hay.....9 00 @ 16 50	Cal. Bacon, extra
Middlings.....22 00 @ 23 00	clear, lb.....13 @ 13 1/2
Oil Cake Meal.....30 @ 30	Medium.....11 @ 12
Straw, bale.....40 @ 50	Light.....12 @ 13
FLOUR.	Cal. Smoked Beef.....11 @ 11 1/2
Extra, City Mills.....5 12 @ 25	Shoulders.....8 @ 8 1/2
do, Country Mills.....4 75 @ 50	Hams, Cal.....11 1/2 @ 12
do, Oregon.....4 75 @ 50	Dupe's.....@ 15 1/2

FIREMANS FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMANS FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

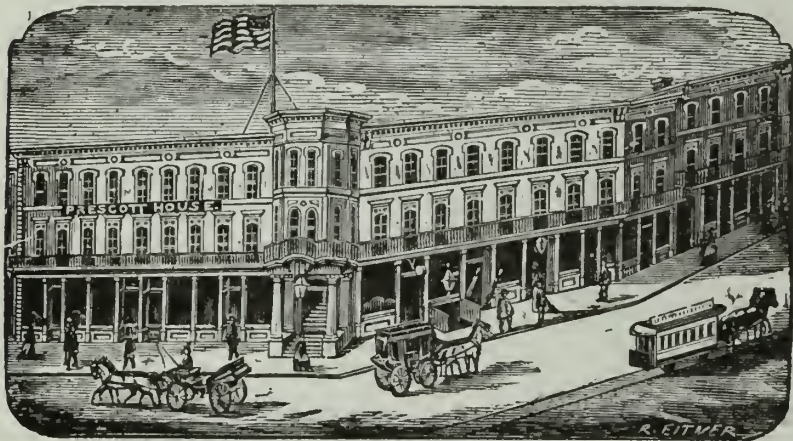
ALPHEUS BULL, Vice-President.

GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,

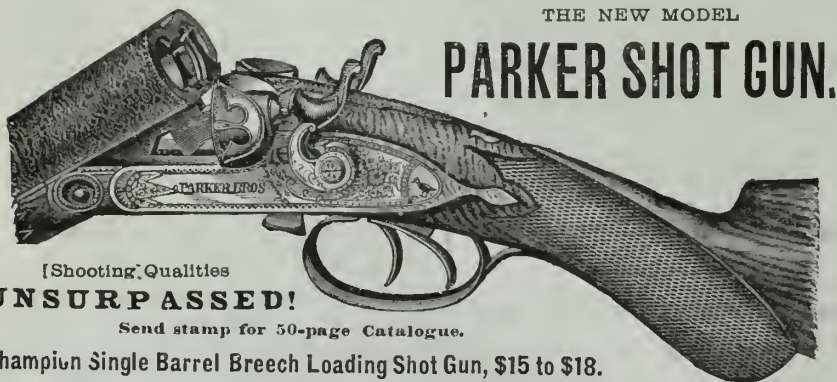


Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.



THE NEW MODEL

PARKER SHOT GUN.

[Shooting Qualities

UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

WINTER STYLES—BUTTERICK & CO.'S

Celebrated Paper Patterns Send Stamp for Illustrated Catalogue. Address H. A. DEMING, 124 Post St., San Francisco, Cal.

AUZERAIS HOUSE,

Santa Clara Street, San Jose, Cal.

CHAS. E. PEARSON, Proprietor.

Strictly First-Class and Moderate Charges.

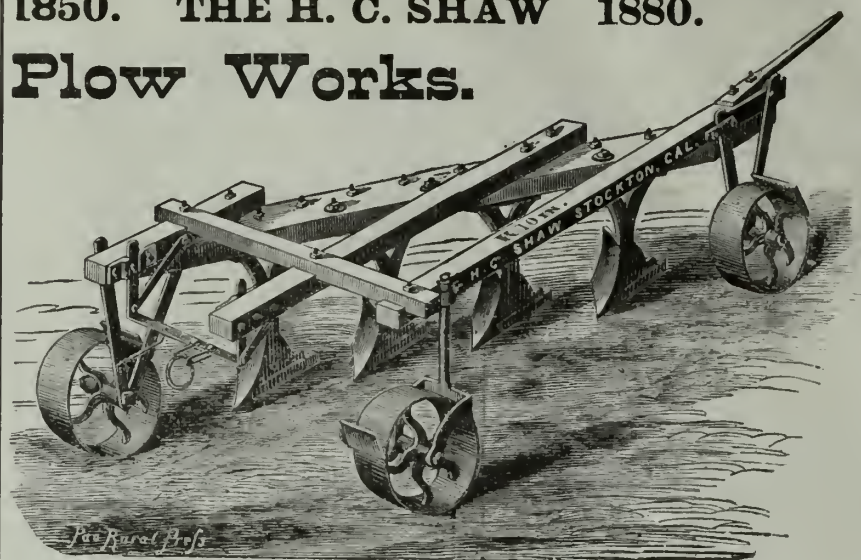
Auzerais House Coach and Carriages in attendance on arrival of Trains.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Goggles, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

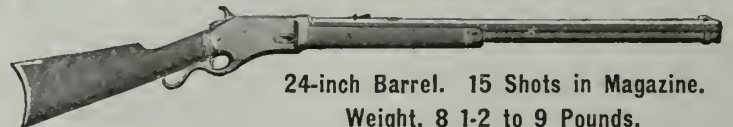
Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington.

Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers.

Pistols of all Descriptions. Ammunition of all Kinds. Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE.

Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

50 New Style Cards. Lithographed in bright colors, 10c. 50 Landscape, Chromo Cards, etc., name on, 10c. 20 Gilt Edged Cards, 10c. Clinton & Co., North Haven, Ct.

SANTA CLAUS CABINET.



This Cabinet contains six new and attractive novelties, which we offer at less than one half their real value.

No. 1.—New Album of New York. Containing beautiful lithographic views of the principal places of interest in New York City. When extended the views are over four feet in length, but when closed the album can be carried in the pocket. Among the most noted views are Castle Garden, City Hall, Grand Central Depot, New York Herald Building, New Post Office, Academy of Design, View of the East River, Central Park Scenery, etc. The views are executed in the highest style of the lithographic art, the engraving of the stones alone costing \$500.

No. 2.—Bible Autograph Album. A pretty floral album for the autographs (or signatures) of your friends and acquaintances. The collecting of autographs is now a very fashionable diversion.

No. 3.—Japanese Table Mats. Something new, elegant, and very fashionable. As useful ornaments for the center table or parlor they cannot be surpassed. Two mats of different patterns in each Cabinet.

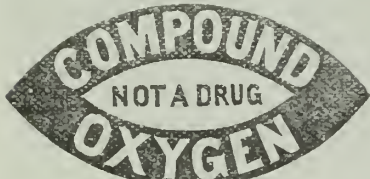
No. 4.—Tweezers and Ear Spoon. Made of the best English steel, highly polished. An almost indispensable article to any one.

No. 5.—The Chinese Coin, "Sheepoo." These coins bear the stamp and legends of the Chinese government, and are genuine Chinese coins. One of them would purchase you a good dinner in China. They are a great curiosity.

No. 6.—Pocket Bird Call. A new and wonderful invention. Unlike anything ever before offered. No practice is necessary in using it. It can be concealed in the hand and operated so as to imitate perfectly the notes of any bird—the Canary, Thrush, Bullfinch, Mocking Bird, etc. You can have the whole household looking after an imaginary Canary or Mocking Bird.

This Cabinet contains interesting novelties sufficient to supply a whole family with Christmas presents, and is undoubtedly a great bargain. Persons not wanting all the articles can sell those not wanted for more than the cost of the whole. Understand we do not offer you a single article, but the complete cabinet, containing all the above named articles from No. 1 to No. 6, securely packed, and mailed post-paid for only 39 cents, or 12 three cent postage stamps. 3 Cabinets for \$1. Postage stamps of any denomination accepted the same as cash. Address all orders to

Eureka Trick and Novelty Co.,
P. O. Box 4614. 39 Ann St., New York.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STAIR-KEY & PALEY, 1109 and 1111 Third street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

People May Hear With
DEAF AUDIPHONES
OR WITH
EARPHONES.

Trial before purchase. Don't waste your money otherwise. Send for free pamphlets. (Address H. E. Mathews, as above.)

GARDEN SEEDS.

Thos. Meherin;
Importer, Wholesale and Retail
Dealer in
Seeds, Trees & Plants.

Alfalfa, Red and White Clover, Australian and Italian Rye Grass, Hungarian-Millet Grass, Orchard Grass, Kentucky Blue Grass, Timothy and Red Top, Etc., Etc.

Also, a choice collection of Fruit and Ornamental Trees, Shrubs, Bulbs, Roses, Etc., Etc. Budding and Pruning Knives, Syringes, Hedge Shears, Etc., Etc.

THOS. MEHERIN, 516 Battery St.

Agent for B. S. Fox's Nurseries.

GEORGE TREFZER, NAPA CITY, CAL.,

BREEDER OF

Brown and White Leghorns,

Plymouth Rocks, Light Brahmas, Houdans and Pekin Ducks.

All from a very fine lot of Imported Stock. A fine lot of young stock for sale now at reasonable prices.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.
Apply to L. A. GOULD.

COMBINED

Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bins can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW,

FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.
SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,

No 327 Market Street, - - San Francisco.

NICOLL

THE TAILOR!!

Branch of New York

INSPECT OUR IMMENSE STOCK.

Do Not Fail to See

THE ELECTRIC LIGHT!!

Call and see the ELECTRIC LIGHT at NICOLL'S, by which Colors and Quality may be Seen as Clearly at NIGHT as at NOONDAY.

TO ORDER:

Pants
From \$5.00.

Suits
From \$20.00.

Overcoats
From \$18.00.

Usters
From \$15.00.

Dress Coats
From \$20.00.

GENUINE 6x BEAVER SUITS from \$65. English Cords for Hunting Suits. Samples, with instructions for self-measurement, sent free.

Only White Labor Employed, and none but Experienced and First-Class Cutters.

A SMALL STOCK OF UNCALLED FOR PANTS, VESTS, COATS, OVERCOATS, ULSTERS, AT AN IMMENSE REDUCTION.

Nicoll the Tailor's Grand Tailoring Emporium

727 Market Street, San Francisco, Cal.

Jackson's Agricultural Machine Works

AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader Horse Forks for Headings or Hay Folding Drills. Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine. Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address
BYRON JACKSON, Prop'r.

Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the Mining and Scientific Press, San Francisco, at favorable rates.

M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento.

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

This paper is printed with Ink furnished by C. S. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorey, 527 Commercial St., S. F.

Baling Fencing Telegraph Telephone Galvanized WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.



A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order.

J. P. SWEENEY & CO.,

SEEDSMEN,

Nos. 409 and 411 Davis Street, between Washington and Jackson, S. F.

Having on hand the largest stock of Seeds of any house on the Pacific Coast, consisting in part, the following varieties, which we will offer in quantities to suit purchasers at reduced rates:

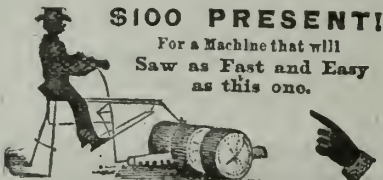
- 20,000 Pounds Alfalfa Clover Seed.
- 4,000 Pounds Red Clover Seed.
- 5,000 Pounds Australian Rye Grass Seed.
- 4,000 Pounds Extra Clean Kentucky Blue Grass Seed.
- 4,000 Pounds Red Top Seed.
- 10,000 Pounds Timothy Grass Seed.
- 5,000 Pounds Mesquit Grass Seed.
- 10,000 Pounds Canary Seed.
- 10,000 Pounds Rape and Hemp Seed.
- 4,000 Pounds Mangel Wurtzel Beet Seed.
- 1,000 Pounds Assorted Table Beet Seeds.
- 1,000 Pounds Assorted Onion Seeds.
- 1,000 Pounds Assorted Turnip Seeds.

AND A FULL SUPPLY OF

GARDEN, VEGETABLE & FLOWER SEEDS.

Also, a large assortment of California Conifer and Forest Tree Seeds. Fruit Trees in any quantity at Nursery prices.

J. P. SWEENEY & CO.



\$100 PRESENT!

For a Machine that will Saw as Fast and Easy as this one.

This is the King of Saw Machines. It saws off a 2 foot log in 2 minutes. 20,000 in use. The cheapest machine made, and fully warranted. Circular free. United States Manufacturing Co., Chicago, Ill.

PRESSES HAY & WOOL

EAGLE HAY PRESS, Old Style, - \$200.

EAGLE HAY PRESS, Improved, - \$250.

PRICES' PETALUMA HAY PRESS, \$450

All kinds of PRESSES MADE TO ORDER, to put TEN TONS in Box Car. Address

PRICE PRESS CO., San Leandro.

Or I. J. TRUMAN, San Francisco.

Office with Baker & Hamilton, 17 Front Street, S. F.

100,000 BLUE AND RED GUMS.

200,000 Cypress, Pine and Acacia.

Very fine Stock and Cheap. Beautiful, Fresh and Finest Variety of Monterey Cypress Seed, \$3.00 per pound, pre-paid by mail. Blue Gum and Acacia Seeds. Postoffice address,

GEO. R. BAILEY, Oakland, Cal.

Nursery located at Dwightway Station, East Berkeley.

PEBBLE SPECTACLES.



Muller's Optical Depot,

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.



Volume XX.]

SAN FRANCISCO, SATURDAY, DECEMBER 11, 1880.

Number 24

Another Common Mold.

In our issue of November 20th we gave an engraving and description of "bread mold," as it appears under the microscope. On this page we give a similar exposition of another mold which is common in household economy, and is frequently associated with the mold we described before. This is also a fungus plant, and is found on bread, on preserved fruit, also on decaying fruit, on cheese and other substances. Its scientific name is *Aspergillus glaucus*, and it is the plant which is generally meant when one speaks of "cheese mold." The well-known student of fungi, Dr. Bary, made a popular demonstration of this mold some years ago, and it is upon his description that we shall chiefly rely in explaining the growth of the plant, as shown in the engraving.

It shows itself to the naked eye as a woolly floccy crust over the substance, first purely white, then gradually covered with little fine glaucous, or dark green dusty heads. It is shown at *a* as it appears to the naked eye. More minute microscopical examination shows that the fungus consists of richly ramified fine filaments, which are partly disseminated in the substratum, and partly raised obliquely over it. They have a cylindrical form with rounded ends, and are divided into long outstretched members, each of which possesses the property which legitimizes it as a vesicle in the ordinary sense of the word; it contains, enclosed within a delicate structureless wall, those bodies which bear the appearance of a finely granulated mucous substance, which is designated by the name of protoplasm, and which either equally fills the cells, or the older the cell the more it is filled with watery cavities called vacuoles.

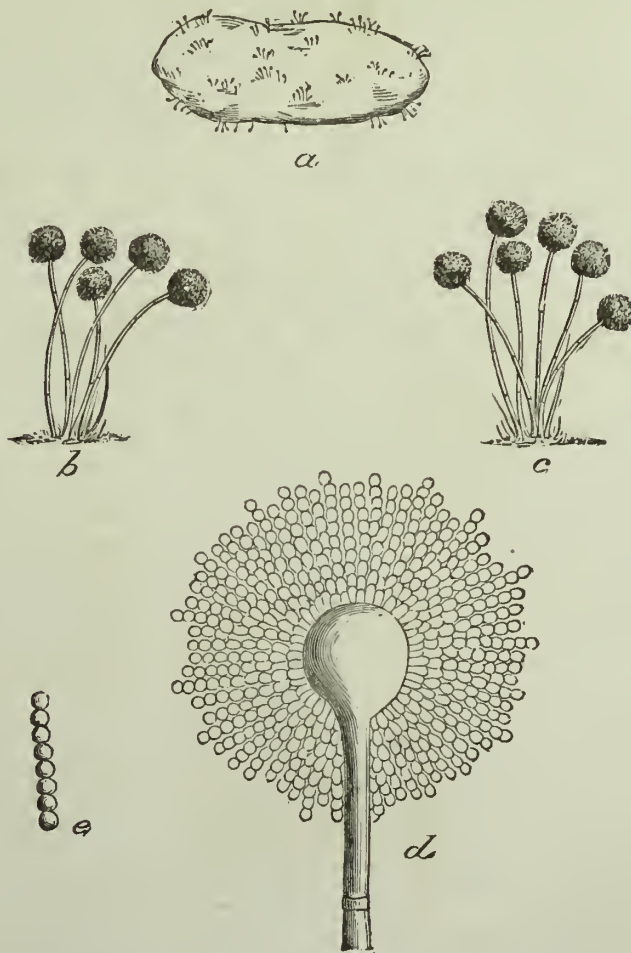
All parts are at first colorless. The increase in the length of the filaments takes place through the preponderating growth near their points; these continually push forward, and, at a short distance from them, successive new partitions rise up, but at a greater distance, the growth in the length ceases. This kind of growth is called point growth. The twigs and branches spring up as lateral dilatations of the principal filament, which, once designed, enlarges according to the point growth. This point growth of every branch is, to a certain extent, unlimited. The filaments in and on the substratum are the first existing members of the fungus; they continue so long as it vegetates. As the parts which absorb nourishment from and consume the substance, they are called the *mycelium*. Nearly every fungus possesses a mycelium, which, without regard to the specific difference of form and size, especially shows the described nature in its construction and growth.

The superficial threads of the mycelium produce other filaments beside those numerous branches which have been described, and which are the fruit thread (carpophore) or conidia thread. These are on an average thicker than the mycelium threads, and only exceptionally ramified or furnished with partitions; they rise almost perpendicularly in the air, and attain a length of, on an average, one-fiftieth of an inch, but they seldom become longer, and then their growth is at an end. Their free upper end swells in a rounded manner, as shown at *b* and *c*, and from this is produced, on the whole of its upper part, rayed divergent protuberances, which attain an oval form, and a length almost equal to their radius, or, in weaker specimens, the diameter of the rounded head. The rays divergent from protuberances are the direct producers and bearers of the propagating cells, spores, or conidia, and are called sterigmata. Every sterigma at first produces at its point a little round protuberance, which, with a strong narrow basis, rests upon the sterigma. These are filled with protoplasm, swell more and more, and, after some time, separate themselves by a partition from the sterigma into independent cells, spores, or conidia.

The formation of the first spore takes place at the same end of the sterigma, and in the same manner a second follows, then a third, and so on; every one which springs up later

pushes its predecessor in the direction of the axis of the sterigma in the same degree in which it grows itself; every successive spore formed from a sterigma remains for a time in a row with one another. Consequently every sterigma bears on its apex a chain of spores, which are so much the older, the farther they stand from the sterigma. The number of links in a chain of spores reaches in normal specimens to ten or more. This growth is shown at *d* highly magnified. All sterigmata spring up at the same time, and keep pace with one another in the formation of the spores. Every spore grows for a time, according to its construction, and at last separates itself from its neighbors. The mass of dismembered spores forms that fine glaucous hue which is mentioned above. The spores, therefore, are articulated in rows, one after the other, from the ends of the sterigmata. The ripe spores, or conidia, are cells of a round or broadly oval form (see *e* in the engraving), filled

STRAW FROM EARLY-CUT WHEAT.—We have pointed out the fact that in early cutting of grain there is a gain in weight from its having been reaped somewhat earlier, and before it had become thoroughly hard, dry and flinty through exposure to the heat; also that the color would be brighter from the same cause; that the skin or bran was less in quantity; that there was a greater bulk of flour of better substance, and more suitable for bread-making, that is producing a greater quantity of sweeter bread. There have been a number of tests of early cutting of wheat in this State this year, and so far as reported to us, the result has proved very satisfactory. There is still another point in early cutting of wheat which has not been made prominent. It is stated that the straw of wheat which has been reaped when just properly ripe is within 6% of the fodder value of the best wheat hay,



THE GREEN MOLD OF FRUIT, CHEESE, ETC.—*Aspergillus glaucus*.

with a colorless protoplasm, and, if observed separately, is found to be provided with a brownish, finely verruculose, dotted wall.

COFFEE GROWTH IN THE UNITED STATES.—There was a premium lately given to Mrs. E. S. Warner, of Manatee, Florida, for the first coffee ripened in the open air in the United States. The seed was obtained by Mrs. Warner from Cardova, Mexico. In a letter lately received from the gentleman who sent the seed, we read that in Cardova they prefer to plant coffee in fresh, timbered land, cutting out at first only the underbrush, and then removing the trees gradually, thus securing both such shade and ventilation as the coffee trees require. The banana plant makes a good shade for coffee plants, as the under leaves may be trimmed out to give the coffee room. Coffee requires a rich vegetable soil or manure. This connection of the banana with coffee seems a natural one; and as some of our Southern friends still think they can grow bananas, they may succeed with coffee at the same time.

and this statement has been verified by published analyses and by a report of the experiences of the Paris Omnibus Company, which employ very many thousands of horses, and has caused experiments to be made with every kind of food. This is certainly worth examining and testing in this State. If one can improve the wheat and at the same time improve the straw by early cutting, there might be made good feed for thousands of sheep and cattle instead of bonfire material.

THE PATRONS OF THE PRESS.—An agent of the Press who is now in the field and thus forming the personal acquaintance of our circle of readers, writes as follows in a private letter to our publishers: "It has been my province to have had considerable to do with journalism and the business department thereof in the East, and I take occasion to state that a more desirable class of subscribers and patrons of journalism I have never met with than those I find on your list." We believe our agent is right. Our own experience approves his conclusion.

The Tree Planting Season.

It is timely to put in the usual word about tree planting. It may be believed that there is no special exhortation needed toward the planting of fruit trees, for the State is already wide awake to the desirability of increasing our production of certain fruits. The experience of the past season has given orchard planting a sharp impulse, and that branch of the subject may be safely left to itself for the present at least.

The planting of trees for ornament, shade and timber is urged as often as the rains come, and yet there is still room and occasion for repeating the exhortation. The beautifying of our town streets and county highways, the wise planting in dooryards and around stock yards, and the covering of vacant lands unfit for tillage with growths of profitable timber—all these should be considered, discussed and acted upon. The State is full of instances of rapid growth of young timber set for wind-breaks on the plains or in patches on the hills to warrant investment in these lines of planting. In the long dry summer the green growths of eucalyptus here and there upon the Contra Costa hills from Berkeley south to Haywards have shone out from their brown and barren surroundings, seeming to command the hill owners to fill the gaps until the whole hill surface should be covered with trees. But though you urge it upon esthetic grounds or clearly demonstrate its success as an investment, still the hill tops remain bare. It is gratifying, however, to note little marks of progress, and one can hope that soon the spirit of tree planting will wider prevail. The great regret must be the time which is being lost. While one hesitates the tree would grow, and before the hesitating man makes up his mind the little plants on his neighbors' lands have become forests.

We trust that the general prosperity of the last year may induce many to make some outlay in the direction of filling the waste places with beautiful timber trees. There is promise of abundant moisture this year and the time could not be better for securing a good start with well-set trees. It would be well if every seedling now lamenting its cramped space in the boxes of the nurseries should find room on the hills or in the valleys to put forth leaf and branch and rise to its natural beauty and utility. Let the trees have a chance. They will make glad your eye and carry their benefits to your children's children.

TO PROTECT GOVERNMENT TIMBER.—Our Red Bluff correspondent recently gave us a vigorous letter on the evil of firing the timber on the untaken lands of that county. We notice that Secretary Schurz brings up the subject of protection to Government timber in his annual report to the President. He outlines the following legislation as necessary: "First, that the Government should be authorized to sell timber from the lands principally valuable for the timber growing on them; that is to say, not suited to agricultural or mineral purposes, at a reasonable price above the nominal rates, to supply all domestic needs and all wants of local business enterprises, as well as for commerce; the latter so far as compatible with the public interests. Secondly, that these sales of timber be so regulated as to reserve the necessary proportion of the forests on public lands from waste and indiscriminate destruction. Such a policy can, in his opinion, be carried out without great cost, and in perfect justice to the settlers and business enterprises of the country. It is virtually the policy proposed by the Public Lands Commission in their report, and the bill submitted to Congress at its last session. He again urges the enactment of a law, prescribing severe penalties for the wilful negligence or carelessness, setting of fires on public lands, and providing for the recovery of damages sustained.

THE value of silk exports from Lyons to America in November was only two millions of francs, nearly a million of francs less than in October, and two millions less than in September.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

A Trip Down the Coast.—No 1.

EDITORS PRESS:—Never did the Pacific Coast Steamship Company carry a hungrier set of passengers than that which left San Francisco on the *Orizaba* on the 14th inst. The sun shone brightly and set grandly; the sea was calm—for much of the distance as calm as though oil had been poured upon its surface, and all the passengers, children included, took their meals with a regularity which must have distressed the waiters.

Besides the usual assortment of San Franciscans on a cruise southward, the company included two families from East of the Rocky Mountains, both bound for San Diego, where they intend to locate, and also one or two unencumbered gentlemen en route for the same place. For in the East it is firmly believed that this time the railroad is coming to San Diego, and no mistake. On the faith of promises made by the new competitor for Californian trade these families have left their homes, to seek in the halmy climate of southern California health and a livelihood. Other families have preceded them; others still are coming.

At sunrise on the 15th we were at the wharf, At Port Harford,

Where we disembarked, a considerable proportion, both of passengers and freight. There had been a landslide at the entrance of the tunnel through which the railway from San Luis Obispo, which is about nine miles distant, finds its way to the sea shore, so that those bound for that place had to walk some distance. The tide was up, the cliffs were high, the general aspect of the shore, like that of the hills facing the northern side of the Golden Gate, was bare and brown, but I was assured there was much good country back of these hills, and that the mesa or terrace to the south bore potatoes and fed sheep. At Port Harford the steamer's head was turned northwest, lying almost parallel with the shore, which here curves so as to afford protection against all storms coming from the north or northwest. The automatic buoy scarcely made a sound as we passed it, so nearly waveless was the ocean. Between Port Harford and Point Sal most of the coast is a broad terrace, containing much good farming land, but fronted along much of its length by extensive sand-dunes. We were told that large quantities of grain were awaiting shipment at Point Sal, and from the deck could trace by the clouds of dust they raised on their passage, the progress of the wagons that were bringing still more down the rough mountain road. The wharf at this point was destroyed in the past winter, and has just been rebuilt. Beyond Point Sal is the Lompoc country, which is accommodated with a good wharf. We could see the wharf, but not the beans which a waggoner native of the locality told us to look for. Now we approach

Point Concepcion,

The Cape Horn of California, the boundary below which only a very small proportion of the northern marine fauna passes, and north of which only a remnant of the southern fauna ventures as far as Monterey bay. Point Concepcion runs out into the sea farther than most of the capes of Alta California, and is backed by an extensive mesa. At its extremity it rises into a rugged and precipitous, but not very lofty cliff, on the summit of which the lighthouse is perched. This point, as is remarked by Prof. Davidson, is one of the most striking examples of the terrace formation to be found upon the coast, and at the same time one which most bears out the theory of the glacial origin of those terraces. It seems as though the ice sheet, as it passed along the coast, grinding down the lower foothills, wherever they interfered with its progress, to a level surface, irrespective of their stratification, was at this far-projecting point too narrow to reach to the extremity, which was thus left above the level of the country behind it.

Immediately after turning the point, we reached the bed of kelp which continues southward along the coast, its inner edge near low-water mark, its outer in 10 fathoms or thereabouts. Into this kelp, and as close as we could in shore, we steamed, in order to put ashore the well-known extensive land and cattle owner, Patrick Murphy. Looking over the side of the vessel, as we drifted with the tide, we could see the long streamers of sea weed floating for some 60 or 80 ft. from the point where they first came near enough to the surface to be visible. Eastward our course lay now, and soon it became northward as we approached

Santa Barbara.

I shall never forget the beauty of the scene. In the bright moonlight, nestled among trees at the foot of the Santa Inez mountains, with lower hills to the right and left, Santa Barbara looked indeed a place at which one would be content to live. Nor is the spot less charming in the daytime, though the Santa Inez mountains show less near, and the intervening foothills come into view. The trim gardens, neat, and often handsome residences, and clean streets, joined to its position in a valley between two ranges of low hills, all combine to give it an aspect more pleasant than that of any of the more northern towns of the State, except, per-

haps, Santa Cruz and San Rafael. Yet a nearer acquaintance with the flora of the hills and valleys is disappointing to one accustomed to the wooded country around Mt. Tamalpais, although it might please an Oaklander. The only tree upon the lower hills is the live oak (*Quercus agrifolia*), and the valleys add only the sycamore, willow, and a few ceanothus bushes. No madrona, with its glossy leaves and smooth, velvety bark; no bay tree (except in the gulches) towering above the oaks; no chestnut oak, no ash, no maple, nor, at least in all the lowlands from Santa Barbara to Rincon, any kind of pine, spruce, fir, or redwood. The black and red oaks grow in more elevated localities, but even there there is none of that variety of foliage which gives so great a charm to the wooded regions of Marin county.

But man has done, in every sheltered spot, what nature failed to do, and his gardens and plantations give a semi-tropical aspect to the more cultivated portions of the country.

Groves of Oranges and Olives,

Hedges of limes, date palms, fan palms and bananas, fig trees and guavas, and fields of pampas grass grow side by side with the more familiar pumpkin and apple. The date palm, to my mind not pleasing when old, is a very graceful object when young; its long, feathery leaves rising from near the ground, and arching downward at their tips. The guava is not planted, like Mark Twain's pumpkin, for a shade tree, but for use. The fruit is preserved, and guava jelly is made. There is a fruit cannery on State street, and I am told it is kept busy.

The olive and the orange are planted extensively, and are at present in a flourishing condition, but their fruitfulness is menaced by the scale bug or coccus, which is becoming abundant. I was shown two species in Mr. Bingham's plantation at Montecito; one living upon both olive and orange, the other apparently on the orange only. The first is black, rather large, about a sixth of an inch in length, and lives principally upon the branches and in the axils of leaves and twigs. The other is much smaller, and lives upon the upper side of leaves, especially affecting the midrib. All the examples I saw of the black kind were old and dried scales, but the other kind were in various stages of growth, and in great abundance upon the trees infested by them. Many of the leaves on the oranges where this coccus was plentiful were covered on their upper surface with a black substance, looking much like a fungoid growth; which, however, it could scarcely be, as it was readily brushed off, leaving the surface of the leaf apparently uninjured. The idea that it had any relation to the coccus so often found with it, was weakened by the occurrence of the insect on leaves whose upper surface showed, to the naked eye, no trace of the black substance.

In and around Santa Barbara, as in and around San Francisco, and everywhere else in California where he makes his home, modern man has planted the blue gum and the pepper, the latter of which thrives vastly here, increasing to a tree some 50 ft. in height, and the equal of the native oaks and sycamores.

At this Season

One of the most conspicuous features in the fields is the quantity of pumpkins that lie ripening in the sun. Many of these are of great size. Mr. Shepherd had one that weighed 220 lbs., and examples as big as a beer keg are common. Flax is fast becoming a staple crop in this neighborhood, but is now all harvested, so that all that is visible of it is the straw, much of which is thrown into the roads in sandy places to make good. One man near Santa Barbara had some 900 sacks of flax seed. But the crop that predominates all along the coast from Montecito to Carpinteria and Rincon is the Lima bean. As a boy remarked, the people are crazy for it. Now is the bean harvest, and the processes of carrying, threshing and winnowing are being actively carried on, the two latter out of doors, as well as the first. The usual method of threshing is very primitive, being nothing more than that so often hinted at in scripture. If, in the phrase "the ox that treadeth out the corn," horse was substituted for ox, it would apply to this neighborhood. Steam threshing, they say, don't pay, so they drive a band of horses and colts into a corral, previously strewn with a layer of beans, and whip the animals around, varying the operation occasionally by driving round with a wagon and span of horses. A large proportion of the crop must necessarily be lost by such a method as this, yet the crop is a profitable one in a season like the present.

Last year was a bad one, but this year has brought amends in full crops of everything, from flax, beans and pumpkins to figs and pampas grass, which last is grown in large quantities, the long, white plumes finding a ready market in the Eastern States. Other fruits grown here in considerable quantities, are the almond and the walnut. The latter succeeds well as a fruit-bearer as far south as Los Angeles, but even at Santa Barbara shows its disgust at the warmth of the climate by remaining a large bush, instead of growing into a splendid tree, as it does in England.

It must not be supposed that figs, palms, oranges, and such like semi-tropical fruits will grow anywhere, even in this mild climate. They need shelter and water, two things only obtainable in certain favorable situations throughout all southern California. Most of the best places here are already taken, yet there is still room and new people are still planting. One man is going to plant out 5,000 oranges this year; another will plant 25 acres with the same fruit.

The country available either for agriculture or pasture around Santa Barbara is of limited extent. Successive ranges of low hills, coming down from the mountains to the sea, part the coast country into a series of sheltered valleys. Santa Barbara occupies one of these, and thence eastward succeed Montecito and Carpinteria, the further extremity of which is known as Rincon, a word which is simply Spanish for a corner or internal angle. Westward, toward Point Concepcion, the structure of the country is similar. A noticeable feature of many of the spurs given out by the mountains between Santa Barbara and Point Concepcion is their termination in a hill higher than the range behind it. The carving of these ridges has been done by ice; we can imagine how the ice sheet, descending from the heights above, swept over the upper portions of the foothills, but failed to overwhelm the extremities of the spurs, leaving them as monuments to be rounded off by the rain and the weather. Back of all these valleys stretches a vast waste of mountain country, the interlacement of the Coast and Sierra ranges.

W. N. LOCKINGTON.

Santa Barbara, Nov. 20, 1880.

Santa Cruz County Products.

EDITORS PRESS:—I send you to-day (November 30th) specimens of six varieties of grapes; Muscat of Alexandria, Rose of Peru, Verdelho, Black Morocco and Ferrade, Black Malvoise, grown by H. C. Morrell, of Hiland, in this county, also two samples of apples; Fall Pippin and Newtown Pippin; also four varieties of corn—Yellow, King Philip, Yellow Dent and a variety from Pennsylvania. Now we don't claim anything extra on this exhibition, only to show that we can grow grapes in Santa Cruz of excellent quality, and have them late in the fall in good condition long after the grapes in many other parts of the State have been spoiled by the frost. You see that these grapes are of good flavor and size, notwithstanding the lateness of the season, and are of the most popular varieties of table grapes, our wine grapes being all gone to the press. These grapes were out in an exposed situation, and you can see by the flavor of the fruit and the appearance of the leaves among them, that we have not been troubled yet with frost to any extent.

Mr. Morrell has about 30 acres in grapes, and as much in orchard fruit, and is realizing a good profit from his enterprise; and there are thousands of acres of land in Santa Cruz county lying idle that would produce just as good fruit as Mr. Morrell's. I was in Mr. Morrell's vineyard last December, just before Christmas, and saw him gathering very nice Verdelho grapes—two boxes to the vine—and sending them to San Francisco, where he got from \$1.50 to \$2 per box, and his grapes, as well as his neighbors', are a sure crop every year.

The apples were grown by James Taylor, of Hiland, and myself, and we claim something a little extra on them. The three "Fall Pippins" average 20 ounces each in weight, and the largest measures 15 inches around. These were grown in my orchard near the coast, and I think they are the largest pippins I ever saw, and I have boxed a great many pippins on this coast. I think them equal in flavor also to any in the State. The "Newtown Pippins," grown by Mr. Taylor on the summit of the Santa Cruz mountains, are not as large as I have frequently seen, but, in point of solidity and general appearance as a market apple, they are hard to beat; and yet Mr. Taylor's situation for growing apples is no better than the average land all over the county. The excellence of his apples is owing to his attention and skill in growing them.

We claim nothing extra on the corn, as such; but in consideration of our cool dry summers, where we have no hot weather, I think it a little extra. One ear measures 11 inches long, and another 10 inches, and the grain is sound and well matured and of good length; and goes to show that we can grow corn here too, as well as wheat, barley, and a great variety of the finest fruit that grows in this latitude, any where on the globe. A part of the corn was grown on my place, and a part by Mr. Sanders Blodgett, who left the hot valley of the Sacramento and climbed to the summit of Ben Lomond Mt., in the western part of this county, about 2,300 ft. above the sea; and by his skill and industry is showing what that region is good for, and is making himself a very pleasant home on a lofty elevation, that overlooks a vast landscape and a broad expanse of "old ocean." There the sky is scarcely ever clouded for eight months of the year, and the greater part of the other four months of the year is bright sunshine; and being blessed with an abundance of pure water, a pure atmosphere and unclouded skies so much of the year, it must be a desirable place to live; for they can grow a great variety of choice fruits, as well as corn and wheat. Now, in summing up this exhibition, in connection with exhibits of wheat shown heretofore, amounting to 100 bushels to the acre—and 60, 70 and 80 bushels being common, we show conclusively that Santa Cruz county is not surpassed nor equalled anywhere in all that goes to make a desirable and pleasant home; and we have room yet for five times as many people as we have, and not be crowded. If there is anything worth living for in all this "wide world" I think that a pleasant home, in a beautiful country, where nearly all kinds of choice fruits, grain and vegetables grow to great per-

fection, and yield a good crop every year—and where clear skies, without excessive heat, or cold or violent storms occur—I think that such a home is that thing, and that can be secured here.

M. P. OWEN.

Soquel.

[Mr. Owen's description of the specimens submitted we find quite accurate. The grapes are handsome and unharmed by frost. They are full-juiced, rich and very beautiful. The apples and corn we find all that is claimed for them. Concerning the frost freedom claimed for Santa Cruz, it may be said that so far as good late grapes are concerned other regions can make a similar claim—at least there are now fine grapes coming in from several different districts. Eds. Press.]

THE STOCK YARD.

Points on Stock Fattening.

They had in Chicago last month another fat stock show, at which were shown fine animals from different breeds and grades thereof. From the records of the show, as printed in our Eastern exchanges, we gain notes of general interest. We give below the entries of pure-bred cattle, in which table the column headed *no* gives the age of the animal in days, that headed *two* states its weight November 11th, and that headed *three* states the average gain per day since birth, in lbs. and decimals:

SHORT HORNS.

No.	Owner.	1	2	3
16.	J. D. Gillett, Elkhart, Ill.	1,305	2,125	1.62
17.	" "	1,280	2,000	1.56
18.	" "	1,250	2,215	1.77
60.	Wm. Sandusky, Catlin, Ill.	1,307	2,350	1.71
61.	" "	1,005	1,925	1.91
63.	J. B. Sherman, Chicago, Ill.	1,064	1,815	1.7
69.	" "	952	1,880	1.97
70.	" "	908	1,825	2.01
72.	Wm. Scott, Wyoming, Ill.	2,692	1,690	...
73.	" "	2,136	1,710	...
74.	R. Geo. Dunn, Mechanicsburg, O.	4,266	1,455	...
83.	J. S. Highmore, Rochester, Ill.	782	1,560	1.99
84.	" "	721	1,590	2.20
102.	J. H. Potts & Son, Jack'sville, Ill.	...	2,650	...
103.	" "	...	1,857	...
104.	" "	...	1,390	...

HIREFORDS.

54.	T. L. Miller, Beecher, Ill.	1,350	1,720	1.27
55.	" "	1,183	1,875	1.58
77.	" "	1,070	1,475	1.73
79.	" "	834	1,700	1.92
80.	" "	1,018	1,650	1.62
120.	G. S. Burleigh, Mehan'sville, Iowa	710	1,115	1.57

DEVONS.

115.	Thomas Bidwell, Gurnee, Ill.	1,506	1,270	0.97
116.	" "	1,305	1,170	0.99
121.	L. F. Ross, Avon, Ill.	849	1,250	1.47
122.	" "	618	990	1.60
123.	" "	1,711	2,035	1.18
124.	" "	1,701	1,940	1.14

The following awards were made:

Class A.—Lot 1—For Short Horn steer, aged 1 year and under 2; J. S. Highmore, Rochester, Ill., first premium for "Corporal," bred by owner. Age in days, 721; weight on Nov. 11, 1880, 1,590 lbs. Report of the committee: "The steer exhibited in this pen showed evidence of good breeding and feeding, and only requires continued good handling to make a butcher's steer of great excellence. The steer had a long loin and rib well covered with thick, mellow flesh of good quality, small head and neat short neck, well filled quarters, and nicely proportioned throughout. Considering the age, the steer is a good handler, with thick, marbled flesh, evenly distributed in the best parts of the carcass."

Class A.—Lot 1—For Short Horn steer, aged 3 years and under 4; William Sandusky showed Booth of Vermilion, aged 1,367 days, weight 2,350 lbs., and took first premium of \$25. J. D. Gillett showed Oglesby, aged 1,305 days, weight 2,125 pounds; Beveridge, aged 1,280 days, weight 1,000 lbs., and Cullom, aged 1,250 days, weight 2,215 lbs., taking second premium of \$15 with Beveridge. Report of committee: "This ring was composed of four thoroughbred Short Horn steers, showing unusual development for age, and averaging 2,172 pounds, showing an average gain per day of 1.66 lbs. The steers were evenly matched, and showed the result of good breeding and handling. Considering the age and weight of the steers, they were very smooth and free from patches, and evenly covered with thick meat of extra quality. The steer Booth of Vermilion was awarded the first premium, and excelled in the following particulars: small, neat head and neck, fineness of bone, with thick, broad, and long loin, shoulders full and in good proportion, with hind quarters well flanked down, broad and full in round, well meaty down the hock and gambrel joint with even top and bottom lines. The steer had small brisket in proportion to size, and was better filled behind the arms than his competitors. The second premium steer, Cullom, was a very superior animal, rather heavier in head and neck than the animal awarded the first premium, not as well filled in loin and fore quarters, or as smooth as the steer Booth of Vermilion; voted the first place."

Class A.—Lot 1—Short Horn steers, aged 2 years and under 3. J. S. Highmore showed Robin Hood, aged 782 days, weight 1,560; J. B. Sherman, Boynton, aged 1,064 days, weight 1,815; also Morris, aged 952 days, weight 2,880; also Belmont, aged 908 days, weight 1,825; William Sandusky showed Abe Renick. Sherman took first premium \$25, with Boynton, and second premium, \$15, with Belmont. Report

of committee: "The five well-bred steers shown in this ring were well proportioned throughout with the most desirable distribution of meat for the butchers and consumers. The ages and weights of the steers in the ring conclusively prove unusual development, which, taken into consideration with the size, form, and ripeness of the lot, indicate the value of the improved breeds of cattle for early maturity and quality. The steer awarded the first premium had the best back and loin, the flesh was mellow, and thicker than on either one of his competitors, and more evenly distributed in the best cuts. This steer had a small, neat head and neck, was fine in bone, with short leg and small brisket in proportion to the size and weight of the steer. Top and bottom line straight. The animal awarded the second premium very nearly approached the first premium steer in points of excellence, was hardly, however, as well filled back of the shoulders, rather coarser in bone, with not so thick meat on back and loin.

Class A.—Lot 2.—For Hereford steers, aged 3 years and under 4. One entry, T. L. Miller's Alex, aged 1,183 days, weight 1,875 lbs. "The only steer in this ring was as smooth as a cushion, with very broad, long and thick loin, covered with thick, mellow, well-marbled flesh, mellow hide, and handling qualities of great excellence. The long, thick, well-filled quarters were in good proportion and supported on short legs. The steer had a short dished face, neat head, short neck, well cut up in throat latch with a very little corsage, low-priced meat, and would dress to great profit with very small proportion of unsalable meat. The steer was fine in bone, full and thicker in crops, with well filled brisket, flanked low down, low in twist, heavy, thick round, with meat well down to hock and gambrel joint."

THE GARDEN.

Growing Tomatoes and Cucumbers for Market.

We find in the writings of P. M. Oliver in a Florida exchange some prescriptions for growing tomatoes and cucumbers for the market, which may be of interest to our readers. The methods described are those used by growers of these vegetables for shipment to the northern cities. For tomatoes, hot-beds of from three to four ft. wide, by any reasonable length—owing to amount of acreage to be planted—should be prepared in December and early in January, by getting plank and running a close wall from east to west, say four ft. high, making a fence to lean or incline south, or facing the sun low enough to just allow the sun to shine under. This fence, or wall, protects the plant from the cold north winds and rains, and gathers warmth from the sun. Buttons or nails should be tacked on top the fence so as to allow a strip of Anscomb or other cloth to be hung along and allowed to suspend on the south side in extreme cold nights, and then thrown up after sunrise. This protection will hold well in very severe weather, and is the best I have ever tried. The bed itself should be raised with good compost at least four inches high, with poles or plank above the level of the common surface. The seed should be well raked in, and the bed well sprinkled with water. Care should be taken not to sow too thick, for here in this bed they should stand until danger of frost is over, and if they should grow 12 to 16 inches high, so much the better; I had them to commence blooming in bed before transplanting. Here they are protected with less trouble, and will grow faster than anywhere else.

Prepare land as with cucumbers, except beds should be five ft. apart, and from three to five ft. in the hill, with only one plant. The land should be bedded out well, then open the water, or middle furrow, deep and clear. A careful dropper should drop, or place each plant in an upright position, with root at the bottom of the furrow, and tap leaning to one side. The plants should be taken out of water dripping; another hand should follow immediately behind the dropper, with hoe, and cover the root and stem up to within two or three inches of bud or tap, making no allowances for length of plant. If manure is to be used, a hand should follow the dropper ahead of the hoe, with basket in hand, and manure thrown immediately on the roots, and then the hoe must cover all but two or three inches of the top bud. This manure will stimulate the plant at once, and being so far down in the water furrow, will never lose its moisture or burn the plant. At each joint of the plant—if it is 16 inches long—will put out in five days numbers of horizontal roots up to the topmost joint. This gives the tender plant not only the benefit of its bottom roots, but roots at every joint, and the result is that the original root being deep down in the ground, and the tender body or stalk of the slender plant is protected by earth from the sun until each joint sends out its roots, thereby giving the plant a vigorous start; although it may be a foot long, and not larger than a broom straw, it will form a stalk as large as one's thumb, and commence to bloom and bear at once, because it has the age and a full supply of roots with the old stem protected from the sun and cold. Should the tops be bitten off with frost after being planted in this way, the plant will put out a bold, vigorous

sprout from the next joint under the ground. Cultivate well, hoe and plow every 10 to 20 days. Lay by perfectly clean, and work as late as possible. Gather at the proper stage. Assort, wrap and pack well and close; and every time ship to good men, with orders to sell on arrival, and if they fail to obey and act promptly and make prompt returns, try another good house at once.

Cucumbers.

The row should be laid off from four to four and a half ft. apart; thoroughly broken out in flat beds, well pulverized, taking care that the middle or water furrow be well opened, in order to carry off the surplus of water from our usually heavy spring rains. This should be done the latter part of January, or early in February, as the mildness of spring will allow. Then open the bed with a small scooter plow, making a plain, but small, shallow furrow, and if the land be rough, better pass up and down each with a hoe, and knock out the clods and roots. This being done, then planting should commence. Buy good seed from reliable houses. Do not be penurious or too economical in seed; better plant lavishly, so as to insure an early and good stand, and have some to cut out, than miss an early and paying yield. The old adage, "the early bird catches the worm," holds well with vegetable raising. I generally plant "white spine" variety, though the long green is said to be very good. Sow good seed in the furrows, so as to come up about three inches apart, one in a hill, and cover with a rake. When up, let them stand this distance until they become bulky and strong, or until all danger of frost is over. Then cut out the hills eight or ten inches apart. They will stand this distance very well until they begin to cross or lock in the rows. By this time the early and paying shipments will have been gathered. After this mode of planting, more and earlier fruit can be made per acre than any other I have ever tried.

As to the mode of cultivation, nothing is more simple. Keep the ground well pulverized by plowing and hoeing every 10 to 20 days; and be sure in laying by that the grass and weeds are all out. This will enable one to gather with much less trouble, and allows all the moisture to go toward the support of the cucumber in dry weather. As to the quality of land to plant, I prefer the best that can be got, every time, and if not naturally good, make it so. A compost of stable manure, cotton seed, mellow muck and lime, is good for any and all kinds of vegetables. Other manures or commercial fertilizers can be used to great advantage in the absence of the above compost; but great caution should be used in the mode of applying and the amount.

As to the stage to gather, I cannot here well describe that. It must be learned from experience. The best only should be well and closely packed in crates to themselves, and "culls" in different crates. I also think it a good idea to ship each quality to different commission houses and let each sell on its own merits. Ship promptly by the most direct and quickest route, regardless of the little difference in freight. Above all things, ship in good condition, to no other than houses of established reputation, and you will run but little, if any, risk.

I have been more particular in writing on this vegetable from the fact that my advice as to the care in picking, packing and shipping cucumbers holds well, and must be observed in the management of every class of vegetables.

POULTRY YARD.

Warm the Food.

It may seem old-fogyish to some to warm the food given to the poultry during the cold winter months, some persons contending that the fowls in their natural state never had aught else than cold food, and but sparingly of that. That is true as far as it goes, but then how much profit would be secured from birds left to care for themselves? Domesticated live stock of all kinds are subjected to altered conditions from what they were under when free and not under the restraint of man, and we must conform in our feeding and management to these altered conditions, else we will be just that far from success. If we want a good, healthy growth and an abundance of eggs from our fowls during the winter, we must not only feed them liberally on suitable food, but we must feed in such form and condition as will secure the best results.

After an experience of several seasons we have adopted the system of warming the food all through the winter and cold weather, both morning and evening, and we attribute the excellent laying qualities of the fowls, in a great measure, to doing this. The food, whether whole or broken grain, or other food, either dry or moistened, should be warmed well before feeding. Some breeders as well as farmers make a practice of parching their whole corn, and are assured it is beneficial. Where new, unsasoned corn is used for chicken food, this parching is a decided benefit, for it makes it equally as good for feeding as old, seasoned corn. Quite a number of poultry ailments are caused by feeding the new crop of corn, and parching it will effectually prevent any trouble from that score.

Wheat, which is no doubt the best kind of grain for the laying fowls, much better than so much corn, which latter fattens so quickly as

frequently to stop the production of eggs temporarily, is much improved by being heated well before being fed, and then given to the fowls while yet warm, not hot. In feeding wheat, only about two-thirds as much by measure should be fed as of corn, and when fed in that manner is very little if any more expensive than corn. Good, sound wheat only should be used, for while we see no objections to screenings on the score of unhealthiness, screenings give but little available food.—*Poultry Monthly*.

POULTRY IN FRESNO COUNTY.—The *Expositor* says: Fresno offers a good field for the raising of poultry. Our small farm system is just the thing to make it a success. In an open country they can be easily seen and protected, while the cheapness of small grain makes their food no object. The Egyptian corn, which grows so readily here, will make a splendid article of food to alternate with our ordinary small cereals. With this and good pure water, and careful attention to cleanliness, our poultry yards can be made to rival the world. One farmer in the foothills has a flock of 800 turkeys which will bring in the market about \$2 apiece, amounting to \$1,600, a nice little nugget. The eggs were farmed out to his neighbors on shares, and this flock is the portion that came to him. At the Central Colony, J. M. Sumner, an old Nevada miner, who knew, when he came here, as much about chickens as a duck does about a fore-and-after, started a chicken ranch. His knowledge was theoretical; he took all the poultry newspapers; subscribed for all the poultry magazines. From the first his poultry yard was an assured success. He has about 200 hens, from which he sells about 15 doz. eggs daily. From these instances, which are only a few gathered from many more that might be mentioned, there can be no doubt that poultry raising can be made a success. A prominent merchant of our town informs us that he could have sold 500 doz. eggs more this summer than what he had on hand. With a good market and every facility for the business, we hope soon to see some good Fresnoite, or rather several of that ilk, go prosperously at the business.

SHEEP AND WOOL.

A Fodder Shrub for Dry Lands.

Our Australian exchanges bring accounts of a shrub which has been grown extensively in the dry regions of Victoria and South Australia and found of value as a shrub for yielding fodder on lands where ordinary forage plants will not grow. It might prove of value in some parts of this country. The *Adelaide Observer* has this account of the plant: Among the new fodder plants received recently at the Melbourne Botanic Garden is the *Pentzia virgata*, or African sheep bush. This plant, though not generally known, has been cultivated in our Botanic Garden for very many years past, and has also been very extensively cultivated by a few sheep farmers in the far north. The following is Mr. Guile's report upon the matter: Much attention has hitherto been devoted to the introduction and propagation of various kinds of fodder plants, such as herbs, grasses etc., which have been freely distributed from time to time to applicants, in accordance with the rules of the establishment, in exchange for seeds, plants, herbarium specimens, etc. A good opportunity is now afforded those who may wish to experiment with the celebrated *Pentzia virgata*, or African sheep bush, a large parcel of the seed of which has just been received from Mr. E. J. Dunn, of Buffels Kloof, South Africa. In his letter he says: "By this mail I send you a bag of seed of the Schaaf bosh (sheep bush) or true Karoo bosh, a plant that provides some millions of sheep with food in the driest portions of this colony. Sheep, goats, cattle and horses are all fond of this small bush, and rapidly fatten, though there should be no other vegetation where they are depastured. The great value of this bush is that it flourishes best where the rainfall averages from six to eight inches per annum only, and it should therefore be applicable to much of the northern and western territory of Victoria, and I am sure would thrive well in Riverina. It grows freely from seeds, and also from layers, and prefers a deep reddish loam in which lime and iron abound; it is not injured if the ground is brackish. It is quite possible that in the interior this plant might become very useful and profitable to cultivators, as it flourishes where grass cannot live on account of the arid nature of the climate. There are several plants similar in appearance, but this is the genuine one which is of such immense value in this colony." There can be no doubt that *Pentzia virgata* is a most estimable fodder plant in South Africa, and is well worthy of trial in all parts of Australia. From experiments made in the Melbourne Botanic Gardens it strikes freely from cuttings, and grows luxuriantly in moist situations, though its chief recommendation seems to be that it flourishes in arid soils. In a letter received two years ago from Mr. Moody, Otago, New Zealand, he states: "I have tried the plant (*Pentzia virgata*) here, and find it to be a good grower, and also capable of standing a considerable degree of frost. It is sometimes as low as 11° and 13° Fahr. on the ground here in winter." The plant belongs to the order *Asteraceae*. The seeds are small, and should not be buried too deeply in the soil; in fact, scarcely as much as one-fourth of an inch. A moderate amount of moisture should be applied until germination takes place.

THE FIELD.

The Threshing Problem.

EDITORS PRESS:—We are aware there is a large interest manifest among farmers and threshermen about threshing grain. The farmer wants his grain threshed well and cheap, with as little annoyance to his family as possible, and the thresherman is equally anxious to accommodate the farmer. Threshermen compete with each other for the farmer's work, by offering cheaper and better work, and fast-working new machines; and threshermen hunt the market yearly for the best machines. Manufacturers strive with each other to produce the machines required, and we must say they have exceeded our expectations, but it has been by adding more shafts, more pulleys, belts, lumber, etc.—consequently more complicated and costly machines, sacrificing simplicity, durability and economy in their construction. Machines are now so large, it takes considerable team to move them from place to place, particularly in hilly regions, and if the roads are rough, will be as much injured by carting around as they are at work. It seems the profitable limit for using big costly machines has already been reached by small farmers. What is wanted now by most of them, is a small, simple, durable, easy-working machine, such as the farmer and his boys, with, perhaps, the assistance of a few neighbors, could work if they chose, and thus, by mutual assistance, thresh their own crops without paying out comparatively any money. By so doing, they could thresh their grain, when it was ready, without waiting the convenience of others, or until everybody else is done, and their own grain exposed to early rains, fires, etc., and thus become an independent man and save money at the same time.

A case in point: My neighbor, Mr. Moore, had cut and stacked his grain, and engaged a machine to come and thresh it, the time being set, which set time arrived, but no machine. Again the time was set, but no machine appeared, and thus times were set and unfilled until the closing days of September, when Mr. Moore got alarmed at the near approach of the rainy season, and seeing no other relief, went to San Francisco and purchased a small separator and a two-horse endless chain power to run it. Took it home and threshed his grain, at an outlay, for help, of \$54, which included his own labor. He had expected and was willing to pay the large thresher \$250 cash for doing the same job.

If this man, aiming only at getting his grain threshed, had accidentally saved \$196 by being forced to use a small machine, what a vast sum would be saved by the small farmers of California if all would discard large, and use only small machines. By so doing, they would not only save the money as Mr. Moore did, but much surplus labor that is always to be found on farms could be worked in, such as boys that are too young to follow large threshers, where 12 to 14 hours daily labor is required, and older boys that *won't do it*, and men that don't consider themselves able, and neighbors that can't leave home only portions of each day, because of chores and other necessary duties. But all could help a neighbor do a short and easy day's work when no hurry or confusion existed, and be remunerated for the same either in money or return labor, thus saving something at every small farm, enough, perhaps, to buy many comforts and supply that creditable and necessary article—"pocket change." If the large machines do the work, how different the effect; for every day's labor, about \$100 in clean cash they carry away with them. If the surplus labor works in at all, it is only as servants that work without remuneration.

No doubt if small machines should be used by the small farmers of California, a large demand would spring up for small, reliable, light-running machines, and manufacturers and inventors would strive as hard to supply the demand as they have heretofore the demand for large machines. It is true we passed through in early days—a period when small unsatisfactory machines were used—but that was in the early stages of the threshing problem before many improvements, since adopted, were known, most of which would answer equally well upon small machines. The adoption of small machines would have a tendency to restore to the farmer the threshing of his own grain as a part of his legitimate farm work.

We are not prepared to recommend small machines to large farmers that hire all their work done; but we believe that three machines that bag 500 sacks each daily, would be more economical than one large machine that bags 1,500 sacks daily, for the reason that there is much loss from imperfect separation where such large amounts of straw and grain are forced through one machine, as well as the impossibility of using all the force economically, where large numbers are jostling each other for want of room, etc.

JOHN M. HORNER.

Kahului Maui, H. I.

NEVADA'S POPULATION.—Jackson Ferguson, Supervisor of the census for Nevada, has completed the returns, though the official figures have not yet been published. He states that the total population of Nevada is within a hundred or two of 60,000, showing a gain over the last census. Instead of losing, Storey county has gained, its present population being between 16,000 and 17,000 an increase of 4,500.

PATRONS OF HUSBANDRY.

Meeting of the National Grange.

After the address of W. W., J. J. Woodman, an outline of which was given in last week's PRESS, the reports of the Secretary and the Treasurer were taken up. The *Grange Bulletin* says:

Bro. F. M. McDowell read the Treasurer's report, a plain statement in figures of the financial condition of the National Grange, containing ample proof that the falling off in delegates had not been nearly as great as of late years and that the finances were in a healthful condition.

Bro. Wm. M. Ireland presented his report as Secretary of the National Grange, containing figures and suggestions, and full of value and interest. Among which was the fact that while in 1879 but 17 new Granges were organized in the United States, in 1880, 42 new Granges had been instituted, the largest number, 16, in one State being in South Carolina. The reports coming to his office had been of the most encouraging character. The correspondence had largely increased. The demand for the new manuals very large, and the prospect generally growing brighter. After hearing the report of the Secretary the Grange took a recess until 9:30 A. M. Thursday.

In the evening several hundred persons, delegates and visiting Patrons, called upon the President and Mrs. Hayes, and were most pleasantly greeted. The greenhouses were lighted up and the rooms decorated with flowers. All expressed themselves highly pleased with every part of the reception. After which and during the other evenings of the week, parties of 20 to 25 at a time called at the house of Gen. Le Duc, the Commissioner of Agriculture, and passed an hour or so in a most enjoyable manner. Every one who sees our worthy Commissioner can not but be convinced of his earnestness in his work and his desire to still more advance the agricultural interests of our country. Farmers everywhere should hold up his hands, encourage his efforts and condemn the few politicians who have endeavored to curtail the few advantages our class has in the affairs of the nation, cramp him in his work and prevent the benefits that would come to our whole country if he is permitted to work out this broad and comprehensive plans.

Second day, Thursday, 18th.

Worthy Master Woodman, in the chair, minutes read and approved. Under call for reports of officers, Bro. Eshbaugh, as worthy Lecturer of the National Grange presented his report. He said that he had been kindly excused from services in other States, and it enabled him to devote his time to the work in his own State, which it gave pleasure to report in a healthy and prosperous condition. He said also: "I have visited but two other States during the year, viz., Kansas and Illinois; devoting a few days to the work in the former and a week in the latter, and while the Order in the former is in a healthy condition, the latter needs more work. There is evidently a field open for work in many other States that should not be left uncultivated by the officers of State Granges. Farmers are more eager for information now than formerly, they begin to realize the necessity of organization of their class, and are manifesting more willingness to unite in proper efforts promising relief from burdens of injustice, and that may lead to advancement to themselves and their class. I do not believe that there ever was a better time for efficient work in many of the States than now."

Bro. Aiken then read the report of the Executive Committee, giving the details of their work during the past year, with recommendations for future work.

Bro. James moved that a Committee on Agriculture, consisting of five members, be appointed. Adopted.

The list of Committees as appointed for the session was announced, also the order of business.

Under the call of the Roll of States for the introduction of new business and reference to the committees without debate, Bro. Spilman, of Cal., presented memorial from his State Grange, asking amendment to constitution of National Grange, that only Past Masters shall be eligible as delegate to State Grange, and notice that State Grange had not ratified the amendment proposed at last session of National Grange. As this amendment was not ratified by a sufficient number of States the law in relation to conferring the higher degrees stands as before.

Bro. Eshbaugh, of Mo., preamble and resolutions on transportation, and asking Governmental supervision. The report concludes as follows: "What shall we do? Let us exert the force inherent in our numbers. Direct this through the ballot in such a manner that every legislature, State and national, shall reflect the will of the people and all their interests rather than of corporations. Secure in these bodies due representation of the chief industry of the land. Let farmers organize, in utter disregard of the restraints that political parties impose, and let them keep steadily in view the governing purpose to purge the body politic of the venalities that handicap material progress. They may co-operate with all persons and all associations that work in the interest of free and enlightened administration of justice, but for

themselves they must move for the protection of natural rights against the monstrous greed of corporate power that riots in the chaos of principles, overturned and confused by its wanton assumptions. They must invoke order, law, peace, justice for all, lest revolution intervene to clear away with rude hand the fabric of tyranny that now fetters industry and retards development." Bro. Forsyth, resolution adopting the recommendation of the Executive Committee in relation to States where earnest efforts were being made to revive the Order and admit their delegates to the National Grange, as had been done in the case of Iowa, which was carried, and Bro. Jones, of Iowa, to whose faithful work much of the present reviving condition of the Order in that State is due, was admitted as a delegate with all its rights and privileges.

Proposed amendments to the constitution were received from several States; also resolutions from Missouri on education.

Grange Elections.

FRANKLIN GRANGE, No. 147.—Sacramento Co., election, Dec. 4th: Wm. Johnston, M.; J. B. Bradford, O.; P. R. Beckley, L.; W. A. Johnston, S.; L. R. Beckley, A. S.; Mrs. E. G. Johnston, C.; I. F. Freeman, T.; Mrs. S. G. Bradford, Sec'y; C. Benedix, G. K.; Mrs. A. E. Freeman, Ceres; Mrs. A. Moore, Pomona; Miss Emma Walther, Flora; Mrs. H. P. Flexman, L. A. S. Installation to take place Jan. 8, 1881.

TEMESCAL GRANGE elected officers last Saturday evening as follows: C. Bagge, M.; J. V. Webster, O.; Mrs. John S. Collins, L.; Mrs. S. H. Dewey, C.; W. B. Klees, S.; A. T. Dewey, A. S.; L. Friuk, T.; Mrs. Nellie G. Babcock, Sec'y; J. S. Collins, G. K.; Mrs. Emily Bagge, Ceres; Mrs. Brooks, Pomona; Miss Bagge, Flora. Installation of officers will take place in Odd Fellows' (upper) hall, first Saturday in January.

TEMESCAL GRANGE.—There will be special meeting of Temescal Grange on Saturday, Dec. 18th, at 7 P. M., at Mr. A. T. Dewey's, No. 1304 Franklin street, Oakland. By order of the W. M. NELLIE G. BABCOCK, Secretary Temescal Grange.

AGRICULTURAL NOTES.

CALIFORNIA.

ALAMEDA.

LIVERMORE VALLEY.—*Herald*, Dec. 4: Scarcely since the settlement of this valley has a rainy season opened as auspiciously as has the present. It has become a common remark with our farmers that in a dry season it seems, despite all signs, almost impossible to produce rain, while in a season of plentiful moisture the rains seem to fall almost without effort, and from any or whatever point of the compass the wind may blow. This is not a mere fancy, but a circumstance which must have struck forcibly every close observer of our season. Judging from this standpoint, the opening rains of the present season, coming as they have with decision and in abundance, promise well for the outcome, and foretell a winter of plentiful moisture. Of all the weather signs, we know of none more certain than this.

COLUSA.

CUZCO CORN.—*Sun*, Dec. 4: J. P. O'Sullivan brought, this week, to our office, a sample of the Cuzco corn raised by him. The grains are scattering, and if we may judge by this it is not much of a success in this valley. This is the only sample we have seen. The first that Mr. O'Sullivan planted did not come up, and this is the result of a replant. He thinks that if he had planted it earlier, so as to have had the benefit of a longer season, it would have matured better. We understand that Ham Sherer, on Sycamore slough, planted some of it, and that it mixed with his other corn, and he thinks the mixture will make a very desirable seed corn. We have not seen any of Sherer's corn.

CHEAT.—J. S. Black, of Union township, has raised cheat from cheat seed now for five years, and has failed to make a grain of wheat produce cheat by the water he could give it.

CONTRA COSTA.

WHEAT LOADING.—*Martinez Gazette*, Dec. 4: There is now stored at Martinez wheat enough to load half a dozen large ships, the greater portion of it in the warehouses of the Grangers' Business Association, connected by tramway with their wharf, at which the largest ships in our ocean commerce can be loaded. If the wheat there stored is sold to go on shipboard at the wharf, the cost of freight to San Francisco would be saved to the pockets of the farmers who have it to sell, and we hear that several of them who have considerable lots are talking of making up a sufficient quantity for a cargo, and offering it at an agreed upon price to be put on shipboard at the wharf. If a few persons who have from 2,000 to 10,000 cents or more in the warehouses are inclined to go into this co-operative plan of sale, a cargo can soon be made up and sold at prices which will save to them the cost of freighting to San Francisco, and leave them the larger portion of their respective lots to be disposed of in the same way, if they so desire, later in the season, when the market prospects are better defined, perhaps, than they are just now.

FRESNO.

EARLY CUT WHEAT.—*Expositor*, Dec. 2: W. J. Berry, who farms in the vicinity of Kingsburg, showed us samples of wheat grown on his place this year. A portion of his land was irrigated, and the wheat on this land was plump and as fine looking as one could wish to see; the other sample was grown on dry land, and, though shriveled a little, it was far better than any other dry land wheat that we have seen from the same vicinity. He attributes the excellent quality of his dry land wheat to the manner in which he treated it. He cut it and stacked it when in the dough, and the sap from the plant was saved instead of being dried out by the sun.

LOS ANGELES.

THE WALNUT CROP.—*Express*: The walnut crop this year is unusually large. Last year it was very light, and although the price paid for the nuts was nearly twice as much as this year, the owners of orchards are realizing five times as much money on their crops as they did last year. A farmer at Los Nietos who has a 15-acre orchard has sold his crop for about \$1,700. The price paid here by buyers is 7½ cents per pound. When it is known that 4 cents would pay the cultivators a handsome return, we can judge how well satisfied they must be with the results of this year's yield. Our walnuts are now shipped direct to Chicago, where an agency has been found to take all our crop. The result of direct trade with the East in this product is to make our walnut-growers do better this year than they have ever done before.

DEFIANCE AND CHAMPLAIN WHEATS.—A. M. Southworth in *Herald*: In March, 1879, I obtained from Messrs. B. K. Bliss & Sons, of New York, one pound each of Defiance and Champlain wheats. The end of the second harvest with this seed gives a net result from the pound of Defiance wheat, 508 lbs., with a volunteer crop of 700 lbs. the second year, or at the rate of 20 and 28 cents to the acre. From the pound of Champlain wheat, 325 lbs. the first year, and a volunteer crop of 350 lbs. the second year, or at the rate of 23 and 25 cents per acre. Total result of second year's crop from two pounds of wheat, 22,800 lbs. of grain and 30 tons of hay. This was grown on a rich, sandy loam of bottom land, about six ft. to water, and two miles south of west side of race track. I sowed four acres of White Australian on the same kind of land, and it rusted to be worthless.

FINE RAISINS.—A letter from a leading San Francisco commission firm is as follows: "You will oblige us by presenting our compliments to the Messrs. McPherson Brothers, of Orange, and say to them that the raisins they send, if all equal to the few boxes we have opened, are by all odds the finest lot of California raisins we have ever seen in this market, and we have been connected with the California raisin trade from its infancy. If Orange can produce raisins of this quality in sufficient quantities to supply the demand that is now being created for California raisins, then, indeed, 'great will be the heritage' of the people in your section."

MENDOCINO.

IMPROVED BARN.—*Ukiah Press*, Dec. 3: Mr. Chas. A. Brooks has just completed a barn for Mr. Edward Cox, which combines some novel and valuable features. The barn is 55x51 ft., 22 ft. high, with sheds 5x16 ft. The horse shed is provided with feed chutes leading from the hay mow into each stall, which are constructed so that the stableman may feed as much as he desires, even to a week's supply, while the feed box is so arranged that the animal cannot waste feed. In the rear of the stall is a chute for bedding. The stableman has only to drop the straw into the chute, or so many chutes as there are occupied stalls, and then has only to pitch into the stalls. By these contrivances the labor of caring for stock is greatly economized. The barn is thoroughly ventilated and well lighted. In fact, the needs of its brute inmates have been intelligently considered, as well as economy in manual labor.

MORE DAIRYING.—The low price of grain and potatoes the present year has discouraged the farmers of the coast, and several large farms about Point Arena will be run as dairies entirely hereafter. Joseph Sheppard barely cleared expenses on his tilled crops this year, while his dairy of 40 cows produced \$2,000 worth of butter, and were considered only of secondary importance early in the season. He will put on 40 to 60 more cows, and let grain and potatoes alone. We also learn that Alex Gordon, of Westport, has purchased the dairy cows of the Clark Bros., of Cahto, and will turn his ranch into a dairy.

LOGGING.—The present dry season is a fine thing for loggers on the coast. Operations were begun late, and had early rains set in they would have worked under great disadvantages. Of course rain must be had to get the logs down, but that never fails in this county. N. E. Hoak has already put in some 12,000 logs, scaling 6,000,000 ft., which is a much better average than he expected and considerable more than half completes his contract for the season. He has built a fine dam about a mile above the one at his house on the Albion, and is thus prepared to send logs down on a heavy dew.

MERCED.

WHEAT COST.—*Russian River Flag*, Dec. 2: We have frequently heard the expression from farmers hereabouts—"it is a mystery how men over on the plains or anywhere else can raise grain for less than \$1.50 when their average yield is so light." The mystery was explained

away the other day by Mr. E. J. Bigelow, one of our neighbors who went over to farm in Merced. Mr. Bigelow and his partner cultivate 1,800 acres; from this tract they reaped an average of 11 bushels this year, or an aggregate of 7,700 sacks of 135 pounds each by actual count, and can sell for \$1.25 and make interest and wages. How they can do this is explained in the fact that the two partners put their whole 1,800 acres in alone with two eight-horse teams each, and the additional expense of the year amounted to just \$225 outside of harvesting. Cutting and stacking cost \$1.10 per acre and threshing eight cents per bushel, both crews boarding themselves in boarding wagons, feeding their teams from the crop.

FARMING.—*Valley Argus*, Dec. 4: Farmers are engaged in seeding their summer-fallow lands, volunteering suitable fields for volunteer crops, harrowing, etc., the rains last week being sufficient to put the ground in good condition for planting. With a good season for farming operations from the present time to the first or middle of February, an unusually large area of land will be sowed to grain in this county, besides a great deal of new land will be spring plowed for the next year's crop. With the irrigating ditches and canals, and the hundreds of artesian wells that are now available for supplying water for irrigation, a considerable amount of land can be cultivated in other and more profitable crops than small grain, and serve to diversify labor and give encouragement to small farming operations.

THE RAINFALL.—The rain-gauge showed a fall of water up to six A. M. yesterday of 1.78 inches, and since that hour up to going to press with our paper—12 M., there has fallen at least one inch more, making the amount of rain for the season nearly or quite three inches. The rain fell in torrents about 10 A. M., continuing for nearly half an hour and has since been showery. These rains have started grass and grain, and have placed the ground in good condition for farming for the next six weeks, thus almost ensuring a harvest of cereal next summer.

NAPA.

NEW SHERRY TANKS.—*St. Helena Star*, Nov. 20: Frank Sciaroni is building 33 tanks for cooking sherry in. They are of redwood, nine ft. high three and a half ft. diameter, and hold 400 gals. They are redwood because that stands the heat of the cooking process better than oak, and are of the long, slim build to give greater surface exposure to the heat.

SANTA BARBARA.

ALMONDS AND WALNUTS.—*Press*: From Ellwood Cooper we learn that the almond and walnut crop, owing to the excessive rains of the last season, will not be as large as was expected, and also will not weigh so heavily—a sack of walnuts, ordinarily weighing 60 lbs., would this year average only 50 lbs. In fact, all nuts this season are nearly paper shell. He will have about 25,000 lbs. of almonds, and from a young eight-year-old walnut orchard 7,500 lbs. These products are in part being sent on to Chicago, to create a market there to prepare for the time when Mr. Cooper shall have 150,000 sacks instead of 150, as this season's crop—a very nice forethought, as it will also serve to forestall the expectation of San Francisco to control the market on the coast. This course last year brought them to terms sufficiently to advance 2% on the price offered. Dry seasons are proving our best fruit and nut seasons, except in peaches. Mr. Cooper would prefer seven inches of rain this winter to any larger quantity for all his crops. Any reports from the finely managed ranch at Ellwood are of exceptional value, as they are not drawn from anything save practical and intelligent experience.

SAN BERNARDINO.

THE TRAVELING CITRUS SHOW.—*Riverside Press*, Dec. 4: The County Committee appointed to take charge of arrangements for having San Bernardino represented in the traveling citrus fair, met at the Court room in San Bernardino last Saturday afternoon. Hon. John Lawhs was called to the chair and L. M. Holt was made Secretary. L. M. Holt offered the following resolution, which was adopted with but one dissenting vote: *Resolved*: That in the opinion of this committee the project of exhibiting the products of this country through the Atlantic States next spring, is entirely practical and feasible, and that San Bernardino county cannot afford to not be represented in that movement.

THE RIVERSIDE CITRUS FAIR.—At the last regular meeting of the Fruit Growers' Association it was resolved to hold the third annual session of the southern California citrus fair at Riverside during the week commencing March 7, 1880. The days in the week on which it will be held were not decided upon. H. J. Rudisill and A. S. White were appointed a committee to take charge of the fair. They were to appoint a third member of the committee from the citizens not members of the association.

RESERVOIRS FOR IRRIGATION.—At the same meeting H. J. Rudisill offered the following resolution which was unanimously adopted: *Resolved*: That a committee of five be appointed by the chair to prepare a series of resolutions on the subject of storing reservoirs for irrigation, including a memorial to the Legislature and agricultural bodies in this State to be presented to the next meeting of the society for adoption. The following committee was appointed under the resolution: H. J. Rudisill, E. G. Brown, L. M. Holt, Geo. D. Carleton and Dr. John Hall.

SANTA CLARA.

DAIRYING ON THE LOWLANDS.—*Journal*: Alongside of strawberry growing, has grown up another industry—that of dairying—which is assuming proportions of no mean magnitude. We are led to refer to it occasionally by hearing of its growth and witnessing its operations. Driving through the lowland region the other day, in company with one of its thrifty residents, the dairy business could not but attract our attention. Of course it is unnecessary to say to the intelligent reader that dairying is not made possible and profitable in the lowlands because the cows live on strawberries, for no well authenticated instance of their having done so is on record. But small fruits require plenty of water, in the air and in the soil, and so does pasturage; hence the co-existence of cows and strawberries. The same wells that irrigate the strawberry patches will irrigate the alfalfa fields, and the same soil that favors the growth of berries, is friendly to alfalfa and similar grasses. The naturalness and propriety of dairying and berrying on one farm are apparent. Strawberries and cream properly go hand in hand, or, more correctly speaking, cheek by jowl. The lowland farmers find it easy to milk their cows with one hand and pick their strawberries with the other, and they are doing it with success. Their cheese factory absorbs their milk and is capable of absorbing more. It absorbs so much of it that oftentimes not enough is left to make the family butter, and we have the odd spectacle of dairymen buying their own butter. To support this industry good feed is necessary, and the area of pasturage is being constantly extended in the lowlands. Alfalfa is the favorite grass. A consignment of 1,500 lbs. of alfalfa seed has just been bought by the leading farmers of the Braly and Jefferson school districts, and many additional acres will be this winter sown with it. The alfalfa now growing looks vigorous and green after the successive croppings it has had during the summer, and for winter pasturage nothing could appear more tempting—to a cow, of course. Some of the dairymen slop their cows a little at times, but as a rule the alfalfa constitutes their only feed. It is a grass of many virtues, and our lowland farmers are disposed to make the most of it.

SAN DIEGO.

HONEY.—*News*: San Diego, up to last steamer, shipped 1,605,160 lbs. of honey, about equally divided between comb and extracted. There is yet some honey to go forward, and it is likely the crop shipped will go up to a million and a quarter pounds.

FRUITS.—*News*: In the window of Messrs. Steiner, Klauber & Co., may be seen the nicest display of San Diego dried fruits, and best raisins, from the Cajon place of Major Chase. They consist of apricots, peaches, nectarines and plums. They can't be beaten. And when it is remembered that both the drying and packing business is new to our producers, these fruits reflect great credit on them. The raisins are just as fine and good, and as well boxed as those from a distance. On the other fruits, the Plummer drier was used.

SAN JOAQUIN.

THE RAINS.—*Independent*, Dec. 2: The rain seems to have been general throughout the northern San Joaquin. On light soil there has been a sufficient quantity to enable the farmers to plow, while on the black land, embracing an area of about eight miles north, east and southeast of Stockton, plowing will become general in a very short time. It is upon the first rains that farmers chiefly depend for softening and mellowing the black or adobe land. When the soil becomes thoroughly soaked and sodden, the earth assumes the character of plaster and plowing it in that condition causes it to cake and dry in hard lumps. Shortly after the first copious rains, the black land is easily worked and friable.

SAN LUIS OBISPO.

HEAVY RAINS.—*Tribune*, Dec. 4: A heavy storm set in on Wednesday evening, and the rain continues as we go to press, Friday afternoon. The wind blew with great violence most of the time from the southeast, and the rain fell almost uninterruptedly during the whole time. According to Dr. Hays' rain-gauge the fall, up to two o'clock Friday, amounted to 4.65 inches. About noon yesterday the wind veered around to the west with indications of clearing off. The streams are all up, and travel is interrupted. The stages yesterday were delayed several hours. The immense rainfall insures a heavy grass crop, and will enable farmers to commence plowing many weeks earlier than usual. Much damage has undoubtedly been done in this county, as there is a large amount of grain out and considerable that is unthreshed.

THRESHING.—Mr. A. T. Mason sends the following statement of threshing done by Steele Bros. on the Nipoma rancho, with a 36-inch Pitts separator and Nash & Cutts grain cleaner. Work was commenced on July 9th and finished on Nov. 4th. Five days were lost during the time, making a total run of 97 days. Of wheat, 67,837 centals were threshed; barley, 5,778; chevalier barley, 1,549; making a total of 75,167 centals, and an average of 745 centals per day. The largest day's threshing was that done for Thos. Ward, on September 7th, when the boys turned out 1,426 centals of wheat.

SHASTA.

JAPAN PERSIMMON.—*Redding Independent*: The Sacramento Bee mentions a Japanese persimmon grown in that locality, measuring 8½ inches in circumference. In connection with

this we are allowed to inform the public that we have seen a Japanese persimmon grown on a three-year-old tree on the grounds of Judge McCormick, in Redding, that measures seven inches round. While this is not quite as big as the Sacramento fruit, we think it well worthy of mention, being the first fruit borne by the tree and the first raised in the town.

GOATS AND BEARS.—Our friend August arrived from Hatchet creek, Sunday last, with about 1,100 head of Fred Michaelson's goats, being four days on the road. August says that the bears have been very troublesome, killing and devouring a number of head. Wednesday morning he returned in search of 80 goats that had broken through the pasture fence and wandered away. Among these there are three rams, valued at \$1,000.

SOLANO.

THE SWEEPSTAKE PLOW COMPANY.—*Benicia New Era*: Since Tuesday last a large number of tanners, glaziers and painters have been engaged in cleaning, repairing and painting the old Pacific Mail Works. There was barely a whole pane of glass in any of the buildings, and the glaziers have plenty of work. The easternmost building is being cleaned out and the offices and store-rooms fixed up. Work will soon be commenced on the wharf, and the plans are being drawn for the erection of other buildings which are to be put up in front of the present shops. Everything at the old works is bustle and activity so as to prepare the shops for the commencement of work early in the spring. Work will be instituted with from 200 to 300 men and additions to the force made from time to time.

SONOMA.

THE WEATHER.—W. A. T. Stratton in *Petaluma Courier*, Dec. 3: The present severe weather has been unusual. At sunrise on the 9th the thermometer was 40°; 10th, 34°; 11th, 33°; 12th, 31°; 13th, 32°; 14th, 25°; 15th, 26°; 16th, 27°; 17th, 28°; 18th, 29°; 19th, 28°; 20th, 33°; 21st, 31°; 22d, 30°; 23d, 45°. It will be seen from the above that ice formed every night from the 10th to the 23d, and is without a precedent, at least since 1872.

VINEYARD FIGURES.—A vineyard of 75 acres situated in Napa valley, 50 acres in bearing and 25 partly set in one-year-old vines, and the remainder of the land ready for setting, was leased a few days since to a large San Francisco wine firm for 10 years from this season upon the following terms: Lessees are to set the remainder of the ground not yet planted, reset all vines that may die, keep the vineyard in good order, and pay lessor a yearly rent of \$55 per acre for the 75 acres. This is 10% per annum on a valuation of \$550 per acre, and is better than loaning money at going rates. As a further evidence of the great profit to be realized from vineyards we mention the following: T. H. Cheney, who owns a vineyard in Sonoma valley, informs us that from 8½ acres he sold this season \$2,175 worth of grapes. If any person doubts this statement Mr. Cheney will show his own and the books of the company, to which he sold grapes, for its verification. Wm. Bihler owns a vineyard near Donahue, in Vallejo township, of 90 acres. Many of his vines, we are informed, are only four years old. His grapes this year averaged him \$90 an acre for the entire tract. There is no industry in this State so promising as the cultivation of the grape, and there is ample room for thousands of men of wealth or of limited means to engage in the business. Land in Sonoma county, well adapted for vineyard purposes, can be bought for from \$10 an acre up, and we have no doubt but that thousands of acres farther back in the mountains, just as good, can be had at a less price even than that.

TEHAMA.

EDITORS PRESS.—December opened up favorably for the farmers. They were nearly all ready (for a wonder) for the welcome change. Their summer-fallowed land was nearly all in, and the volunteer also, so the refreshing showers of December the first, and the several sprinkles we have had since have very nearly put the ground in a condition to plow. In the favored localities plowing has started up. The uplands and stiff clay places must have more rain to become fit for cultivation. Plows, cultivators and all implements of husbandry are being handled freely by our hardware and general merchandising firms. Gale's chilled steel plows seem to be in demand this season, they are giving excellent satisfaction. A very much larger area of land will be sown this season by Tehama county farmers than any previous year in the history of the county. New settlers in Cottonwood Township will test the character of the rolling knobby Bald Hills, which for years have been the paradise for sheep. These peculiar looking hills, which lie so picturesquely, are formed of rich black loam, having depth and body unsurpassable for cultivation. The land is coming into market rapidly and is being purchased by well-to-do farmers who are determined to give the land a practical test; no doubt but next harvest will prove their wisdom in settling on the Bald Hills. The wild geese—the pest of the California farmer—are depredating on the plains, and are receiving a warm reception from the geese-herders, local sports, and the enraged farmers. Sundays many Nimrods from Red Bluff sally forth to do battle against the invading hosts, with fair results. Our farmers are well advanced with their work and after a shower or two more plowing will be pushed to its utmost. The epizootic and one or two other equine diseases have been reported on some farms among the

horses and mules. No serious losses in stock have yet occurred, though some valuable horses have died in the county. Our farmers are too busy to come into town, so the information at hand as to the extent of the diseases among their work animals is meager and unsatisfactory. In my communication on the wanton destruction of timber in the Coast range, I should have mentioned the fact that said timber was cut and destroyed on Government land, and that John Lyle is a citizen of unsullied character, well acquainted with the locality, as well as a law-abiding citizen, and can be found at Paskenta, Tehama county.—*FELIX*.

TULARE.

COUNTY FAIR.—*Delta*, Dec. 2: A number of the leading citizens of Mussel Slough are agitating the question of a county fair for next season, to be held at some central point in their section. From what we know of those handling the question, there can be no doubt of its being fully carried out.

CHANCES FOR HOMES.—No county in the State presents such opportunities for the poor man as does Tulare. We know of several instances where farmers have procured the use of the land, team, feed and seed, for half of the crop. In other cases the land has been sold, the owner taking half the crop each year until the farm is paid for. Our large landholders are showing an unusual disposition to dispose of lands on favorable terms, and immigrants looking for homes will consult their own interests by visiting Tulare county.

YUBA.

THE TWO DAMS.—*Appeal*, Dec. 4: Engineer Rhodes came up from Bear river yesterday and reported that the dam was finally completed last evening. It is 6,600 ft. long and is considered as more substantially built even than the Yuba dam because there was no water to battle with and the contractors had more time in which to do the work, though some trouble was caused by the scarcity of brush. The building of a long line of levees on Bear river is also progressing finely. Concerning the Yuba river dam Mr. Rhodes states that the water where it touches the dam has deposited sand and slickens to an average depth of three ft. Even where the currents run through with so much force deposit is being made and all indications are highly favorable to the complete success of the work.

NEVADA.

A RETURN TO TEAMING.—*Cor. Silver State*: The farmers of Big Meadows, notwithstanding any encouragement from the Central Pacific Railroad Company, in the matter of reducing rates for transporting grain, have raised a yell of indignation and started eight teams, loaded with about 60,000 lbs. of wheat for the flouring mills at Winnemucca. It looks like old times to see so many teams leave a small place like this at one time, to compete with the railroad. The farmers purpose exchanging their wheat for flour, and by doing so will have loads back. They expect to make the round trip in seven days, and give employment to several men and a large number of horses, and make money by doing so, and running in opposition to the railroad company. As soon as the teams return they will be loaded again and their number will be increased. The farmers save on this trip \$1.08 per 100 lbs, making a total for the eight loads of \$648, and all this money is kept at home. Even by paying drivers two dollars per day and board, the farmers claim to make from \$10 to \$15 per day on each team, which they would have to feed, if idle in their stables, and that is a good price for small teams, nowadays. There is plenty of grain on the Meadows this year, and there is talk of hauling the barley by wagon to Wadsworth instead of shipping it by rail.

What They Say of the "Rural Press."

The *RURAL PRESS* is going upward and onward.—*Santa Rosa Republican*.

The San Francisco *RURAL PRESS* continues to fill the wants of the farmers of this coast, and improves with age and experience. This week the publishers give us a very large paper as a Thanksgiving present. * * * We received a call the other day from B. W. Crowell, agent and correspondent of the *PACIFIC RURAL PRESS*. This is a paper that any farmer can get more than the worth of his money from.—*Colusa Sun*.

That excellent farmer's journal, the *PACIFIC RURAL PRESS*, is out with an especially fine Thanksgiving number. All the departments are crowded with valuable matter, besides which there are many special articles, appropriate to the Thanksgiving festival. The illustrations are especially fine.—*Alameda County Reporter*.

The information derived from one number of the *RURAL PRESS* is sometimes worth to me the amount of 100 years' subscription.—*LEVI CHASE, San Diego*.

I have been a reader of the *RURAL PRESS*, that most valuable paper to the California farmer, for two years, though not a subscriber. Two weeks ago I moved out of its reach and I have indeed lost a good companion. Therefore I send you my subscription and it will be a great pleasure to me to renew our acquaintance.—*J. SAINT, Hollister, Cal.*

The exports exceeded the imports \$1,000,000 at Victoria this year.

News in Brief.

VESUVIUS is in active eruption. THE yellow fever is raging in Guayaquil. THE revolution in Ecuador has been quelled. THE crown jewels of France are to be sold.

THE St. Lawrence is frozen over at Montreal.

A CYCLONE in Missouri has done considerable damage.

ALL arriving steamers report unparalleled gales on the Atlantic.

HAGGIN & CARR have 45 teams canal-building in Kern county.

CRAWFORD'S Opera House, Topeka, Kansas, is burned. Loss, \$30,000.

THE New York coffee firm of B. C. Arnold & Sons has failed for \$1,000,000.

DURING November the Mints coined \$5,574,000 gold and 2,300,000 silver dollars.

FRANCOIS ANDERWERT has been elected President of the Swiss Confederation.

A BILL has been introduced in Congress, making the President's salary \$25,000.

A FUND of \$100,000 has been raised at Philadelphia as a present to General Grant.

THE President recommends that Grant be made Captain-General of the U. S. Army.

THE remnant of Victorio's band have murdered 30 persons near Chihuahua, Mexico.

It is reported that McDowell's name heads the list of retired officers sent to the Senate.

SERIOUS dissensions have again broken out in the British Cabinet over the Irish question.

SEVEN persons were killed in Chicago Tuesday morning by a switch engine running into a street car.

THE Arlington Hotel at Winnemucca was burned to the ground on Saturday; loss, \$10,000; insured for \$6,000.

THE House is inclined to be liberal in appropriations, and devote more to the internal improvements this year.

ONE of the provisions of the new Chinese treaty is that Americans shall not import opium, carry the product coastwise or sell it.

GENERAL HAZEN has been appointed Chief Signal Officer, and General McCook is promoted to the Colonelcy of the Sixth Infantry.

A CONTRACT is already closed for building 200 miles of the Mexico, Kansas, and Texas railroad, and work will begin at Fort Worth forthwith.

It is reported that Gen. Schofield will be relieved of the command of the Military academy, and that he or Miles will be sent to San Francisco.

A GRAND international cotton exposition is contemplated in one of the Southern cities, for the exposition of cotton appliances and machinery.

A NUMBER of indictments for manslaughter have been found in connection with the burning of the steamer *Seawanhaka* near New York some months ago.

THE Kearsarge mills, at Portsmouth, N. H., were burned recently. Loss, \$500,000. An operator was burned alive and 350 hands thrown out of employment.

TELEGRAMS from Waterford to the Dublin newspapers say that arms are being sold to an extraordinary extent, and that the whole country is armed to the teeth.

CLEAR LAKE swarms at this season with geese, swan and all species of ducks—mallard, canvas-back, spoon-bill, widgeon and teal—as well as curlew and sand-hill cranes.

AN investigation shows that 400,000 acres of land in Oregon, claimed by the Willamette valley and Cascade mountain military wagon-road company, has not been earned.

THE heaviest foreign mail which ever left New York Postoffice was dispatched last Wednesday by the outgoing steamers. It contained 106,578 letters and 192 bags of papers.

EVIDENCE increases of the rapid spread of the Land League terrorism, and honest tenants are becoming restive under it. Owners and agents say the condition is worse than months ago.

PARNELL's plan is to leave Dublin for London the moment that his trial is called, and by means of a resolution, to bring the Irish question before the Commons at the meeting of Parliament.

EXCHANGES at New York the past week excelled in magnitude those of any like period in the history of the Clearing-house, being over a billion dollars. In Chicago the gain from last year was over 51%.

SAYS the *Sutter Banner*: We understand that the leveeing throughout our levee districts is now completed and ready for the annual test, consequently there are many laborers thrown out of employment.

A MAN who is engaged in boring an artesian well nine miles southwest of Bakersfield struck water at the depth of 390 ft., but he continued until he reached a depth 592 ft. In this distance he met with 14 artesian channels.

In conversation with an intimate friend the President is reported to have expressed disfavor with the proposed scheme to raise a fund by popular subscription, to pension the ex-Presidents. He does not believe in it.

A MOST ghastly tragedy was enacted Tuesday near Chester, Ill. Louis Lockstein, a victim of religious excitement, escaped from his keepers and murdered three persons. In attempting to continue his work of blood, he was overpowered and captured.



The Lucky Horseshoe.

A farmer traveling with his load
Picked up a horseshoe in the road,
And nailed it fast to his barn door;
That luck might down upon him pour;
That every blessing known in life
Might crown his homestead and his wife,
And never any kind of harm
Descend upon his growing farm.

But dire ill-fortune soon began
To visit the astounded man,
His hens declined to lay their eggs;
His bacon tumbled from the pegs,
And rats devoured the fallen legs;
His corn that never failed before,
Mildewed and rotted on the floor;
His grass refused to end in hay;
His cattle died, or went astray;
In short, all moved the crooked way.

Next spring a great drought baked the sod,
And roasted every pea in pod;
The beans declared they could not grow
So long as nature acted so;
Redundant insects reared their brood
To starve for lack of juicy food;
The staves from barrel sides went off
As if they had too hooping cough,
And nothing of the useful kind
To hold together felt inclined:
In short, it was no use to try
While all the land was in a fry.

One morn, demoralized with grief,
The farmer clamored for relief,
And prayed right hard to understand
What witchcraft now possessed his land:
Why house and farm in misery grew
Since he nailed up that "lucky" shoe.

While thus dismayed o'er matters wrong
An old man chanced to trudge along,
To whom he told, with wormwood tears,
How his affairs were in arrears,
And what a desperate state of things
A picked-up horseshoe sometimes brings.

The stranger asked to see the shoe,
The farmer brought it into view;
But when the old man raised his head,
He laughed outright and quickly said:
"No wonder skies upon you frown—
You've nailed the horseshoe upside down!
Just turn it round, and soon you'll see
How you and Fortune will agree."

The farmer turned the horseshoe round,
And showers began to swell the ground;
The sunshine laughed among his grain,
And heaps on heaps piled up the wain;
The loft his hay could barely hold;
His cattle did as they were told;
His fruit trees needed sturdy props
To hold the gathering apple crops;
His turnips and potato fields
Astonished all men by their yields;
Folks never saw such ears of corn
As in his smiling hills were born;
His barns were full of bursting bins—
His wife prescuted him with twins;
His neighbors marveled more and more
To see the increase in his store,
And now the merry farmer sings:
"There are two ways of doing things;
And when for good luck you would pray,
Nail up your horseshoe the right way."
—James T. Fields, in *Harpers Magazine*.

Suffering.

[Written for the RURAL PRESS by JULIA M. GOODLETT.]

"Strength is born
In the deep silence of long suffering hearts,
Not amidst joy."

Not an hour is borne upon the viewless wing
Of time into the shadowy realm of the past,
and unrolled amid its ever increasing myriads
of inhabitants, but bears witness to that truth,
so beautifully portrayed in the lines above.

All Nature teaches us that it is not amid ease
or mirth that strength is produced. True, there
is a time when she speaks of naught save joy,
when earth seems one vast scene composed
of naught save the beautiful. 'Tis seen when
with gladness bright Spring comes, bringing
to earth all her lovely things, in the soft tints of
the azure sky just shaded by its light veil of sil-
ver, in the laughing rill bounding gaily from
mount to lea, in the silvery fount as it flashes
with joy, in the first tiny leaflet that decorates
the elm's graceful boughs, and in the myriads of
lovely flowers which spring o'er bill and mead,
and glistening with the morning dews, as the
Sun sheds his orient beams o'er the already
lovely scene, making Earth rejoice and with
sparkling eyes bid him welcome. Surely, all
this can have no reference to sorrow; this
speaks of naught save joy. But pause and ask
of Nature whence came strength to produce this
entrancing scene, and she will surely answer
thee; for to him who aright seeketh knowledge
of her, she is ever ready to give instruction.
She will tell thee, that ere this glorious scene
could be produced, there was a dreary time of
coldness, when all the earth was clad in somber
mourning robes; when gusts of wind swept by
in sympathetic wails; when the skies were dark-
ened, and even the sun gave forth but a fearful
radiance, and she, the mother of all, was left to
mourn her loneliness.

Truly, 'tis in the stern, drear winter that to
nature, strength is given, whereby all the earth
is strewn with beauty.

We are told by naturalists, that the pearl-

bearing mussel, when found in shallow fords
along the coasts, where it is often cast against
the rocky shore, is more apt to contain pearls
than those which lie in calm, still water. A
tranquil life they lead; gaily they sport 'mid the
bright coral groves in ocean's deep caverns; no
storm disturbs their rest; but within their
worthless shells are found no glittering gems,
while those o'er which the wild winds sweep,
which are tossed against the rocky main by
every rushing tide, are often the resting place of
many a gem of light. Whilst weeping o'er their
sufferings, their tears are turned to pearls.

The pages of history are filled with examples
which show that it is not in joy or ease that
strength is produced. For instance, the history
of Hannibal, who, but for the winter spent by
him and his soldiers amid the luxuries of the
fatal Capua, might have conquered Rome, the
mistress of the world, instead of dying by his
own hand, a grieved and disappointed old man.
Though his soldiers, nerved by the hardships
they were forced to encounter, had traveled
o'er the rugged, snow-capped Alps, oft forcing
a passage where before no human foot had
trod, undaunted by the yawning abyss just be-
neath; these men who had dared so much, were
rendered unable to bear the hardships of war as
formerly, by one winter spent amid the ease
and luxury of Capua.

In our own loved land it is acknowledged
that the winter spent by Lord Howe amid the
gaeties of New York city, aided as much in
writing "Victory" on the American banner as
any other event of that most eventful period.

Suffering is often productive of good. While
this is true in the material world, 'tis in the im-
material world that its truth stands pre-emi-
nent. Would the comforting yet sweetly sad
lines which form the chief charm of the writings
of the gifted Mrs. Hemans ever have been
penned had she not "learned in sorrow what she
taught in song?" Naught save the sad life of
their authoress could have called forth the beau-
tiful verses, which shed so brilliant a luster
around the name of L. E. L. And when our
kindest acts are misinterpreted, our words mis-
construed, and even our best motives impugned,
'tis comforting to know that from another heart
arose the cry, "I have not loved the world, or
the world me!"

It has been wisely said that David never wrote
so sweetly as when with a pen dipped in the ink of
sorrow, and the same is true of all earth's
great singers. 'Twas amid blindness and suffer-
ing that Milton composed the most sublime
of English classics.

Thus, we see that the sweetest, most comfort-
ing songs have been "slow ground from misery's
crushing presses." Turn from the fields of fame
to the more familiar paths of life. Few who
reach the years of maturity can look over their
brief career and fail to feel that

"Free doth sorrow pass.

Free and unquestioned thro' a suffering world."

She claims as her domain the universe; from
the wild surges of the Atlantic to the roar of
the Pacific; from dashing Southern to frozen
Arctic; yea, though we flee to Everet's lofty
bight, or dive to ocean's dark, still bed, there
is she known. In vain we seek some delight-
ful clime where she hath no admittance. Not
Italy's sunny sky, or Greece's poetic isle can
stay her coming.

Tho' in sunny youth we fondly imagine that
to us she ne'er can come, a few years dissipate
the bright dream; and over the spirit once all
joy, dark sorrow reigns. Into each life come
moments when human strength sinks low and
'acknowledges that woe is mightier.' Yes, all
human hearts know such moments tho' the
world sees it not, tho' cheek be "coined to
smiles," the lip to laughter, e'en tho' the eye be
schooled to force back its tears and sparkle
cold and bright, yet within the heart, that
world unseen by man, dark suffering is known.
And is all this suffering for naught? Would a
righteous God—a God of love—permit his crea-
tures to suffer, and all in vain? Surely not.
He who "doeth all things well," has scattered
throughout the world abundant evidence, which
proves that sorrow, if borne in meekness, brings
its own reward; that suffering purifies the hu-
man heart and causes it, like the trodden flower,
to send forth its richest fragrance 'neath her
crushing band; that it is in the heart which
has suffered most that the tenderest sympathy
for another's woe is oftenest aroused; that suffer-
ing arouses the energies of the soul, and is
necessary to our welfare. Without disappoint-
ment to try us, we would never have our full
powers developed, or even be conscious of them.
Without sorrow to teach him his dependence
upon his Maker, what might not proud man's
haughty spirit dare? But for suffering, there
would be naught to lift him to a higher, purer
sphere, and teach him that this earth is but a
transient home. Then, tho' called to descend
into the valley of suffering, ever remember that
the way, if traveled in meekness, cannot be
long, and in the end will lead to where "the
life that is, touches the life that is to come,
thence to a land fragrant with the breath of
flowers that never wither." Where, led by suffer-
ing,

"Old friends are brought together; hands are clasped
In joy unspeakable; the mothers arms
Again are folded round the child she loved
And lost. Old sorrows are forgotten now,
Or but remembered to make sweet the hour
That over-pays them. Wounded hearts that bled
Or broke are healed forever. In the room
Of this grief-shadowed Present, there shall be
A Present in whose reign no grief shall gnaw
The heart, and never shall a tender tie
Be broken—in whose reign the eternal change,
That waits on growth and action, shall proceed
With everlasting concord hand in hand."

San Bernardino,

Disagreeable Women.

EDITORS PRESS:—As I took up the paper the
other day my attention was attracted by the
article headed "Disagreeable Women." I am a
great woman rightest, and I fell in love with
Aunt Jerusha for expressing my exact senti-
ments. I perfectly agree with Miss Smith, too,
in saying that the girls are taught economy to
support the lazy spendthrifts. It is just as
Aunt Jerusha says, that all the papers you pick
up have something about "What Shall we do
With Our Girls?" I think they had better
leave the girls alone, and not tell them so much
about what their grandmothers did, and how
economical they used to be. I remarked to a
gentleman the other evening that the piece
headed "Disagreeable Women" was just to the
point, and that an answer ought to be sent to
Aunt J., thanking her for her thoughtfulness in
putting it in the paper. He said he supposed
she was not living now, as she surely must be
dead after writing such a piece as that. But
we must not be discouraged (for he is a regular
woman hater). When women can vote there
will be a different state of affairs, and I think
Aunt J. deserves to be made President, and
Miss Smith Vice-President. I must add su-
perior world. If Mr. Taylor ever comes to Anti-
och I will cook him the biggest turkey I can
find in market. ANOTHER OLD MAID.
Antioch, Cal.

How Two Women Were Received.

A week or so ago a great mass of people stood
passionately on the dock at New York to hail
and welcome the French steamer, *L'Amerique*.
A society of theater managers, several promi-
nent personalities in American literature and
art, reporters and others, went on a little
steamer up the bay to meet the *L'Amerique*,
and to do honor to one of the most noted ac-
tresses of the French stage. She was received
with pomp and splendor; everybody forced his
way through to catch a glance of the celebrated
woman; fragrant flowers were spread in great
abundance; police was necessary to keep back
the inquisitive public and hold the way free
for the coming carriage to convey the theater
princess, wrapped in costly furs, to the highly
aristocratic quarters of the Albermarle, where
rooms of state were held in readiness.

With the same steamer came a second—pos-
sibly about 15 years older lady—which did not,
like the former, step for the first time on Ameri-
can soil; but, after a prolonged absence, re-
turned to her old home. She was dressed sim-
ply—almost poorly; no servants stood at her
disposal; nobody came to welcome her and no-
body took notice of her when she stepped over
the plank to mix with the general crowd. The
carriage of the ethereal actress just drove up:
"Stand back!" shouted the policemen to the
simply-dressed lady, and pushed her to one
side to make room for a half dozen busy hauds
to open the carriage door, and the proud equi-
page rolled out, while the other woman took
the arm of a lone acquaintance who came to
receive her, and with whom—a small satchel in
her hand—she started foot toward the city.

Who were the women? The name of the one
can easily be guessed, as her name and fame
have been taken the round for the last two
months, of all the leading papers of the coun-
try—it is almost a matter of by-gone days.
Sarah Bernhardt, the profligate actress, and
Mrs. Abraham Lincoln, the widow of our mar-
tyr President.—*Fides in Los Angeles Commer-
cial*.

How to go to Bed in Scotland.

Pig, in old-fashioned Scotland, was a term
always used for a coarse cartben-ware jar or
vessel. The story is well known of the good-
natured chambermaid who said to an English
lady who had lately arrived in Scotland for the
first time in her life: "Would you like a hot
crock in your bed this cold night, mem?" "A
what?" said the lady. "A pig, mem. Shall I
put a pig in your bed to keep you warm?"
"Leave the room, young woman! Your mis-
tress shall hear of your insolence." "Nac of-
fense, I hope, mem. It was my mistress bade
me ask, and I'm sure she meant it in kindness."
The lady looked grim in the face and saw at
a glance that no insult was intended, but she
was quite at a loss how to account for the pro-
posal. She was aware that Irish children sleep
with pigs on the earthen floor of their cabins,
but this was something far more astonishing.
Her curiosity was aroused, and she said in a
milder tone, "Is it common in this country, my
girl, for ladies to have pigs in their beds?"
"Between the sheets! It would dirty them,
girl. I could never sleep with a pig between
the sheets." "Never fear, mem, you'll sleep
far mair comfortable. I'll steek the mouth o'
't tightly, and tie it up in a poke." "Do you
sleep with a pig yourself in cold weather?"
"No, mem; pigs are only for gentle folks that
lie on feather beds. I sleep on cauf (calf) in
sacking) with my neighbor lass." "Calf? Do
you sleep with a calf between you?" said the
cockney lady. "No, mem; you're jokin' now,"
said Grizzly; "we lie on the tap o' it."

Georgie.

[Written for the RURAL PRESS by ANNIE SCHULTZ.]

In memory of little Georgie, only and be-
loved child of John and Barbara Rock, who
died Thursday morning, November 25, 1880.

Gone from his mother's loving care,
On earth to weep no more;
He'll wait the coming of his all
Upon the other shore.

His sweet young spirit passed before
His loved ones home to guide;
Clad in an angel's shining robe—
His parent's light—his pride.

They bended o'er his little bed,
And watched his fleeting breath;
With throbbing heart and trembling lips,
They whispered—"it is death."

The angel's beckoned him away,
With them he now will stand;
His loving spirit calmly fled
To shining baby-land.

San Jose, November 30th.

Scene in the Colorado Desert.

In passing from west to east across southern
California, the first glimpse one gets of the
desert is a fine bird's-eye view. From the San
Diego plains, all treeless, brown and dusty, an
easy two days' journey brings the traveler up to
the level of that broad plateau which constitutes
the summit of the Coast range. Across this 45
miles of mountain top, one travels pleasantly;
now through handsome groves of evergreen oaks,
then among a succession of low, rounded, stony
hills, between which some bits of fresh, green
mountain pasture spread themselves; here pass-
ing a settler's cabin, with its newly plowed
fields and its group of blooming peach trees, and
there meeting a merry, boisterous gang of
mountain herdsmen. Having thus come to the
eastern verge of the plateau, the great wilder-
ness breaks all at once upon the view, beginning
a dizzy half mile down beneath your feet, and
stretching away to the eastward for 100 miles.
It was past the middle of the afternoon when I
reached this interesting point, and paused to
rest a while and enjoy the novel scene, so deso-
lately grand, which lay before me. The region
in question is far from being a flat, monotonous
expanse of naked sands.

Its general level is broken by many abruptly
rising knobs and peaks, and by several prolonged
chains of high and sharply defined rocky hills,
all lifting themselves up like precipitous islands
above the even surface of a sea; and although
these peaks and ranges are destitute of verdure,
and red as the sands that drift about their bases,
they yet combine to make a most impressive
picture when viewed at a distance, and from
this aerial elevation where the desert first ap-
pears in sight. Aware that the stage station
where I must pass the night was not more than
two miles away by the steep, winding road, I lin-
gered here until the sun was near its setting,
and the shadows of the peaks and pyramids I
sat among, were measuring their dark lengths
upon the plain afar below, and the purple even-
ing clouds had reflected their own gorgeous
coloring to the vast, varied landscape, that
stretched eastward and northward so very far
away. This strange sunset scene was beautiful
beyond description, and will be treasured for a
lifetime in the beholder's memory.—*Edward
Lee Greene, in American Naturalist*.

A PAPER HOUSE AND PAPER FURNITURE.—
The multiplying applications of paper are strik-
ingly illustrated by the fact that in the recent
Sydney exhibition there was shown a house,
built and furnished throughout with articles
made of paper. The structure was one story
high, with the skeleton or frame-work made of
wood. The exterior was covered with panels
made of paper pulp, while the interior was cov-
ered with the same material—plain on the
floor, but forming splendid arabesques on the
walls, and molded in imitation of plaster on the
ceilings. The doors, cupboards and shelves
were of the same material, while the entire fur-
niture, including chandeliers and a stove in
which a fire could be lighted, was made of pa-
pier-mache. The carpets and curtains were of
paper, and there was a bed-room, in which
there was not only a large bedstead made of
papier-mache, but blankets, sheets, quilts, and
female under-clothing, dresses and bonnets in
the latest style, composed solely of carton-pate.
A series of banquets were given in this building,
in which plates, dishes, knives, forks and glasses
were all of paper.

NOVEL INCUBATOR.—The following note, sent
by a lady to her husband, who was tempora-
rily absent, explains itself. The question,
however, arises, who is the mother of the
chickens?

JOHN:—Four chickens are out. The hen hatched three,
then left and would not go back, so I put the eggs in my
bosom and one has come out, while another is hatching.
Now I think I've earned the name of "Old Hen"—A—

A GENTLEMAN had a board put upon a part
of his land, on which was written, "I will give
this field to any one who is really contented."
And when an applicant came, he asked, "Are
you contented?" The general answer was, "I
am." And his reply invariably was, "Then
what do you want with my field?"

"HAVE you given electricity a trial for your
complaint, madam?" asked the minister, as he
took tea with the old lady. "Electricity!" said
she. "Well, yes, I reckon I has. I was struck
by lightning last summer and have out of the
window, but it didn't seem to do me no sort of
good."

Chaff.

"WHAT I wants ter know," said an Arkansas school board official, "is how a river's mouf is gwine ter be bigger dan its head."

"How do you define 'black as your hat'?" said a schoolmaster to one of his pupils. "Darkness that may be felt," replied the youthful wit.

THE average plowman isn't much of an orator, but when he takes the stump and gets yanked over into the next field, he is a very forcible speaker.

A SMALL boy in Massachusetts, who for the first time noticed a cherry tree in blossom, enthusiastically directed the attention of his mother to the "popcorn tree."

WHEN a very respectable man is discovered committing a crime, the proper thing for him to do is to ask the public to suspend public opinion until the thing is forgotten.

BOSTON recently celebrated its 250th anniversary, and it is said that some of the hotels served up for the occasion spring chickens born on the identical day the city was founded.

AN Irishman of a mechanical turn took off his gas meter to repair it himself, and put it on again upside down. At the end of the quarter it was proved that the company owed him \$15.75.

"ONE half of the world doesn't know how the other half lives!" exclaimed a gossiping woman. "Oh, well," said her neighbor, "don't worry about it, 'tisn't your fault if they don't know."

"WE had a short-cake for tea," said a little girl to a neighbor's boy, to whom she was talking through the fence. "So did we," he answered; "very short—so very short it didn't go round."

THE owner of a pair of bright eyes says the prettiest compliment she ever received came from a child of four years. The little fellow, after looking intently at her eyes a moment, inquired naively, "Are your eyes new ones?"

CONSIDERATE mother to governess: "Miss Smith, don't let Alfred and Jamie sit down on the damp grass, for fear they should catch cold. When they are tired you can sit down and take them on your lap."

A GALVESTON woman, just married, wishing to impress her husband with her ability as a house-keeper, bawled out to the servant as she entered the door: "Matildy, bring me the wash-board; I want to wash the potatoes for dinner."

LABOR.—Labor, honest labor, is mighty and beautiful. Activity is the ruling element of life and its highest relish. Luxuries and conquests are the result of labor; we can imagine nothing without it. The noblest man of earth is he who puts his hands cheerfully and proudly to honest labor. Labor is a business and ordinance of God. Suspend labor and where is the glory and pomp of the earth, the fruit, fields and palaces, and the fashionings of matter for which men strive and war? Let the laborer scorn look to himself and learn what are the trophies. From the crown of his head to the sole of his foot (unless he is a Carib, naked as the beast) he is the debtor and slave of toil. The labor which he scorns has tricked him into the stature and semblance of a man. Where gets he his garmenting and equipage? Let labor answer. Labor, which makes music in the mine and the furrow and the forge. Oh, scorn labor, do you, man who never yet earned a morsel of bread? Labor pities you, proud fool, and laughs you to scorn. You shall pass to dust, forgotten, but labor will live on forever, glorious in its conquests and monuments.—*Ap-pleton's Journal*.

WASTED TENDERNESS.—When so much of child sorrow and need is asking for love and pity it is not melancholy that these holy affections are given to the dogs? The New York *Home Journal*, referring to the fashion of making pets of dogs, says: "The amount of luxurious tenderness that is bestowed on these worthless creatures by some of our wealthy citizens is so astonishing as to be almost unbelievable. It is not at all uncommon to see a carriage, with two men upon the box, driving through the park upon a pleasant morning with only a dog or perhaps a pair of them inside taking a sniff of fresh air. They have had their bath, their locks have been dressed, and if they are very shaggy dogs, such as poodles, Skye terriers, etc., fresh ribbons are in the braid or curl of their top-knots, and possibly a tiny cluster of fresh blossoms are tied in the same becoming fastenings. A sleek, short-haired dog is carefully blanketed, and perhaps stockinged, with crocheted comforts, the like of which only the fortunate few among children are able to possess."

TO KEEP LAMP CHIMNEYS FROM CRACKING. The following recipe for keeping lamp chimneys from cracking is taken from the *Diamond*, a Leipzig journal devoted to the glass interest: Place your tumblers, chimneys or vessels, which you desire to keep from cracking in a pot filled with cold water, add a little cooking salt, allow the mixture to boil well over a fire, and then cool slowly. Glass treated in this way is said not to crack even if exposed to very sudden changes of temperature. Chimneys are said to become very durable by this process, which may also be extended to crockery, stoneware, porcelain, etc. The process is simply one of annealing, and the slower the process, especially the cooling portion of it, the more effective will be the work.

Young Folks' Column.

Susie's New Doll.

Susie had a new doll—a large new doll, with eyes as blue as pansies, and as natural as life. It had real hair on its chubby round head, that curled in little dancing, quivering rings, very much the same as Susie's. Its dress was of white muslin, with knots of blue ribbon on the shoulders, holding up the short sleeves, edged with narrow lace as white and filmy as frost-work on the window-panes. Its shoes were of red morocco, with black tips, and such tiny heels as Susie had never seen on any doll's shoes before. It had a pretty necklace of crystal beads, fastened with a gilt clasp, and a belt of blue silk, with a clasp of gilt and crystal that Susie thought just the prettiest thing she ever saw for a doll. It was prettier than the belt-buckle that mamma bought for a dollar! Of course, Susie was delighted. It would have been strange if she had not been, for I think all little girls are fond of dolls. She had had a doll before that she thought a great deal of till this one was given her. This one was so much larger and prettier than the old one was of little account at once, and had been put away in her little trunk, where she kept her doll-clothes.

Susie sat by the window that cold, frosty morning and watched the people in the street as they hurried by, muffled up in furs and comforters. Doll "Linda" was propped up in a chair beside her, and, I suppose, she was watching the passers by, too.

By-and-by a little girl came along and stopped at the gate. She looked about her, as if to make sure that she was at the right place, then lifted the latch and came in. Pretty soon there came a tap on the street door, that sounded very much as though a bird was pecking on the elm tree that grew by the window.

"Come in," said Susie, who was the only one down stairs. Her mother was in the nursery with baby Fred.

The little girl came in, with a timid look in her blue eyes, and laid down a bundle she had brought, on the sofa. "My mother sent this sewing home," she said, looking at Susie and pointing to the bundle.

"Oh, you're Mrs. Stow's little Mary she told me about, then?" said Susie, as she set a chair out for her little visitor.

"Yes; I'm Mary Stow," answered the little girl, as she sat down before the bright, warm fire, whose warmth and cheerful crackle was very comfortable when compared with the keen, cutting air out of doors.

Susie noticed that the little girl's clothes were old and worn, though very clean, and nicely patched; and she thought her mother must be very poor, or she would get better dresses and aprons for her child. Thoughtless little Susie! She knew nothing of the poverty and sorrow all around her in the great city.

"Do you like dolls?" she asked, as she noticed that the little girl's eyes kept wandering to "Linda," who was still standing by the window.

"Oh, yes," answered Mary, "ever so much. I think they are just the nicest things I ever saw!"

Susie brought "Linda" and put her in Mary's lap, then sat down to enjoy the admiration she received. Mary had never seen anything so nice before. It was like a pretty dream—that doll in its white dress and blue ribbons—a pretty, pretty dream.

"Have you got a doll?" asked Susie.

"No," answered Mary, with a little sigh. "Mother works all the time to get clothes and food, and she can't spare enough to buy me one. I wish she could, for I do love them so much!" and her eyes went back to "Linda's" pretty face again.

Susie was a very generous little girl. A quick thought came into her mind, and she ran out of the room and up to the nursery, with a plan in her head that did credit to her heart.

"Mamma," she cried, "there is a little girl down stairs, Mrs. Stow's little girl, and she loves dolls ever so much, but she hasn't got any! Can't I give her 'Linda'?" My other doll will be just as good for me, and she would be so glad! May I give her 'Linda,' mamma?"

"If you want to I have no objections," her mother answered, pleased at her little daughter's generosity.

"Oh, I'm so glad!" Susie cried, and skipped down stairs again.

The little girl was just pulling on her mittens and getting ready to go home. She had laid "Linda" on the sofa, wishing, Susie knew by the look on her face, that the doll was hers, or that she had one just like it.

Susie waited till Mary got to the door. Then she ran and got "Linda" and put her in the little girl's arms before she knew what Susie was about.

"You may have 'Linda' for your own, to keep her just as long as you live, if she lasts so long," Susie said.

At first Mary could not believe her. But when she understood that the doll was really hers she was fairly beside herself with happiness. She kissed "Linda" over and over again, and called her "her own pretty doll-baby," in the very same way your mother used to call you "little darling" when you were a little baby.

Susie enjoyed the delight of the poor girl who had never known anything half so nice before, fully as much as she had enjoyed the doll. Though she loved it very much she was per-

fectly willing to let it go, for she knew that Mary would take more delight in it than she would, for she had books and playthings, and a doll that was almost as nice as this one, and Mary had not.

Mary went home feeling happy as a queen, as the saying is, though whether queens are happier than other people I cannot say.

Susie told her father all about her gift to the little girl, and he patted her cheek and said she was very generous and he was glad of it.

Susie was surprised enough next morning to find another doll precisely like "Linda" on her bed, with a paper pinned on its dress on which was written: "A present to the little girl who was unselfish and generous enough to give away her new doll to a poor little girl who had none. From papa and mamma." Wasn't that nice?

GOOD HEALTH.

Cure for Whooping Cough.

A correspondent of the New York *Sun* writes as follows from actual experience and from observation:

It is well known to most intelligent people that exposure of patients to the vapors arising from the purifying boxes in the gas works almost invariably relieves the terrible paroxysms, and, after repeated visits cures have been frequently effected. This discovery was made by a physician of Paris, about 15 years ago.

The fact was published, and soon after visits began to be made to the Manhattan, New York, Brooklyn, and other gas works on the recommendation of our medical men. An epidemic of whooping cough raged in Newport in the winter of 1878. Over 200 patients, between the ages of two months and 75 years, visited the gas works. The Treasurer of the company, William A. Stedman Esq., states that nearly all were benefitted, and some were undoubtedly cured.

About that time the child of a distinguished chemist in Providence, R. I., was seriously ill with this terrible disease, and too weak to be taken to the gas works. The father procured a quantity of the liquid hydro-carbon deposited by condensation in the bottom of the purifying box, and vaporized it in a metal dish in the closed room of the little sufferer. Almost immediately it revived, and spasms were checked and after a few days the child recovered and was as well as ever.

Microscopists have recently discovered that the cause of whooping cough (pertussis) is the rapid aggregation of bacteria under the root of the tongue. These must be destroyed before relief can be obtained. To this end such powerful medicine as quinine bromide is given; but even that fails to reach the seat of the disease. Of course the ordinary expectorants are absolutely useless; change of air is rarely curative; hence the rapidly increasing percentage of deaths from this disease.

The New York Board of Health report for 1875 has a list of 489 deaths from whooping cough in that city. The deaths weekly in London, England, are from a minimum of 60 to a maximum of 220, over 6,000 annually.

Physicians generally inform the anxious parents that whooping cough must take its course, as a remedy is unknown, and they can only slightly relieve it; that the incubation and increase in virulence will occupy six weeks, and from six weeks to six months will be required before it is entirely removed. The whoopings usually increase regularly in number from day to day to the fifth week, often equalling 40 times in 24 hours. Very rarely is this disease preceded by any other, but so great is the strain upon the system that frequently it is followed by pneumonia, in which event death often ensues. A fatal termination is more generally the result of absolute physical exhaustion due to the great strain consequent upon the oft-recurring paroxysms.

A few years since my youngest child, never before ill, was stricken by this dread disease. The best medical talent was obtained, every known remedy tried, most watchful care constantly exercised, but without the slightest avail. The child actually coughed itself to death. With all the grief of this sad experience still fresh, in April, 1879, we were alarmed by a new incursion of the destroyer. Our children, five and seven years, were attacked, seemingly with the severity of the preceding case.

It was then I learned of this Providence chemist's discovery, and that simple but ingenious apparatus had been invented by which the hydro-carbon, (by analysis found to be cresolene $C_6H_5CH_3O$) could be evaporated in a closed room. I immediately procured both. The apparatus is a metal stand six inches high, supporting a cap, holding half an ounce of cresolene. The heat is applied either by a petroleum night-lamp or gas, vaporizers being made to attach to an ordinary gas-burner.

Cresolene is a rose-pink liquid, with a boiling point of 397 degrees. It is not unpleasant in odor, but, on the other hand, is extremely grateful to any one with the least bronchial or catarrhal affection.

In three minutes after the lamp was lighted the vapor of the cresolene was diffused in every part of a room 15 by 20 ft. In ten minutes the children manifested evident relief, recovered from their dull exhaustion, and were playing on the bed, even laughing aloud in their evident freedom from the paroxysm.

I was not advised that it could be continued in safety all night, or even day or night, and at the expiration of fifteen minutes extinguished the lamp. The children had been whooping 20 times a day. One of them did not even cough for 12 hours, and the other for 36.

Learning that the vaporization could be continued day and night with more rapid benefit, I applied it for five nights in their sleeping-room. The spasms ceased and they speedily recovered.

At that time an epidemic of whooping cough was raging in my vicinity. I advised my neighbors of this apparatus. Many of them were used, and with the best results.

I believe the vaporizers and cresolene are now to be obtained from druggists. I am confident it will be found equally efficient in all throat and lung diseases. Inhalation is the true mode of treatment. The apparatus is nearly perfect as an agent for deodorizing, disinfecting and perfuming not only the sick-room but an entire house. It deserves an extended trial.

DOMESTIC ECONOMY.

WHITE SOUP.—White soup is usually made from the white meat of chicken (*soupe a la reine*) or from veal. But an excellent white soup of vegetables may be made from the following recipe: Take six potatoes, four onions, four oz. of crushed tapioca, a pint and a half of milk, butter, pepper and salt. This will make two quarts of soup. Cut up the potatoes and onions; put them into two quarts of boiling water; boil for three quarters of an hour; rub the vegetables through a sieve; put back the potato paste into the water again, add butter, pepper and salt to taste; then boil the four oz. of tapioca for 15 minutes in the soup, add the milk, and when fully heated through, serve. A little sweet marjoram or sweetbasil, with a dash of nutmeg, adds to the delicate flavor of this nourishing soup.

PRESERVED LEMONS.—Choose a dozen small, fresh lemons with thick skins; wash them, boil them for 15 minutes in boiling water, and then throw them in cold water to cool; when they are quite cold wipe them on a dry cloth. Meantime make a syrup by boiling a quart of water with three and a half lbs. of white sugar, and skimming it clear; as soon as it is clear put in the lemons and boil them for five minutes; let them cool in the syrup, then boil them again for five minutes, and cool them again. Repeat this process until the lemons look clear and are well penetrated by the syrup; they will require to be boiled five or six times. The lemons are to be kept in air-tight jars covered with the syrup.

COCONUT CAKE.—Beat one and one-half cups of sugar and a small half cup of butter to a cream, add one-half cup of milk and two cups of flour, into which two even tablespoonsfuls of baking powder have been sifted. Lastly, stir in the whites of five eggs which have been beaten to a stiff froth. Flavor to taste. If your eggs are light this will fill four jelly cake tins. Beat the whites of two eggs and stir in powdered sugar enough to make a thin frosting. Spread this in a thin layer on the loaves while they are hot and sprinkle thickly with prepared coconut, though a fresh grated coconut is nicer.

LOAF CAKE.—Six lbs. of flour, three lbs. of shortening—one-half butter, one-half lard—four lbs. of sugar, six or eight eggs, three lbs. of fruit, one quart of spirits, spices to suit your taste. Rub the shortening with flour. Have the milk sufficiently warm for the yeast not to scald it. One pint of yeast batter. When light work in the sugar and eggs. Let it rise, then put in the fruit, spices and brandy, one teaspoon soda. This will make eight or nine loaves, and is very nice.

ROXBURY PUDDING.—Take any pieces of bread that may be left from making stuffing or from other dishes, cut it into very small pieces and pour over it sufficient boiling water or milk to soak it; then beat it smooth with a fork, and stir into it three ounces of fine, moist sugar, a little nutmeg, the peel of a lemon grated, and half a pound of raisins or currants. Mix all well together, with two or three beaten eggs, and bake in a buttered pie dish.

SOFT GINGERBREAD.—Six cups of flour, one cup of butter, one cup of milk either sweet or sour, two cups of molasses, one cup of brown sugar, three eggs, one teaspoon allspice, one teaspoon cloves, one teaspoon cinnamon, one teaspoon soda dissolved in the milk; this makes two large cakes. Half portion enough for a small family.

PLAIN FRUIT PUDDING.—To one cup of grated bread crumbs add one cup of sweet milk, one beaten egg, half cup of sugar, one spoonful of butter, one and one-half cups of chopped raisins or currants. Bake half an hour and serve with sweetened cream or lemon sauce.

SURPRISE ROLLS.—In the evening make up about a quart of flour into the dough exactly the same as for light rolls. In the morning make them into rolls, putting in the middle of each a piece of sausage meat about the size of a walnut. Bake as any other rolls and they are excellent.



DEWEY & CO., Publishers.

A. T. DEWEY. W. B. EWER.

Office, 203 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.

Per line.....	25	80	\$2.00	\$5.00
Half inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	40.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.
DEWEY & CO., Patent Solicitors.

A. T. DEWEY. W. B. EWER. G. D. STRONG

Our latest forms go to press Wednesday evening.

SAN FRANCISCO:

Saturday, December 11, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Another Common Mold; Straw from Early-cut Wheat; The Tree Planting Season, 377. The Week; Our Dairy Growth and Opportunities, 384. Large Olive and Orange Trees; The Growth of Chestnuts in Nevada Co.; Open Culture of Wheat, 385.

ILLUSTRATIONS.—The Green Mold of Fruit, Cheese, Etc.—*Aspergillus Glaucus*, 377. Chestnuts Grown in California and France, 385.

ENTOMOLOGICAL.—Drouth Conducive to the Growth of Insects; Whence the Red Scale? 384.

QUERIES AND REPLIES.—Separating Barley from Wheat; Japan Clover (*Lespedeza Striata*); Twine Netting—Egyptian Corn; Thoroughbred Leicester Sheep, 384.

CORRESPONDENCE.—A Trip Down the Coast—No. 1; Santa Cruz County Products, 378.

THE STOCK YARD.—Points on Stock Fatteuing, 378-79.

THE GARDEN.—Growing Tomatoes and Cucumbers for Market, 379.

POULTRY YARD.—Warm the Food; Poultry in Fresno County, 379.

SHEEP AND WOOL.—A Fodder Shrub for Dry Lands, 379.

THE FIELD.—The Threshing Problem, 379.

PATRONS OF HUSBANDRY.—Meeting of the National Grange; Grange Elections; Temescal Grange, 380.

AGRICULTURAL NOTES from the various counties of California and Nevada, 380-81.

NEWS IN BRIEF, on page 381 and other pages.

HOME CIRCLE.—The Lucky Horseshoe (Poetry); Suffering; Disagreeable Women; How two Women Were Received; How to go to Bed in Scotland; Scenes in the Colorado Desert, 382. Chaff; Labor; Wasted Tenderness; To Keep Lamp Chimneys From Cracking, 383.

YOUNG FOLKS' COLUMN.—Susie's New Doll, 383.

GOOD HEALTH.—Cure for Whooping Cough, 383.

DOMESTIC ECONOMY.—Preserved Lemons; Coconut Cake; Loaf Cake; Roxbury Pudding; Soft Gingerbread; Plain Fruit Pudding; Surprise Rolls, 383.

Business Announcements.

Celebrated Rock Island Plows—Frank Bros., S. F.
Gale's Chilled Plows—Baker & Hamilton, S. F.
Japanese Pictures—Eureka Trick and Novelty Co., N. Y.
Irrigated Lands for Lease and Sale—Tilos H. Blythe, S. F.
Vitis Californica—C. Mattier, Middletown, Lake Co., Cal.
Grape Cuttings Wanted—Chas. A. Wetmore, S. F.
Fruit and Vegetable Drier—Linfirth, Rice & Co., S. F.
Nursery—Felix Gillet, Nevada City, Cal.

The Week.

The storm has been splendid, with its periods of downfall and penetration fitly arranged, and a dash of sunshine thrown in here and there to warm the ground and give the dripping plants a promise of brighter things to come. Our friends from the country who have dropped in upon us during the week are loud in their praises of the dispensation, calling it the finest and best timed rain they ever saw. The result of it is, that the State was never in better heart and hope than now, and never was there a better disposition to go forward with all work which the opening of a new growing season demands. The rain has been quite wide reaching, although, of course, varying in amounts precipitated. The San Joaquin valley reports from two to three inches, and Shasta from six to seven inches; and there were some intermediate amounts between. The lower coast counties were refreshed; the central and upper coast counties were drenched. In nearly all parts of the State there has been ample rain to start the seeds in pasture, and in volunteer and dry-sown fields, and enough to start the plows on other lands. And the skies to-night seem to say that the end of the storm is not yet reached.

The week has been marked by the re-assembly of Congress. The President's message has been laid before the country, and it gives the fullest evidence of the reign of general prosperity at home and peace abroad. Indeed we live in a good land and in a good generation, and ours alone is the blame if we do not advance, each according to the measure of his powers, in all good work and life.

Our Dairy Growth and Opportunities.

There are some signs of life in our dairy business. Reports assure us that the upper coast valleys, which have been growing potatoes and grain at a low rate or at a loss, are disposed to put on cows and go into butter making. Despite the low prices of the last season, some of the experimenters with the new line of production declare themselves pleased with the change. The life which now characterizes the lumber interest may do something for these new northern dairymen in giving them a chance for home sale for a larger portion of their product than has been possible for the last few years. We hear of the erection of a new cheese factory at Bieber, Lassen county, which should do well, and find easy market for its goods near home and in the towns of Nevada, with which there is established communication. We should regard this as one of the most promising locations for a cheese factory which could be selected, as its market seems well assured.

For the general dairy interest of the State, it is to be hoped that the new outlet toward the southeast will call for a good amount of California dairy products. Already the influence of the Arizona trade is being felt in the new producing regions in our southern counties, and as there is now a flood of people pouring into the new country from this direction to be soon met by a flood from the East, there will spring up a large consuming population, which, if the country yields the wealth now expected from it, will prove to be valuable customers of our churns and cheese vats. It is quite fair to expect such a result.

And beyond the new countries of Arizona and New Mexico, there lie the States which produce cotton and sugar, but import their dairy goods. The last announcement was that the railway must strike for New Orleans to reach a good sea port, and New Orleans is a considerable distributing point for dairy products shipped from New York and Chicago and Cincinnati. The question then arises whether we can compete with the East in supplying the New Orleans trade. From the market reports of our latest files of New Orleans, we quote the following:

Butter—Western creamery, fancy, 34@35c; Western creamery, choice, 31@32c; New York creamery, choice, 31@32c; New York dairy, choice, 26@27c; New York dairy, prime, 23@24c; New York dairy, good, 20@21c; Western dairy, choice, 26@27c; Western dairy, prime, 22@23c; Western dairy, good, 18@19c; Western dairy, fair, 15@16c.

Cheese—Choice Ohio flats, 13@13½c; choice Illinois skims, 11@11½c; prime Illinois skims, 10@10½c; New York cream, 15½@16c; English dairy, 16c; nutmeg, 16c.

These prices are quite respectable. Butter is now considerably lower than here, which is natural enough, for just at present we are in as bad a fix as New Orleans, as we too are consuming large quantities of Eastern butter brought overland. Cheese, however, at New Orleans is high, considering the quantity of cheese which is usually selected for shipment to the Southern States. These Southern markets are relied upon by the Northern producer to relieve him of his tough skim cheese after he has used the best part of the milk for butter making. Shipment south in hot weather calls for a durable cheese, and one which has not much fat to broil out of it in a high temperature. The Eastern skims serve this purpose very well. The question then arises whether we can compete with the East for such a trade, especially as the cost for shipping must be considerably higher to us than to them. We are a third farther from New Orleans than New York is, and nearly twice as far as Chicago, and both those points have water competing with rail which we shall not have.

There is this point, however, which will be to our advantage. From this time of the year forward cheese and butter will both cheapen in California because of the coming on of green feed and the increased flow of milk from fresh cows. In the Eastern cities for the next four or five months the tendency of dairy goods will be upward, because the Eastern winter arrests production to a large extent. Consequently the present is about the worst time of the year to examine New Orleans prices with a view of figuring out a profit there for California dairy goods. A little later in the season there may be a range of values here and there which will show a clear profit in shipping to the Gulf.

Sending our butter and cheese to the South in the winter instead of the summer we shall not have to contend with the heat, which tries Eastern products, and we can therefore send a much better cheese than could be sent from the East at the height of their producing season, which is in midsummer; that is, the cheese made earlier crowds upon the market in July and August. It is quite likely, that thus serving them a better article than they have been accustomed to, our cheese may become popular, and the consumption of it increase.

If this winter's shipment to the South should prove as profitable as we are inclined to prophesy, then there will be another inducement to bring the cows in earlier and take extra measures to provide food for them. This, too, will be another opportunity to profit by the perpetual pastures of Los Angeles county, which our Anaheim correspondent discoursed so eloquently about not long ago. It would indeed be well if the new avenue of trade should do something for our dairy interest. The natural advantages for dairy production are wonderful. All we need is some way to get at the eaters of the outside world. To Arizona and beyond may be one step in that direction.

ENTOMOLOGICAL.

Drouth Conducive to the Increase of Insects.

Although there may be something in California conditions, which interferes with the rapid increase of some insects, as, for example, the phylloxera, which has spread very slowly, if its advance in this State be compared with that in France, it must be acknowledged that there are indications that some other insects increase with appalling rapidity here. The observations of those who are watching the codling moth, would affirm this conclusion; nor is the invasion of scale insects otherwise. We have seen it stated frequently in our reading of entomological works that high temperature and drouth are favorable to insect life and reproduction, and these two conditions prevail for the greater part of the year in the greater part of this State. The experience of an exceptionally dry year is also evidence that prolonging the period of drouth and a higher average of temperature, or a longer duration of warm weather, is an additional favor to insects even in this generally favoring climate. Most of our readers will recall the swarms of moths which appeared during the summer of the dry year of 1877; also the myriads of large and minute insects which appeared upon vines, trees and garden plants, and which had never been noticeable before, nor so apparent since. These facts should excite us all to greater interest in insect-fighting, and should emphasize the need, which was brought out at the last meeting of the State Horticultural Society, of organized effort to arrest the pests, and of State aid toward that end.

To enforce the results of local observation which we have hinted at, there comes the testimony of Eastern observers, that even during the comparatively dry seasons, which they occasionally have, there is a noticeable increase of insect life. We find in the writings of an Illinois entomologist, D. W. Coquillett, in the *German-town Telegraph*, some facts and deductions to explain this phenomenon, and we present herewith an outline of his conclusions:

At a certain degree of temperature insect-growth progresses more rapidly than it does at any other degree. It is not to be supposed that the highest degree of temperature which the air ever attains in the Northern States exceeds the zone of temperature in insects, since they appear to multiply the most rapidly during the hottest weather. In his latitude the thermometer seldom indicates a higher temperature than 90° Fah. Taking this for the degree of temperature at which insects develop the most rapidly, we find that as the temperature sinks below this, the development of insects is retarded in proportion to the number of degrees which the temperature lowers. During a wet season the temperature is much lower, on an average, than during a dry one; this is owing to the fact that when the rain falls upon the surrounding objects it withdraws from them a sufficient amount of heat to evaporate it, and thus reduces their temperature very materially. It follows, therefore, that when the temperature continues low throughout the season the insects will not develop so rapidly as under a higher temperature, and consequently they will not produce so many broods in the season.

As a rule each female insect will produce from 300 to 500 eggs, and many will greatly exceed this latter number. Taking 400 for the average number, and supposing one-half of these to produce females, we find that the second generation will number about 80,000 insects; the third generation 16,000,000, and the fourth 3,200,000,000. It will thus be seen what great difference there will be in point of numbers when the insect produces four broods in a season instead of three; and if there is so much difference in the progeny of one insect, what a vast difference there will be when we compute the progeny of each female insect which makes its appearance in the spring! Another cause which, in wet seasons, tends to lessen the number of those insects which feed upon the leaves of plants is that when they are forced to feed upon wet leaves it affects their health very injuriously. This is known to be the case with the common silk-worm.

Now if an occasional summer drouth produces such a marked increase in the health and reproduction of insects at the East, what can we expect in a climate where all the summers are dry; where, except near the coast, all the summer months are warm, and where there are no such things as wet leaves from May to October. Evidently the conditions which are occasional at the East are our normal and constant ones; and while insects occasionally rear an extra number of broods because of drouth there, here they regularly have a longer breeding season. And in this account we take no note of the destruction of insects by the almost Arctic winters of the East, and the perils of snow water, which is known to be fatal to many insects hibernating near the surface of the ground.

We do not cite these facts as an alarmist for the mere sensation they produce in the mind, but to excite the interest of horticulturists and of those who love the general welfare of the State, for the purpose of convincing them that something must be done in a systematic way to meet this growing danger to our whole horticultural industry. There is no time to lose. Some definite plan of action should be devised this winter and then acted upon vigorously.

Whence the Red Scale?

EDITORS PRESS:—In your issue of 4th inst. Mr. Ashmead, of Jacksonville, Florida, writes concerning the manner of introduction into this country of the "red scale," where did it come from? We have very convincing proof that Australia is the country we have to credit for this miserable of all coccids. I know of two importations of citrus trees from there that were covered with the red pest.—ALEXANDER CRAW, Los Angeles, Cal.

A BLOW TO CONCEIT.—We have often thought how cruel a blow it is to an editor's conceit, after having brought out a fine weekly issue, to remember that it is all registered at the postoffice as "second-class matter."

QUERIES AND REPLIES.

Separating Barley from Wheat.

EDITORS PRESS:—I have 700 sacks of Odessa wheat mixed with barley, both being large, plump grains. The problem is, how to separate the wheat and barley so as to make both marketable. I have heard that there is a fanning mill or cleaner in San Francisco attached, perhaps, to one of the warehouses, or perhaps movable, that cleans grain on a large scale and separates perfectly. Can you give me and others, through your paper, the necessary information? Will it separate so as to make a marketable article of both grains? What is expense of handling and cleaning? Will the commission men attend to it, or should the grain be consigned to the cleaner?—WESTMINSTER, Los Angeles Co., Cal.

The separation could be done at home with a good fanning mill with the proper screens, or the grain can be shipped and cleaned after it arrives in San Francisco. If both the barley and wheat are good they will be separated so that each can be sold by itself. Where the material to be removed from the wheat is not worth marketing by itself, it is better to do the cleaning at home, for then the screening will be of some value to feed out on the farm. There are two or three cleaners in this city which are connected with warehouses. Probably small lots of grain coming up by the coast steamers would be likely to go to Mr. Gove's cleaner at the Eureka warehouse, as his is nearest to the steamship landing. Another cleaner is at Mission Rock warehouse, and the third is on the point of being set up at another warehouse. The first two of these cleaners are reported to us as doing satisfactory work, the third is yet untried. The charge for cleaning ranges from 75 cts. to \$1.50 per ton, according to circumstances. Trustworthy commission merchants have cleaning done for their consignor without charge except the cleaner's bill, and it would perhaps be better to ship to the merchant than to the cleaner, for then it would be in the proper hands for sale after the cleaner completes his work.

Japan Clover (*Lespedeza Striata*).

EDITORS PRESS:—Some time last spring you sent me a number of the RURAL PRESS in which was mentioned some remarks of myself and others concerning *Lespedeza*, or more commonly called Japan clover. A short time after I received a letter from one of your readers asking me to send him a small package of seed, which I promised to do this fall. So, in gathering, I concluded to divide the seed and send you a part. I expect it is the first trial at gathering the seed in this part of the country, and is very tedious. Here, if we wish to start it at any point, we get a load of the dirt and scatter it. The ground needs no preparation, and the seed can be scattered very thinly and it will take care of itself. Would like to know if you get the package safely, and hope to hear your opinion of it in the future. I have no seed for sale and can not gather more this season.—MAT MAHONNER, Macon, Miss.

The seed was duly received, and, as the amount was small, we shall give it to the College of Agriculture for trial in their experimental garden, as in this way the growth of the plant can be most widely known. We are under obligations to our Mississippi friend for the efforts he has made to secure the seed for us, and we should like to receive from him a fuller record of experience with the plant than was given in the little paragraph which we printed last spring, and to which he alludes. If it be indeed very desirable, perhaps the seed can be had from Japan or from some point in the Southern States.

Twine Netting—Egyptian Corn.

EDITORS PRESS:—Can you inform me through the PRESS if there is any establishment in San Francisco that manufactures twine netting? I find nothing so economical or neat for chicken yards as this same netting. Heretofore, I have sent East for it, but I should much prefer getting it here. I get it all the way from two to six-inch mesh. I would like to know, as do many of your other readers, where Egyptian corn can be got in large quantities? Will some extensive grower of the above give the PRESS an advertisement.—L. J. WATKINS, San Jose.

Twine netting is not manufactured here so far as we can learn, but it is imported and sold by our city merchants. Armes & Dallam, 228 Front street, have it, and they inform us that they have nothing larger now than 24 inch square mesh, which they sell at 65 cts. per lb. One lb. contains about 20 square yards of the net. It is made of No. 15 twine. It is certainly very strong, and seems well adapted for use in chicken yards, as our correspondent suggests.

There is no regularly established market for Egyptian corn. Occasionally a lot is offered on "Change," but the value of the grain is not well enough known to sell well. We have no doubt considerable of it could be sold to our poultry-growers, if it were advertised in the PRESS, and sold at a rate low enough for them to use it. It is an excellent chicken feed, as has been amply proved by experience.

Thoroughbred Leicester Sheep.

A reader wishes to know if any one is breeding thoroughbred Leicester sheep in this State. We should like to hear from our readers on this point.

AGED LUCERNE.—We read in a letter of J. H. Rion, of Fairfield, S. C., to an exchange, that an old lady of that place has in her garden, "plants of lucerne which she has known as individual plants for over 50 years." Now, lucerne is alfalfa, and if alfalfa is to live over 50 years, if cut and not trampled by cattle, what durable forage land we may have by feeding alfalfa by the soiling system! Mr. Rion is evidently going to test the point, for he never allows his animals to graze upon his lucerne, but cuts it ten times in a good season, and gets green feed enough from half an acre for three horses and cows. It strikes us that South Carolina must carry the palm for alfalfa reports, in spite of our roots reaching to the antipodes.

Large Orange and Olive Trees.

EDITORS PRESS:—What are the dimensions of the largest olive and orange trees, of which you have record as growing anywhere?—B., Los Angeles.

The largest olive tree we have record of is one at Beanie, mentioned by Risso, which measures 23 ft. in circumference at 4 ft. from the ground. It is said to have yielded 375 lbs. of oil annually, and Risso estimates its age at 1,000 years.

As to the size and longevity of orange trees, we may cite a number of authorities, as the subject is doubtless one of interest to our many orange-growing readers. There was a paper lately read before the Gardeners' Improvement Society of South Australia, by J. F. Pascoe, on the subject of longevity of the orange tree, and we may summarize the results of his researches in horticultural literature. The "Companion to the Orchard," published in 1831, says that about the 11th or 12th centuries several varieties of the orange were cultivated in the neighborhood of Reggio, in the south of Italy, from whence they extended to Spain and Portugal, being found much harder than was at first expected. The sweet orange was first brought into the country by Juan de Castro, a Portuguese, who presented some trees to the Conde Mellor, the King of Portugal's Prime Minister, who saved only one plant out of the great number brought over from China. "This tree, which was planted in 1548, and from which all the European trees of this sort were produced, is said to be now alive in Lisbon, in the garden of Count S. Laurent." The same work, quoting from "Evelyn's Diary," mentions some famous trees at Beddington, which had been standing, in September, 1700, upwards of 120 years, and were laden with fruit, though showing signs of decay, probably through neglect and improper treatment, the estate (Carew's) having fallen into the hands of an infant, and being kept by a servant or two from falling into absolute ruin. These trees were killed by the great frost of 1739-40. The "Treasury of Botany" mentions an orange tree at Versailles, which was sown in 1421, and was at the time (1866) very healthy. An orange tree at the Convent Sabina at Rome is 31 ft. high, and is said to be 600 years old. At Nice there is a tree, according to Risso, which generally bears 5,000 to 6,000 oranges, is more than 50 ft. high, and is so large in the stem that two men can scarcely embrace it. In Cordón, in Spain, there are trees which are considered to be 600 to 700 years old. T. C. Archer, in the *Gardener's Chronicle* of August 13, 1870, mentions an immense orange tree in the garden of the Moorish palace of Alcazua, which was said to be 600 years old, and covered the ground space of a good sized oak. He also mentions the orange avenue of 1,096 trees, all of them centuries old, at Cordova, in the court attached to the old Moorish mosque, now the cathedral. Dr. Bennett, M. D., F. L. S., wrote an article on oranges for a work published in connection with the exhibition of 1870, for the government of New South Wales, in which it was stated, on the authority of Mr. Bullen, that some trees in the Azores were bearing plentifully at an age of 100 years, a highly prized thin skinned orange, full of juice and free from pips. Don Jose de Canto, writing to Dr. Bennett from Paris, in May, 1868, said that at the Azores, before the advent of the disease in 1834, called "Lagrima," we "had trees producing from 6,000 to 20,000 oranges a year—trees that were as much as 200 or 300 years old."

It may be farther remarked that they have at Parametta, Australia, some orange trees of great size. A writer in the *Queensland Agriculturist* says of them: "The three largest trees are growing in a fluty, sandy soil, within 100 yards of a rapid stream of pure water. These three trees are about the size of one of our largest sized gum trees, and their trunks are so very large that it takes a long armed man to reach around them. One of them, growing with forks about three ft. from the ground, three men cannot reach around at two ft. above the fork. They may be truly said to be the giants of the forest, and matchless as orange trees. Their yield of fruit is enormous."

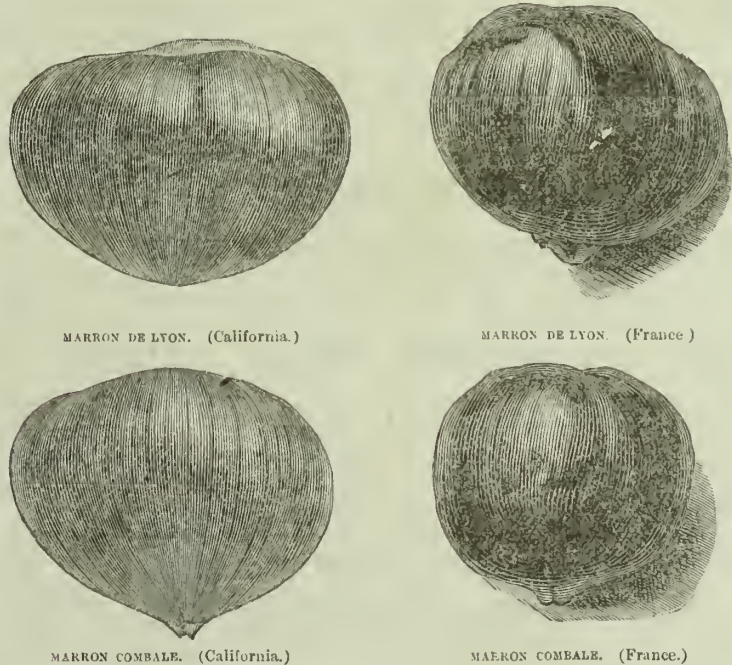
RESERVATION FOR PRESERVATION.—Secretary Schurz puts some timely remarks into his report as Secretary of the Interior, concerning the need of Government reservations for the preservation of a portion of our splendid sequoias, the "big trees" and the "redwoods." He urges that the President be authorized to withdraw from sale or other disposition an area at least equal to a township in the Coast Range in the northern, and an equal area in the southern part of California, upon which these interesting trees grow. He notes the fact that a bill introduced in Congress last winter has not yet been acted upon, and adds: "It seems important that if any measure for the preservation of these species of trees is to be taken at all, it should be done as soon as possible. I therefore once more commend this subject to the attention of Congress."

AGRICULTURAL DIRECTORS.—Governor Perkins has issued commissions to members of District Agricultural Boards as follows: R. W. Russell and Fred Arnold of district No. 2, comprising the counties of Calaveras, Fresno, San Joaquin, Kern, Merced, Mariposa, Stanislaus, Tulare and Tuolumne; Wm. V. McGarvey of No. 7, comprising the counties of Monterey, Santa Cruz, San Luis Obispo and San Benito.

The Growth of Chestnuts in Nevada Co.

Our readers already know something of the enterprise shown by Felix Gillet, of Nevada City, in introducing and testing the best fruits, nuts, etc., of France, and thus determining their adaptation for California conditions. One thing which Mr. Gillet finds to gratify him in his adopted State, is the marked superiority of the improved French chestnuts grown here, over the same varieties grown in France. We have received this week a few sample nuts of the *marron combale* and the *marron de Lyon*, which are, for size, plumpness and beauty of color, by far the best we have ever seen of those varieties. This superiority made such an impression upon Mr. Gillet's skilled observation that he had engravings made of average nuts of Californian and French growth for his new catalogue, which will soon be ready for distribution. As this comparison redounds so much to the advantage of our State, we deem it worthy of the widest publicity, and have secured the early use of Mr. Gillet's engravings, which are given upon this page. The superiority of the California grown nuts in symmetry and smoothness of shell, clearly appears from the comparison thus made. The samples which we have before us are exactly like those in the engraving, except that the rich natural color is exchanged for the dull black of printing ink. The engravings show the natural size of the nuts.

Concerning the growth of chestnuts in this county, Mr. Gillet writes us as follows: "My grafted chestnuts, *marron de Lyon* and *marron combale*, particularly the latter, had quite a crop



CHESTNUTS GROWN IN CALIFORNIA AND FRANCE.

this season. Only 5% of the nuts on the budded trees were split open, while with the seedlings, fully 40% split open all around. My seedling trees were obtained from the best French imported nuts, and have been bearing well for the last three years, having a full crop this season; but as each burr contains from three to four nuts, the latter are, on that account, badly shaped and far smaller than the grafted kind; probably that is the reason, too, why they split open so badly. A good many such seedling chestnut trees have been set out about this place and are now bearing. The general complaint is, that the kernel is bitter. This is not so, for the kernel is free from bitterness, but tasteless; it is the inner skin that carries with it that bitter taste. When the nuts are eaten raw, the inner skin has to be taken off altogether, which is a rather tedious and difficult task, as the seedling nuts have such deep furrows, in which the bitter inner skin is imbedded. In some seedlings, like the Japanese chestnut, some of these furrows extend quite through the kernel and divide the nut in two. Some young American chestnut trees obtained from seed, have already bore with me, and I must say, that the nuts are very pretty, and half larger than those imported from the Eastern States. Still, I know some large trees around this place that do not bear at all, and I cannot guess what is the matter with them, as the chestnut comes in blossom so late (July) that the frosts cannot hurt it a bit. Otherwise, I regard the foothills as eminently adapted to nut trees of all kinds; and it is a pity that large plantations of them are not made on almost unproductive land, even if the trees be grown only for their timber."

CHERRY PITS WANTED.—W. W. Leland, of Auburn, Placer Co., wishes a supply of cherry pits, to plant, and has applied without success to all the seedsmen who advertise in the PRESS. If anyone can supply the demand, let him write to Mr. Leland.

The Macedonian harvest has failed entirely, and wheat is being imported for the country.

LONG PRUNING OF VINES.—The pruning of vines should be, as we have often remarked, governed somewhat by the habit of growth of the variety operated upon. Some will not stand the short spur system, while others seem to do measurably well. The *San Mateo Journal* gives the experience of C. B. Sears, of Alpine ranch, who has several thousand vines of different varieties. They had been cut short for a number of years and finally refused to yield satisfactory crops. An experiment was tried with the vineyard this year; a small portion was pruned and cultivated in the usual manner, the larger portion being left entirely unpruned and uncultivated. The result is remarkable. In the latter portion of the vineyard the ground is fairly covered with fine well ripening grapes, making a yield far beyond the ordinary crop of average grapevines, while in the pruned and cultivated portion the vines exhibit but few bunches of perfect grapes. This great success seems attributable to two causes, chiefly: First, that cultivation and pruning caused too great a growth of wood, thus drawing away from the fruit-bearing tendency; second, the pruning caused the vines to have a high, straight stem, thus elevating the fruit from the ground into the cool moist touches of the fogs, at times; while letting the vines run caused them to spread out flat on the ground, and the grapes lying immediately upon the warm earth, and in contact with it, are thus sheltered from the adverse influences operating higher above, and were thus fully developed and ripened. Sometimes the long cane system with stakes gives a remarkable result. We remember a case in Santa Clara county where vines which had been pruned short for years were permitted to

Open Culture of Wheat.

Has any one learned anything new this year about the advantage or disadvantage of open culture of wheat? There have been a number of experiments we know in different parts of the State. Can any one show that the extra labor brings extra reward or is it true that the common style of wheat growing is most profitable? It is easy enough to cite reasons why a seed of wheat with a square foot of well pulverized soil about it will flourish like a green bay tree, but it would be timely to give evidence that such indulgence of the wheat plant is profitable to the grower or otherwise.

We notice that Major Hallett, the famous grain-breeder of England who gives his seed a pedigree like that of a thoroughbred animal, has written an article in the *Nineteenth Century* to show that England could be lifted out of her agricultural slough of despond if she would give her wheat garden-culture and thus double the yield per acre, not by increasing the number of heads to the acre but by doubling the size of the heads. He shows the progress hitherto by citing the English wheat yield per acre in Arthur Young's day—which was 16 or 17 bushels—while it is now 30 bushels, and asks "what would have been thought of the man who at that day suggested that the produce might be increased—nay, doubly even? Yet since that time the crop has been nearly doubled. Is there any more reason now for assuming that we have reached the limit of production?"

Major Hallett gives a summary of experiments of thick and thin sowing at both early and late seasons, with the remarkable result that under each condition (in the absence of injurious circumstances), the number of ears produced per acre is virtually the same, viz., about one and one-fourth million ears. As the number of ears cannot be materially increased, the sole question left to the inquiring agriculturist is, can ears be obtained with more grains in them? The number of ears on an acre being one and one-fourth million, the average of each ear is about 22 grains. This is ascertained thus: Each bushel contains 700,000 grains, and this multiplied by 40—a number of bushels which would be above an average of the crop—makes 28,000,000 for the yield of the acre, and divided by 1 1/4 gives 22 average. The crop may be raised from thick seeding, yet the ears are only one and one-fourth millions as a total. The germ of improvement is in using a rational mode of planting the seed, and nature's own time for doing it. A single grain planted early, with room around it nine inches every way, will give at harvest as many ears as 12 times the number of grains will give if crowded. This is accounted for by the property wheat has to "tiller out" when not stifled. The result in number of ears is one and one-fourth millions as before, but the contents of the ears are more than doubled. The plant has, from the first, had free scope to develop. Occasionally, in thickly seeded land, large ears may be found; there the surrounding seeds have been early destroyed, leaving room for the surviving seed to display its natural power. The contents of the ears of plants so grown with full consideration of the habits of the wheat plant are ascertained to average 50, at least, against the 22 shown to be the result of a crop ordinarily raised.

The above is the gist of the proposition upon which Major Hallett would drive disaster from English farms, and recall the days of prosperity. As we have said before, has any California grain grower gained any new points upon the main question at issue, whether we can profitably labor for big-headed grain, or whether we had better proceed as we are now doing; that is, with efforts to get the cost of plowing and harvesting reduced to a minimum, and be content to run the chance of crowding the plants? Who will take up the theme?

THE HARROW IN AUSTRALIAN ORANGE ORCHARDS.—Last week we made a few notes upon the use of the harrow. Since then, in reading our Australian exchanges, we came upon the record of practice at Parametta, [Queensland, which, with the reason for its adoption, is thus set forth. As the roots of the orange tree rarely penetrate to any depth but almost invariably run near the surface of the ground, no digging or even deep hoeing must be resorted to to keep the land free from weeds. This is better done by using a steady old horse and a very short toothed harrow—with its teeth not longer than one to one and one-half inches. This is run frequently over the ground, and the surface is kept finely pulverized and open to the night dews and the fogs. Thus the rootlets near the surface get the benefit of the moisture and are not injured by the cultivator.

THE LIVERMORE MEETING OF FARMERS AND LEGISLATORS.—It seems that the outlook is fair for a good meeting at Livermore on Saturday of this week, Dec. 11th. The *Livermore Herald* says that the majority, if not all, of the legislative representatives from Contra Costa and Alameda counties, will be present, and an immense turnout of farmers is anticipated. Speakers thoroughly conversant of our needs, in the way of squirrel and road laws, will address the people, and explain these subjects to the legislators present. Much good may come of this meeting and we hope it may be well attended.

THE WEST SIDE RAILROAD.—We learn from the *Antioch Ledger* that the experimental locomotive for the James single track railroad, along the west side of the San Joaquin, has been remodeled and rebuilt. It has now been determined by the directors of the projected road to give it another trial and if not entirely satisfactory in every particular it will be converted into a narrow gauge road; one mile of track will be laid with road-bed and ties suitable for a narrow gauge and as before stated if not entirely practicable, steel rails will be laid at once and a narrow gauge road constructed. Seventy five thousand dollars has been subscribed. Capitalists in San Francisco have signified a willingness to take the bonds at 90 cents on the dollar for 20 years at 7% per annum. This will give the farmers control of the road which will be operated in their interest.

THE RAILWAY COMMISSIONERS AND THE RAILWAYS.—It is announced that at a meeting of the commissioners and railway managers, the latter objected to and protested against the fixing of any tariff for freights for either of the Central and Southern Pacific roads by the commissioners, on the ground that they were operating under a charter from the Federal Government. They also argued that the law under which the commissioners were acting, which directs them to regulate fares and freights, was applicable only to railroads operating under a charter from the State. In conclusion they intimated to the commission that, should they proceed to compile a schedule of freights for either of the above named roads, they would forthwith apply to the United States Circuit Court for an injunction restraining them from such a proceeding.

H. H. H. Horse Medicine.

Stockton, February 4, 1880. H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

126 PERCHERON-NORMAN HORSES IMPORTED IN 12 MONTHS,



M. W. DUNHAM,

Wayne, DuPage County, Illinois,

25 MORE ARE ON THE WAY,
Being MORE than the TOTAL IMPORTATIONS of ANY OTHER MAN or FIRM during their entire business career. 100 page Catalogue, 41 Illustrations, free on application.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,
TAYNTON & DERRICKSON,
Clayton, Contra Costa County, Cal.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.00 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do good work on light fall. Send for Circular
ISAAC B. MILLINGTON & CO., Chester, Pa.

AGENTS WANTED Everywhere, to sell the Best Family Knitting Machine ever invented. Will knit a pair of stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 409 Washington St., Boston, Mass.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the Brake arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but one simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a Lever on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a jointed Pole, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW,

FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the ONLY HARROW that has the right to use a LEVER to change the angle, or that has the Axles of the Gangs hinged together, or that has Flexible Joint Bearings ON THE AXLES.

SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,

No 327 Market Street, - - San Francisco.

NICOLL THE TAILOR!!

Branch of New York

INSPECT OUR IMMENSE STOCK.

Do Not Fail to See

THE ELECTRIC LIGHT!!

Call and see the ELECTRIC LIGHT at NICOLL'S, by which Colors and Quality may be Seen as Clearly at NIGHT as at NOONDAY.

TO ORDER:

Pants

From \$5.00.

Suits

From \$20.00.

Overcoats

From \$18.00.

Usters

From \$15.00.

Dress Coats

From \$20.00.

GENUINE 6x BEAVER SUITS from \$65. English Cords for Hunting Suits. Samples, with instructions for self-measurement, sent free.

Only White Labor Employed, and none but Experienced and First-Class Cutters.

A SMALL STOCK OF UNCALLED FOR PANTS, VESTS, COATS, OVERCOATS, ULSTERS, AT AN IMMENSE REDUCTION.

Nicoll the Tailor's Grand Tailoring Emporium

727 Market Street, San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. F. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Roadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repairs. WINDMILLS for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address
BYRON JACKSON, Prop'r.



M. COOKE

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

COOKE & SONS, Successors to COOKE & GREGORY

Engraving

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the MINING AND SCIENTIFIC PRESS, San Francisco, at favorable rates.

Agricultural Articles.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street, Sacramento.

AND THEIR AUTHORIZED AGENTS.

The Famous "Enterprise,"

PERKINS' PATENT Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought-iron crankshaft with double bearings for the crank to work in, all turned and run in babbit boxes.

Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, LINFORTH, RICE & CO., 323 & 325 Market Street.

MATTESON & WILLIAMSON'S

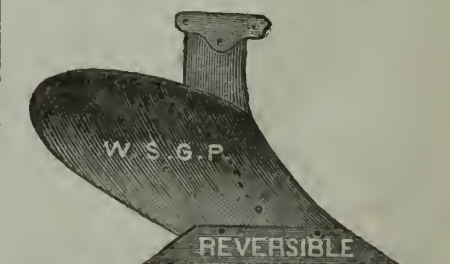


Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over grade knobs without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to
MATTESON & WILLIAMSON,
Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpening Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by
THOS. POWELL, Stockton, Cal.

AND NOT WEAR OUT.
SOLD by Watchmakers. By mail, 20 cts. Circulars FREE. J. S. BIRCH & CO., 88 Dey St., N. Y.

50 Elegant, All New, Chromo & Scroll Cards, no 2 alike Name nicely printed, 10c. Card Mills, Northford, Ct

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

HENRY PIERCE, 723 Montgomery Street, S. F. Jersey Cattle, bred from Importation direct from Jersey Island, and winners of most of the prizes at Oakland, Stockton and the State Fairs. "Victor of Verba Buena," of noted butter strains on the Island, and known to be the best Bull ever imported to this coast, now stands at the head of this famous herd. "King of Scituate," son of the famous 705 pound butter Cow, Jersey Belle, of Scituate, which now stands at the head of Mr. Pierce's noted herd, at Scituate, Mass., will soon be brought here.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Seraphina Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Cabilan Herd. The foundation of the Cabilan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxfords, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 418 California St., S. F.

POULTRY.

ALBERT BURBANK, 43 California Market, S. F. Importer and Breeder of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

IRRIGATED LANDS FOR LEASE AND SALE.

THE GREAT COLORADO VALLEY LAND AND IRRIGATING CO.

Offer for Lease and Sale a large tract of land in small farms, on extra liberal terms to settlers.

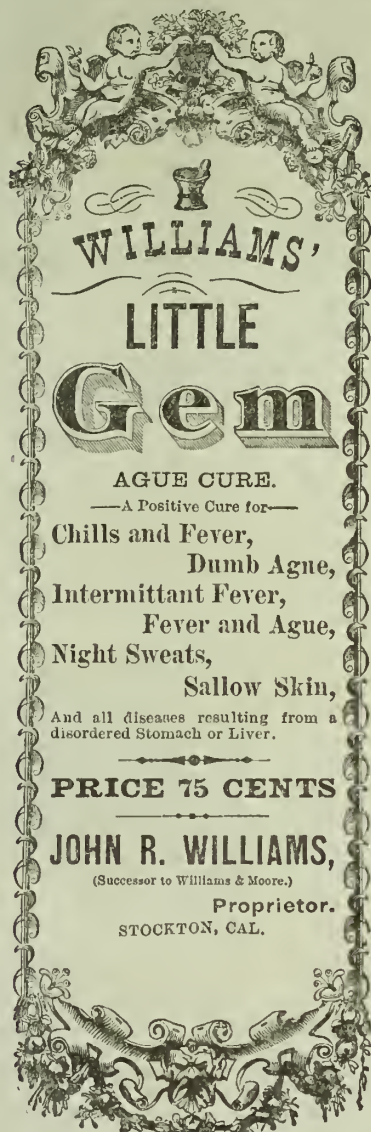
Adapted to the growing of Semi-Tropical and Deciduous Fruits, Fibrous Plants, Vines, Cereals, Etc.

Situated on the California side of the Colorado river, opposite the town of Earenberg, and deriving its Irrigating water by Canal from the Colorado river.

Full particulars, terms, etc., will be forwarded on application to

THOMAS H. BLYTHE, 724½ Market Street, San Francisco.

Or to **GEORGE S. IRISH**, Superintendent, (on the land).



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittant Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

BEFORE BUYING OR RENTING AN ORGAN

Send for our LATEST ILLUSTRATED CATALOGUE (32 pp. 4to), with NEWEST STYLES, at \$51 and upward; or \$6.38 per quarter, and up. Sent free. **MASON & HAMLIN ORGAN CO.**, 154 Tremont St., BOSTON; 46 E. 14th St., NEW YORK; 149 Wabash Av., CHICAGO.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

ST. DAVID'S.

A FIRST-CLASS LODGING HOUSE

CONTAINS 113 ROOMS.

715 Howard St., near Third, San Francisco.

This House is especially designed as a comfortable home for gentlemen and ladies visiting the city from the interior. No dark rooms. Gas and running water in each room. The floors are covered with body Brussels carpet, and all of the furniture is made of solid black walnut. Each bed has a spring mattress, with an additional hair top mattress, making them the most luxurious and healthy beds in the world. Ladies wishing to cook for themselves or families, are allowed the free use of a large public kitchen and dining room, with dishes. Servants wash the dishes and keep up a constant fire from 6 A. M. to 7 P. M. Hot and cold baths, a large parlor and reading room, containing a Grand Piano—all free to guests. Price single rooms per night, 50 cts.; per week, from \$2.50 upwards.

R. HUGHES, Proprietor.

At Market Street Ferry, take Omnibus line of street cars to corner Third and Howard.

DO

NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use, goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, **MONTGOMERY WARD & CO., 527 & 529 Wabash Ave., Chicago, Ill.**

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to **EDWARD FRISBIE**, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.

HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.

BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1.00. Pamphlet on the Care of Fowls, Diseases, Cures, etc. adapted especially to the Pacific Coast, price 15 cents. Please send stamp for Price List to

M. EYRE, Napa Cal.

TO POULTRY MEN.

—THE—

IMPERIAL EGG FOOD

Is the best article ever discovered for all descriptions of FOWLS. One pound of it mixed with Fifty pounds of feed will make them healthy and vigorous, thereby increasing the crop of EGGS largely. For sale by the undersigned in One, Two and a half, Five, Ten and Twenty-five-pound packages. Testimonials received from all parts of the Pacific Coast. Send for circular.

H. C. SWAIN, Agent,

No. 202 Sansome Street San Francisco.

GEORGE TREFZER, NAPA CITY, CAL.,

BREEDER OF

Brown and White Leghorns,

Plymouth Rocks, Light Brahmas, Houdans and Pekin Ducks.

A fine lot of young stock for sale now at reasonable prices.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley, Alameda Co., Cal.

Brown Leghorn Eggs.

BEST THOROUGHbred STOCK ON THE COAST. For two months, August and September, will sell eggs at \$2.50, for setting. **C. E. SAYLOR,** 304 Bartlett St., cor. 24th bet. Valencia and Mission, S. F.

GRANGERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLEY, President
JOHN LEWELLING, Vice-President
ALBERT MONTELLIER, Cashier and Manager
FRANK McMULLEN, Secretary

DIRECTORS:

G. W. COLEY, President
JOHN LEWELLING, Vice-President
J. V. WEBSTER, Alameda Co.
JOHN WOOD, Solano Co.
J. C. MERYFIELD, San Benito Co.
THOMAS MCCONNELL, Sacramento Co.
I. C. STEELE, San Mateo Co.
SOLOMON JEWETT, Kern Co.
C. J. CRESSEY, Stanislaus Co.
SENECA EWER, Napa Co.
A. D. LOGAN, Colusa Co.

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES OF DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

GUNS

Lowest prices ever known on Breech-Loaders, Rifles, and Revolvers. OUR \$15 SHOT-GUN at greatly reduced price. Send stamp for our New Illustrated Catalogue (B) **P. POWELL & SON, 238 Main Street, CINCINNATI, O.**

Lands for Sale and to Let.

FOR SALE.

ABOUT 8,000 ACRES OF SHEEP RANGE,

TOGETHER WITH

2,300 Head of Sheep.

Also, 475 acres of Improved Farming Land; 250 acres irrigated with free water, capable of raising all kinds of Temperate and Semi-Tropical Fruit, and Cotton and Sugar, as well as all kinds of Cereals. Title, United States Patent, and State Patent. All situated in Township 6 and 6, South Range 15 East, Mt. Diablo Meridian.

On the Sheep Range there are 5 Cabins and Corrals, on the farm is one TWO STORY BRICK HOUSE and LARGE STONE BARN, one TWO STORY FRAME HOUSE, just finished, costing about \$3,000, large Orchard and Vineyard; 60 acres of Alfalfa; 6 Horses; one Mule; 3 Cows; Hogs, Chickens and Farming Utensils.

TERMS—CASH.

\$7,800 may remain on Mortgage 1, 2, 3 and 4 years, with interest, at the rate of 11 per cent, payable semi-annually. Address

E. KELSEY, Merced Falls,

Merced County, Cal

VALUABLE FARM

FOR SALE AT A BARGAIN.



THAT SUPERIOR FARM

KNOWN AS THE

"Severance Place,"

CONTAINING 193 ACRES

Of first-class land adjoining Niles Station, Washington township, Alameda Co.: 70 acres irrigated with free water; all under good boundary and division fences; young orchard of about 400 trees; large barn, designed for sheep business—cost \$2,500; good house; tank house, windmill and well of excellent water; within ten minutes walk of Niles Station, and only 1½ hours from the city by rail; will be sold at a bargain, and on reasonable terms to a responsible purchaser. N. B.—This property cost the last proprietor \$14,000, who added the barn for \$2,500. The place was appraised two years ago at \$20,000, and last November at \$18,450.

Will be Sold for \$13,500

(BEING FORECLOSURE PRICE.)

C. T. HOPKINS,

No. 318 California St., S. F.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. **J. K. HOUSTON.**

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART.

Santa Cruz, Cal

SADDLES, HARNESS, WHIPS, LEATHER,

W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

PATENTS AND INVENTIONS.

List of U. S. Patents for Pacific Coast Inventors.

From Official Reports for the "Mining and Scientific Press," Dewey & Co., Publishers and U. S. and Foreign Patent Agents.

FOR THE WEEK ENDING NOVEMBER 10TH, 1880.
234,460.—BOOK HOLDER.—W. B. Daugherty, Carson, Nev.
234,462.—CONDENSER.—T. W. Dresser, San Jose, Cal.
234,576.—HARROW.—W. H. Hulings, Menlo Park, Cal.
234,591.—MILL COUPLING.—L. B. Lathrop, Hollister, Cal.
9,464.—VEHICLE SEAT.—Re-issue.—F. Oppenheim, S. F.
234,425.—ROOFING COMPOSITION.—C. F. Pearson, Portland, Oregon.
234,509.—HAY PRESS.—B. M. Watts, Los Angeles, Cal.
NOTE.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with perfect security and in the shortest possible time.

Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s SCIENTIFIC PRESS American and Foreign Patent Agency, the following are worthy of special mention:

ANIMAL SHEARS.—Wm. V. Cruess, San Marcos, San Luis Obispo county, Cal. Patented Nov. 9, 1880. No. 234,250. The improvements here made in sheep shears consist in so arranging the spring which keeps the cutting blades apart, so that the said spring is made removable, and springs of greater or less strength may be used to suit different operators. Removable cutting blades are employed which are so secured that they may be removed when they become dull and sharp ones attached to the handles, thereby obviating the necessity of keeping a great many pairs of shears on hand.

THRILL COUPLING.—Levi B. Lathrop, Hollister, California. Patented Nov. 16, 1880. No. 234,591. This device consists in certain details of construction, combined with an independent holding-seat or plate, within which an elastic block may be supported beneath the joint which unites the thrill or pole to the vehicle to prevent rattling. This independent seat is provided with a V-shaped projection from its lower surface, which fits into a corresponding groove in the clip-bar, the front end of which is extended out beneath the seat so as to support it, and so that when the rubber becomes worn, the seat and rubber may be raised to make a close fit, by screwing up the nut upon the front clip-holt without other device or attachment.

HAY PRESS.—Ben. W. Watts, Los Angeles, Cal. Patented Nov. 16, 1880. No. 234,509. The improvements herein made consist in certain details of construction by which the power is applied to the follower for pressing the bale while the press is traveling from one cock to another, avoiding the necessity of unhitching the team when pressing a bale; and there is also an improved means of preventing lateral spreading of the body by the bar which controls the corners. By this construction a bale may be pressed while traveling from one cock to the other, and it is never necessary to unhitch the horses and connect them to a ball-wheel rope.

BOOK HOLDER.—Wm. B. Daugherty, Carson City, Nev. Patented Nov. 16, 1880. No. 234,460. This invention relates to a novel device for holding an open book, the device being hung from the shoulders of the reader in such a manner as to have the book in proper place for reading, allowing the reader to assume any position he may desire, and leaving his arms and hands free. It consists of a base upon which the book rests, and from the sides of this base are two curved arms which are so formed as to hook over the shoulders of the reader, and are properly braced to hold the base in the same relative position, whether the reader is in a sitting, standing or reclining position. This device is very convenient, as the reader may have his hands free for writing or other occupation, and may read in any position desired.

WHAT THE ENGLISH COMMISSIONER THINKS. It is cabled from London that C. S. Read, M. P., who recently visited our territory east of the Rocky mountains, as a commissioner to investigate our resources, in addressing a farmers' club in London, said he would not fear American competition in wheat 25 years hence, as exhaustion of the land would ensue in that time, and the cost of production would increase. But in regard to beef, there were serious prospects of competition from the vast herds of cattle in the far West. Mr. Read said he deemed it likely that the American nation would become the greatest in the world.

At Los Angeles, this week, the Los Angeles and San Diego Railroad Co. gave a mortgage for \$2,800,000 to S. T. Gage and E. B. Bryan, agents of the Central Pacific, on all the property of the company from Los Angeles to San Diego, for a term of 30 years, at the rate of 6%. This is for an extension of the track from Santa Ana to San Diego.

Vaccination for Scab in Sheep.

EDITORS PRESS:—I desire to announce to your readers that I have discovered a method of protecting sheep from the scab disease by vaccination. The principle is identical with that involved in vaccination to prevent smallpox in the human species. I do not claim that my method of vaccinating sheep will prove an absolute prevention of scab, but it will either prevent it or reduce the disease to a milder form, as vaccination in human kind reduces smallpox to varioloid. In the case of sheep there may, in some cases, be a slight surface irritation of the skin which can be easily removed, but there will be no attack of the scab in its well-known virulent and penetrating forms. Anyone desirous of inquiring into this new method of meeting the scab disease may address me at the Baldwin Hotel, San Francisco, S. H. KENNEDY, San Francisco, Dec. 8th.
P. S.—Address, after January 15, 1881, Omaha, Nebraska.

By Universal Accord,
AYER'S CATHARTIC PILLS are the best of all purgatives for family use. They are the product of long, laborious and successful chemical investigation, and their extensive use, by physicians in their practice, and by all civilized nations, proves them the best and most effectual purgative pill that medical science can devise. Being purely vegetable, no harm can arise from their use. Intrinsic value and curative powers no other pills can be compared with them, and every person, knowing their virtues, will, employ them, when needed. They keep the system in perfect order, and maintain in healthy action the whole machinery of life. Mild, searching and effectual, they are specially adapted to the needs of the digestive apparatus, derangements of which they prevent and cure, if timely taken. They are the best and safest physic to employ for children and weakened constitutions, where a mild but effectual cathartic is required.

FOR SALE BY ALL DEALERS.
Copies of "Overland Monthly" Wanted.

We will pay 50 cents each for a few copies of the following numbers of the *Overland Monthly*: For the months of October, November and December, 1870; February and May, 1871; April, 1872; April and June, 1873; January, February, March, April, May and June, 1875.

SAMPLE COPIES.—Occasionally we send copies of this paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CAVEN, Propr.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Dec. 8, 1880.

The markets are generally quiet and devoid of interesting points. There seems to be a slight reaction from the last advance in barley, and wheat continues to droop slightly. Butter and Eggs are also weaker.

The latest Liverpool dispatch to the Produce Exchange is as follows:

Good to choice California Wheat, 9s 10d to 10s 2d. Spot and cargo lots are quiet; off coast cargoes, 47s per quarter.

The Foreign Review.

LONDON, Dec. 6.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "The weather has been favorable for wheat sowing. Good progress has been made toward overtaking arrears, and the young wheat is looking exceedingly well. Prospects of production for the current cereal year are fairly good. There is no question as to the world's surplus of marketable breadstuffs being above the consumptive demands of the United Kingdom for the year, and the only thing that keeps prices at the present level is the paucity of spot and new supplies. Until the beginning of the past week speculation has been active in America in wheat, but found not the faintest response here. The American surplus is admitted to be above that of last year, while European requirements are less. The late harvest and the increased prosperity in America have retarded the movement of the surplus to the seaboard. Meanwhile, the United Kingdom has been well supplied from other sources. Even the Russian contingent is not much smaller than that of last year, while Australian and Indian supplies are liberal. If the present position is maintained for another six weeks, a very material portion of the American surplus of breadstuffs will find no market. The inferior condition of the bulk of samples is more pronounced. On Monday English Red Wheat sold as low as 22s, and quotations were only obtained by the scarcity of the marketable sample of foreign. Breadstuffs were depressed in the early part of the week, and, after brief recovery, closed dull. The spot supply continues more than sufficient for the demand, and the smallness of stock gives bidders an advantage. At the same time, buyers rely on American, Australian and Indian supplies to send down prices. The American surplus will soon become a weakening element. Flour has been slow, and nominally unchanged. Country-made was dearer in the provincial markets, in consequence of American competition at London. Foreign was steady. In barley the inquiry has been confined to the best samples, which are scarce. Foreign is in excessive supply, and prices favor sellers. Maize, after fluctuating, closed at 27s 9d. Foreign Oats are weaker, and trade is slow.

Sales of English Wheat during the week, 44,227 quarters, at 44s 10d, against 33,429 quarters, at 46s 7d for the corresponding week last year. Imports into the United Kingdom for the week ending November 27th were 1,285,857 cwt wheat, 309,974 cwt flour.

Freights and Charters.
The latest charters reported are the British iron bark *Blenheim*, 574 tons, wheat to Cork at £3 7s 6d, prior to arrival; British bark *Parthia*, 1,022 tons, wheat to Cork, £3 7s 6d, prior to arrival; ship *Matchless*, 1,198 tons, wheat to Cork, private.

New York Dried Fruit Markets.
New York, Dec. 5.—Foreign fruits moved more freely. In Raisins there was a brisk demand at full prices; layers, \$2.10 to \$2.15; London layers, \$2.45 to \$2.55; Valencia, \$3 to \$3.10. Supply at spot and afloat about 50,000 boxes below average at corresponding date of the past three years. Prunes, good demand, prices firmer, 6¢ to 6½¢. Figs held full prices. Currants strong, 5½¢ to 6¢. Dried Apples firmly held.

Eastern Grain and Provision Markets.
New York, Dec. 5.—In breadstuffs, ups and downs of wheat have formed the most conspicuous events, while transactions have aggregated very heavily, mostly, however, consisting of future options, or "wind." These transactions fix the value of cash wheat, the value of which goes up or down, according to the direction of "wind." At the close, prices showed a radical decline from the highest points touched. Barley at the close was weaker, No. 1 bright Canada, \$1.25. Provisions are dull and again lower.

Chicago, Dec. 4.—The week terminated with a sudden and very heavy decline in grain, which took away the breath of some persistent bulls who have been predicting remarkable prices, equal to those of last year. To-day there were as large quantities of grain in sight, perhaps a few hundred thousand bushels more, than on the 7th of February of this year, when the stock was 52,000,000 bushels, the largest ever known to be in visible shape in the history of the country. This fact, together with the additional one that grain is coming into the grain centers at a rapid rate, so that the elevators seem likely to be filled before their time, gives no hope for extremely high prices in the near future. There is much confidence among farmers and dealers, on the other hand, that there is no probability of the extreme low rates of previous years being reached, or at least maintained for any length of time. Elevator-room has been enlarged during the fall, so that the elevators of Chicago will now hold over 19,000,000 bushels of grain. They still have a capacity of over 8,000,000, but if the present ratio of receipts and shipments continues, this capacity will last only about six weeks, and then a grain glut will be precipitated, the result of which may prove disastrous to the trade. The January option sold during the week at the following range: Wheat, \$1.05½ to \$1.11½; Corn, 40½ to 43½; Oats, 32½ to 33½; Pork, \$12.95 to \$13.85; Lard, \$8.50 to \$8.82½. The closing January prices were: Wheat, \$1.06½; Corn, 40½; Oats, 32½; Pork, \$13.07½ to \$13.10; Lard, \$8.35 to \$8.38½. The closing cash prices were: Wheat, \$1.05½ to \$1.05½; Corn, 40½; Oats, 32½; Rye, 87½; Barley, \$1.02; Pork, \$11.75 for new; \$13 for old; Lard, \$8.35.

Eastern Wool Markets.
Boston, Dec. 3.—California Wool has been in demand, and 678,000 lbs fall and Spring have been sold at from 13¢ to 13½¢, including 220,000 lbs choice Northern Fall at 28¢ to 32¢.

New York, Dec. 5.—Wool continues quiet; prices firm; sales of 18,000 lbs Spring California at 29¢ to 30¢. The dry goods market has been quite active in all branches, and many makes of cotton goods are higher.

Philadelphia, Dec. 7.—Wool is steady and firm, the demand fair and supply moderate. Oregon line is held at 30¢ to 35¢; medium, 36¢ to 40¢; coarse, 38¢ to 35¢; New Mexico and Colorado fine, 20¢ to 30¢; medium, 25¢ to 32¢; coarse carpet wool, 20¢ to 22¢; pulled extra merino, 33¢ to 45¢; super, 40¢ to 45¢.

The London Wool Sales.

LONDON, Dec. 7.—500 bales of wool were offered to-day, chiefly Sydney, Port Phillip and Cape. The attendance was fair, and for some time the demand was steady, but French bidding was rather slow. Good wool was firm, but faulty was irregular.

BAGS.—Grain Bags are quiet and unchanged. We are told that contracts for delivery next June and July are being made at 9½¢. Gunnies are up to 20¢. There are none left in first hands, and the late upset in Potatoes has caused the rate for Gunnies to advance.

BARLEY.—Feed barley has lost a part of last week's advance. Brewing sorts are unchanged. We note sales: 1,500, 400 and 300 cwt Coast Feed, 95¢, and 1,400 do two-year-old Browing, \$1.20.

BEANS.—Our list shows an advance in most kinds of small beans. Limas are shaded off a trifle.

CORN.—Corn is unchanged. We note a sale of 170 cwt large Yellow at \$1.20; some fine lots go to \$1.25.

DAIRY PRODUCE.—Supplies of butter are increasing; the market is quite weak to-day and prices lower. There are considerable amounts of Eastern Butter now being retailed throughout the city. Cheese is unchanged.

EGGS.—There has been a farther decline so that 42½¢ to-day is the top for fresh Californias.

FEED.—The high rates noted last week on Bran and Middlings have been retracted, and sales are now made at the rates given in our list. Hay is also a little easier. The top price quoted for choice wheat is \$16.

FRESH MEAT.—Our price list shows a decline in live and dressed pork. Other meats are unchanged.

FRUIT.—Apples have taken a little lower range. The best bring now \$1 per box. California Limas and Lemons are selling quite well, but there are but few of them.

HOPS.—Hops are a little higher than last week. They are telegraphed as firm and unchanged in New York city.

OATS.—There is no change.

ONIONS.—Silv. onions have lost a part of their advance, and are now \$3.25 to \$3.50 per cwt.

POTATOES.—Potatoes have taken a good step forward, and the market seems in good shape. The advance has been from 25¢ to 30¢ on all good kinds.

PROVISIONS.—Our list has been fully corrected. There is now a satisfactory—as good as could be expected at this season of the year.

POULTRY AND GAME.—Hens, Ducks, Geese and Turkeys are all doing better. Turkeys have advanced 2 or 3 cents per lb. Snipe and Quail are lower.

VEGETABLES.—There is little change, except an advance in choice white Turnips.

WHEAT.—Trade is slow, and quotations about 2½ cents lower. Sales of 200 cwt gill-edged Milling, \$1.55; 1,500 and 700 do No. 1, \$1.50; 400 do No. 2, \$1.45; 2,500 and 400 do Coast, \$1.42½; 200 do do, \$1.35, and 200 do Odessa, \$1.25.

WOOL.—The market is quiet. Strictly choice grades are selling, and prices have improved since our last report. The lower qualities are not moving. The railroad freight advance still hampers the trade, as buyers insist that the growers shall make proportionate reduction. This they are not inclined to do.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Dec. 8, 1880.

BEANS & PEAS.				BRAND.			
Bayo, etc.	100	@	05	Pecans	14	@	15
Butter, do.	1	@	50	Peanuts	9	@	10
Castor, do.	25	@	30	Filberts	17	@	18
Pea, do.	1	@	55	ONIONS.			
Red, do.	1	@	55	Red	—	@	25
Pink, do.	1	@	55	Silver Skin	3	@	35
Small White, do.	1	@	50	POTATOES.			
Lima, do.	50	@	75	Petaluma, etc.	—	@	100
Field Peas, bkt eye	25	@	37½	Tomatoes	—	@	100
do, green, 10	10	@	15	Humboldt	1	@	10
BROOM CORN.				" Kidney	—	@	—
Southern, do.	3	@	31	" Peachblow	—	@	—
Northern, do.	4	@	6	Jersey Blue	—	@	75
CHICORY.				Cutley Cove	1	@	10
California, do.	4	@	44	Early Rose, new	—	@	75
German, do.	6½	@	7	Half M'Bay, Chile	—	@	75
DAIRY PRODUCE, ETC.				River, red	60	@	65
BUTTER.				Sweet	75	@	100
Cal Fresh Roll, lb	37½	@	42½	POULTRY & GAME.			
do Fancy Brands, do	—	@	45	Hens, doz.	5	@	00
Pickle Roll, do	35	@	37½	Roosters	4	@	50
Firkin, new, do	35	@	37½	Groblers	3	@	00
Western, do	25	@	27½	Ducks, tame, doz.	5	@	00
New York, do	—	@	—	Mallard	2	@	75
CHEESE.				Sprig	1	@	75
Chesse, Cal, lb.	14	@	15	Teal	—	@	75
N. Y. State, do	18	@	20	Wildgeese	1	@	25
EGGS.				Geese, pair	2	@	50
Cal fresh, doz.	40	@	42½	Wild Gray, doz	2	@	50
do, poor to good	—	@	40	White do	1	@	25
Ducks, do	—	@	—	Turkeys	14	@	18
do, dressed, do	—	@	—	do, Dressed	15	@	17
Oregon, do	—	@	—	Snipe, Eng.	1	@	50
do, Oregon, do	—	@	—	do, Common	40	@	50
do, Walla Walla, do	—	@	—	Quail, doz.	75	@	87½
Superfine, do	—	@	—	Rabbits	1	@	25
Utah, do	37½	@	40	Hare	1	@	75
FEED.				Venison	5	@	7
Brans, con	—	@	16 00	PROVISIONS.			
Corn Meal, do	23	@	00	Cal Bacon, extra	—	@	—
Oats, do	9	@	00	clear, lb.	12½	@	13
Middlings, do	—	@	21 00	Medium	11	@	11½
Old Cake Meal, do	30	@	—	Light	11½	@	12
Straw, bale, do	40	@	50	Lard	10	@	11
FLOUR.				Cal Smoked Beef	10	@	10½
Extra, City Mills, 5	12	@	25	Shoulders, do	7½	@	8
do, Country Mills, do	75	@	00	Hams, Cal.	10	@	10
do, Oregon, do	75	@	00	Dupes's	—	@	15
do, Walla Walla, do	75	@	00	Whitaker	—	@	15
Superfine, do	375	@	25	Royal	15	@	15½
FRESH MEAT.				SEEDS.			
Beef, 1st quality, lb	5	@	5½	Alfalfa, do.	14	@	15
Second, do.	—	@	34	do, Chile, do.	—	@	—
Third, do.	—	@	34	Canary, do.	4	@	5
Mutton, do.	3	@	30	Clover, Red, do.	14	@	15
Spring Lamb, do	4	@	40	do, White, do.	50	@	55
Pork, undressed, do	4	@	40	Cotton, do.	—	@	20
Dressed, do.	6½	@	6½	Flaxseed	24	@	30
Veal, do.	—	@	—	Hemp, do.	—	@	8
Milk Calves, do	8	@	80	Italian Rye Grass	30	@	—
do choice, do	7	@	70	Perennial, do.	30	@	—
GRAIN, ETC.				Mill, do.	10	@	12
Barley, feed, cys	90	@	95	do, Common, do	7	@	10
do, Browing, do	1	@	05	Mustard, White, do	3	@	4
Chevalier, do	15	@	15	Brown, do.	11	@	2
do, Coast, do	10	@	15	Rape, do.	3	@	8
Ruckwheat, do	—	@	—	ky Blue Grass, do	20	@	25
Corn, White, do	1	@	00	2d quality, do.	16	@	18
Yellow, do	12	@	25	Sweet V Grass, do	14	@	15
Small Round, do	12	@	15	Orchard, do.	20	@	25
Oats, do	1	@	20	Red Top, do.	—	@	15
Milling, do	1	@	50	Hungarian, do.	8	@	10
Rye, do	1	@	55	Lawn, do.	30	@	40
Wheat, No. 1, do	1	@	52½	Mesquit, do.	10	@	12
do, No. 2, do	1	@	45	Timothy, do.	11½	@	12½
do, No. 3, do	1	@	12	TALLOW.			
Choice Milling, do	—	@	55	Crude, do.	6½	@	6½
HIDES.				Refined, do.	7½	@	7½
Hides, dry, do	19	@	13	WOOL, ETC.			
Wet salted, do	10	@	10½	SPRING.			
HONEY, ETC.				Oregon, Eastern, do	26	@	30
Beeswax, lb.	22½	@	24	do fine heavy, do	21	@	24
Honey in comb, lb	12	@	14	do Valley, do.	28	@	30
do, No. 2, do	—	@	—	FALL—Lamb's Wool.			
Dark, do.	5½	@	6½	Southern, do.	14	@	15
Extracted, do	7	@	8	Northern, burry, do	15	@	17
HOPS.				do, free, do.	18	@	20
Oregon, do.	16	@	18	Fall, old'n'y, south-	10	@	14
California, new, do	18	@	21	ern, do			
Wash. Ter, do	17	@	20	Humboldt & Men-	23	@	25
Old Hops, do	—	@	—	do, free, do	23	@	25
NOTS—Jobbing.				E. Oregon, (Lamb)	23	@	25
Walnuts, Cal., do	9	@	10	Valley, do do.	26	@	28
do Chile, do	7½	@	8				
Almonds, hd sh lb	8	@	10				
Soft sh lb.	14	@	15				

DALTON & GRAY,

Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.
CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,

Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA and OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.
Consignments Solicited.Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

(Established in 1863.)

BRYANT & COOK,

Commission Merchants,

— AND —
DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Elwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.

EUGENE AVY,

SHEEP and WOOL Commission Merchant,
320 Sansome Street, San Francisco.

Advances made on Consignments.

Vitis Californica.

Fresh seeds of the *Vitis Californica*, collected from selected vigorous and prolific wild vines in Lake county, near Harbin's Springs, furnished by mail in packages of one pound and upwards, on receipt of \$1 per pound in postage stamps, paper currency or coin, to any address in the United States. AddressC. MATTIER,
Middletown, Lake Co., Cal.

Refers by permission to Chas. A. Wetmore, member of the State Viticultural Commission, at whose suggestion the seeds have been carefully collected.

Grape Cuttings Wanted.

In order to be able to fill orders that are coming in for grape cuttings, I desire to know from reliable vine-growers what qualities they can agree to furnish—stating place where grown, varieties guaranteed and named, length of cutting and lowest prices delivered at some railway station for shipment, and time when they will be ready to deliver. No cuttings accepted from diseased vines.

CHAS. A. WETMORE,
Viticultural Colonization Agency,
111 Leidesdorff Street, S. F.

RUHL'S PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half-Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.
Valves for the above Pumps can be had of the principal houses in San Francisco.

Zimmerman

Fruit and Vegetable

DRYER AND BAKER.

Best and only Galvanized Iron Portable Fire Proof Machine for the purpose. It has no superior. Send for Circulars and read description and testimonials! LINFORTH, RICE & CO., General Agents for Pacific Coast, 323 & 325 Market St., S. F.

54 All Gold, Chromo and Lithograph Cards, no 2 alike, namo on, 10 cts. C. DePuy, Syracuse, N. Y.



Japanese Crepe Pictures.

These beautiful pictures represent Japanese flowers, vines, shrubbery, landscapes, and artistically drawn figures, transferred in indelible colors to Japanese Crepe of the finest texture. Each picture (as our illustration shows) is complete in itself, and contains Japanese writing or characters, describing the locality, names of flowers, figures, etc. They are intended for, and make beautiful and brilliant tidbits for backs of chairs, sofas, or lounges, and are suitable for lamprequis, centre pieces for table covers, etc.; they can be seen in the parlors of our wealthiest families in New York City and elsewhere, are very fashionable, and will be admired and favorably commented upon by your friends. As we are now selling them at one-third their former price, ladies can beautify and ornament their homes at a trifling expense. Our prices are as follows (each picture being different): 3 pictures for 18 cents; 6 for 30 cents; 12 for 48 cents, sent by mail, post paid. Send us clean postage stamps, of any denomination, as we prefer them to silver. Address,

EUREKA TRICK AND NOVELTY CO.,

39 Ann Street,

NEW YORK.

BOX 4614.

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.



PETER SAXE & SON,

IMPORTERS AND BREEDERS OF

Thoroughbred Live Stock,

Horses, Cattle, Berkshire Hogs and Pigs. and Sheep

We can fill orders at any time for the best families of PURE BERKSHIRES, "Short Horns," and "Jersey or "Alderney" Cattle, Jacks and Mules, Spanish and French Merino, Cotswold and SHROPSHIRE SHEEP.

All at moderate prices and perfectly pedigreed.

Importing to and breeding on this coast has been a specialty with us for the past 10 years. Satisfaction guaranteed.

PETER SAXE,
H. POLK SAXE, }

Address Lick House, San Francisco.

Baling Fencing Telegraph Telephone Galvanized WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

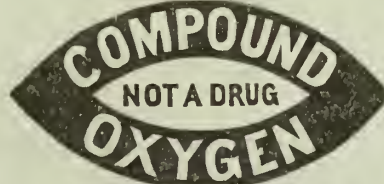
Apply to L. A. GOULD.

COMBINED Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bins can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

This paper is printed with Ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dyspepsia, Catarrh, Headache, Debility, Rheumatism, Neuralgia and all Chronic and Nervous Disorders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic centers, and cures by a natural process of revitalization.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of this new discovery, and a large record of most remarkable cures. Write for it. Address the proprietors, DR. STARKEY & PALEN, 1109 and 1111 Girard street, Philadelphia, Pa., or H. E. MATHEWS, 606 Montgomery street, San Francisco, Cal., from whom can be procured both information and supplies.

DEAF AUDIPHONES OR WITH EARPHONES.

Trial before purchase. Don't waste your money otherwise. Send for free pamphlets. (Address H. E. Mathews, as above.)

VETERINARY HOMŒOPATHY!

Every Farmer and Stock Raiser should have a Veterinary Homœopathic Manual and Medicine Chest. Send for Veterinary Index (mailed free on application).

BOERICKE & TAFEL,

Homœopathic Pharmacy, 234 Sutter St., S. F.

AUZERAIS HOUSE,

Santa Clara Street,

San Jose, Cal.

CHAS. E. PEARSON, Proprietor.

Strictly First-Class and Moderate Charges.

Auzerais House Coach and Carriages in attendance on arrival of Trains.

New! The Very Best! True to Name!

FELIX GILLET'S NURSERY.

Nevada City, California.

SPECIALTIES:

Nuts of all Kinds and Strawberries.

PREPARTURIENS WALNUT,

(Introduced in California in 1871, by Felix Gillet)



The most precocious of all soft-shell varieties of Walnut, bearing even when three years old, hardy, a late bloomer, very productive. First bearing trees in California, at Felix Gillet's nursery, sixth crop 1880. Trees of that new and valuable variety, raised in Felix Gillet's nurseries, Nevada City, sent to any part of California and the United States by mail, free of charge, in packages of two feet, well packed in damp moss and oiled paper, and guaranteed to arrive in as "fresh" a condition as when leaving the nursery, at the following prices: \$1 per tree for less than half a dozen; \$0 per dozen. Larger trees sent by express or freight. See the catalogue and price list.

Improved Kinds of Chestnuts.

"Marron de Lyon" and "Marron Comble" (introduced in California in 1871 by Felix Gillet). Grafted trees, from 6 to 10 feet, \$12 per dozen.

Medlar (*Monstruosa*); Black Mulberry (*Noir de Spain*); Italian and Spanish Filberts; French Everbearing Raspberry; Wilson's Early Blackberry; 21 varieties of English Gooseberries; 42 varieties of grapes; 100 varieties of Pears, Plums, Peaches, Cherries, Apples, Walnuts and Chestnuts; the finest varieties of French, English and Dutch Strawberries.

SEND FOR DESCRIPTIVE CATALOGUE AND PRICE LIST.

FELIX GILLET,

Nevada City, Cal.

HOPE FOR THE DEAF

Garmore's Artificial Ear Drums

RESTORE THE HEARING and perform the work of the Natural Drum. Remain in position without aid, and are not observable. All Conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address

CARMORE & CO.,
S. W. Corner 5th & Race Sts., Cincinnati, O.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

JOS. HANSEL, Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for Sale at the Lowest Rates, and guaranteed to give satisfaction. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on hand of my own make, the Latest Improved Harrows and my Patent Buck Board and Breaking Cart. Carriage Painting and Trimming Neatly Done. HUNTER STREET, STOCKTON, Cal. Adjoining the Baptist Church.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on Wheats. Apply to A. SCHULLER,
209 Sansome St., S. F.

RUSBY & MERY'S IMPROVED FEED MILL, Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain heating. It is used by the leading grain raisers in preference to feed ground with burs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,
Cor. Japan and Townsend Sts., S. F.

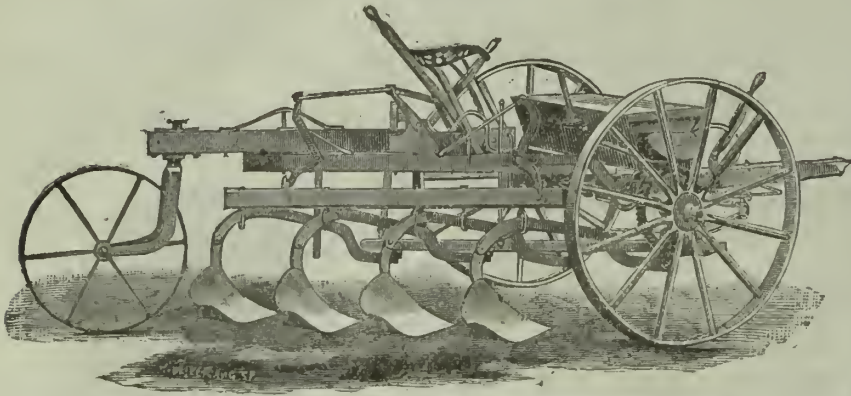
First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. and S. P. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

The New Beekeepers' Text Book.

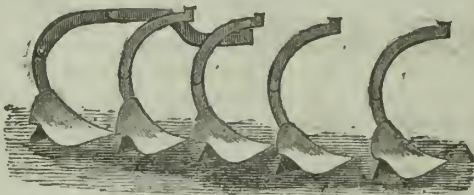
By A. J. KING. The latest work on the Apian, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, postpaid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

SHERRILL GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows.



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco,

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

A. AITKEN.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 E St., Bet Sixth & Seventh, - SACRAMENTO, CAL.

F. N. FISH.

WINTER STYLES—BUTTERICK & CO.'S

Celebrated Paper Patterns. Send Stamp for Illustrated Catalogue. Address H. A. DEMING, 124 Post St., San Francisco, Cal.

FIREMAN'S FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMAN'S FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

ALPHEUS BULL, Vice-President.

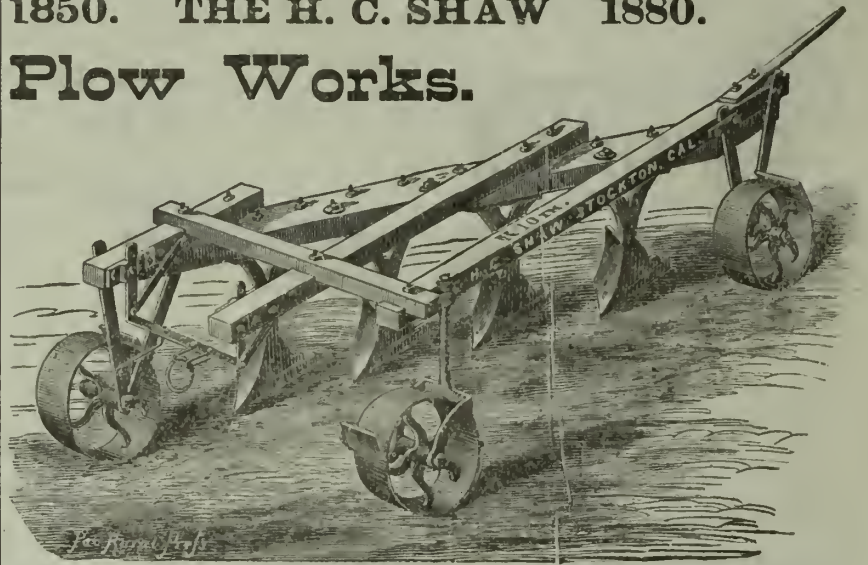
GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Caboon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gunnies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

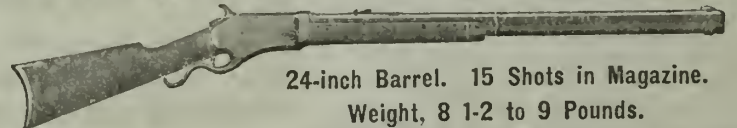
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUNNIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,
416 Market St., San Francisco,

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

50 New Style Cards. Lithographed in bright colors, 10c. 50 All Gold, Chromo and Lithograph Cards, (No 2 like,) same on, 10c. Clinton Bros., Clintonville, Con. 60 Ag'ts. Samples 10c. Conn. Card Co. Northford, Ct.

Seeds, Plants, Etc.



My Annual Catalogue of Vegetable and Flower Seed for 1881, rich in engravings from photographs of the originals, will be sent FREE to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Full directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refill the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables, I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true, and of the very best strain.

NEW VEGETABLES A SPECIALTY.

JAMES J. H. GREGORY, Marblehead, Mass.

R. J. TRUMBULL & CO.,
Growers, Importers, Wholesale and
Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND ORNAMENTAL TREES, ETC. FANCY WIRE DESIGNS, GARDEN TRELLISES, SYRINGES, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—Our Descriptive Illustrated Catalogue of Seeds, Trees, Plants, Etc.

R. J. TRUMBULL & CO.,
419 and 421 Sansome Street, S. F.

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

A few dozen plants set now will yield enough for a family's use next Spring.
Large Stocky, Healthy Mountain Grown Plants.

"SHARPLESS,"
THE LARGEST OF ALL.

"Capt. Jack," "Cumberland Triumph," "Seth Boyden," "Miner's Prolific," Etc., Etc.

SELECTED PLANTS, 50 Cts. Per Dozen.

POSTAGE PAID.

Many other varieties, new and old Give us a trial Address

C. M. SILVA & SON,
Newcastle, Placer County, Cal.

1,000,000

Strawberry, Raspberry and Cranberry
PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 5.00	\$ 50.00
N. J. Scarlet, Sterling, Great American.....	0.50	5.00	50.00
Pres. Lincoln, Triomphe de Gand.....	0.50	5.00	50.00
Wilson Albany, Charles Downing.....	0.50	5.00	50.00
Essex Beauty Early, Centennial.....	0.60	6.00	60.00
Monarch of the West, Cinderella.....	1.00	10.00	100.00
Raspberry Plants—Cutbert Early.....	1.60	16.00	160.00
Fride of the Hudson, Brandywine.....	1.50	15.00	150.00
Hersine, Clark, Philadelphia Red.....	1.25	12.50	125.00
Henrietta, Hornet, Early Prolific.....	1.25	12.50	125.00
Blackberry Plants—Deering Seedling.....	1.25	12.50	125.00
Mammoth Cluster, Vina Seedling.....	1.00	10.00	100.00
Kittatinny, Dorchester, Early Cluster.....	1.00	10.00	100.00
Grape Vines—Bl'k Hamburg, Bl'k Prince.....	2.00	20.00	200.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address,

H. NYLAND, Bouldin Island, San Joaquin Co.

GARDEN SEEDS.

Thos. Meherin,

Importer, Wholesale and Retail
Dealer in

Seeds, Trees & Plants.

Alfalfa, Red and White Clover, Australian and Italian Rye Grass, Hungarian Millet Grass, Orchard Grass, Kentucky Blue Grass, Timothy and Red Top, Etc., Etc.
Also, a choice collection of Fruit and Ornamental Trees, Shrubs, Bulbs, Roses, Etc., Etc. Budding and Pruning Knives, Syringes, Hedge Shears, Etc., Etc.

THOS. MEHERIN, 516 Battery St.

Agent for B. S. Fox's Nurseries.

PEPPER'S NURSERIES,

Established in 1858.

For sale, all kinds of Fruit Trees, Vines and Fruiting Shrubs raised without irrigation. Also, a general assortment of Evergreen Trees and Shrubs, deciduous Flowering Shrubs; Roses, in assortment. Conservatory and Bedding Plants in great variety. Send for Catalogue and List of Prices. Address

W. H. PEPPER,
Petaluma, Sonoma Co., Cal.

CEO. F. SILVESTER,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

Hedge Shears, Pruning and Budding Knives, Green House Syringes, Etc.

Seed Warehouse, 317 Washington St., San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top,
Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

SEVIN VINCENT & CO.,

Importers, growers of, wholesale and retail dealers in



Field, Grass, Flower and Tree Seeds.

CLOVER, ALFALFA.

BULBS, FRUIT, ORNAMENTAL TREES, ETC.

We call the attention of farmers and country merchants to our unusually low prices. Trade price list on application.

We issue the most complete guide to the Vegetable and Flower Garden ever issued upon this coast. It is handsomely illustrated, and contains full descriptions of Vegetables, Flowers, Grasses, Trees, etc., with full instructions as to their culture; mailed free on application.

SEVIN VINCENT & CO.,

607 Sansome Street, S. F.

J. P. SWEENEY & CO.,
SEEDSMEN,

Nos. 409 and 411 Davis Street, between
Washington and Jackson, S. F.

Having on hand the largest stock of Seeds of any house on the Pacific Coast, consisting in part, the following varieties, which we will offer in quantities to suit purchasers at reduced rates:

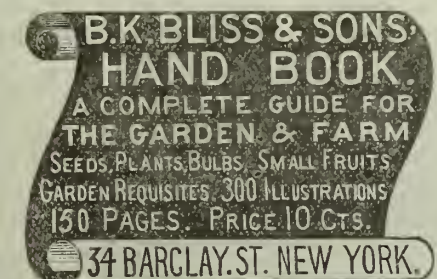
20,000 Pounds Alfalfa Clover Seed.	4,000 Pounds Red Clover Seed.
4,000 Pounds Australian Rye Grass Seed.	5,000 Pounds Extra Clean Kentucky Blue Grass Seed.
4,000 Pounds Red Top Seed.	10,000 Pounds Timothy Grass Seed.
10,000 Pounds Mesquit Grass Seed.	10,000 Pounds Canary Seed.
10,000 Pounds Rape and Hemp Seed.	4,000 Pounds Mangel Wurtzel Beet Seed.
1,000 Pounds Assorted Table Beet Seeds.	1,000 Pounds Assorted Onion Seeds.
1,000 Pounds Assorted Turnip Seeds.	

AND A FULL SUPPLY OF

GARDEN, VEGETABLE & FLOWER SEEDS.

Also, a large assortment of California Conifer and Forest Tree Seeds. Fruit Trees in any quantity at Nursery prices.

J. P. SWEENEY & CO.



100,000 BLUE AND RED GUMS.

200,000 Cypress, Pine and Acacia.

Very fine Stock and Cheap. Beautiful, Fresh and Finest Variety of Monterey Cypress Seed, \$3.00 per pound, pre-paid by mail. Blue Gum and Acacia Seeds. Postoffice address,

GEO. R. BAILEY, Oakland, Cal.

Nursery located at Dwightway Station, East Berkeley.

70,000 BLUE GUM TREES,
And Cypress in Boxes for Forest Culture.

Well grown Fruit Trees of the most approved market kinds, raised without irrigation. Also, a small stock of the latest Eastern Fruits, such as Souvenir du Congo and Japan Pears, Olivet Cheny, Etc. Prices on application. Patronage solicited.

ISAAC COLLINS,
Haywards, Alameda Co., Cal.

Holiday Music Books!

DITSON & CO., call attention to their elegant and useful music books suitable for presents, and especially to their

VOLUMES OF BOUND SHEET MUSIC.
Price of each in Cloth, \$2.50; Fine Gilt, \$3.

THE FOLLOWING ARE COLLECTIONS OF PIANO MUSIC.

THE CLUSTER OF GEMS. 43 pieces of high character.

GEMS OF THE DANCE. 79 of the best pieces of new dance music, by the most celebrated composers.
GEMS OF STRAUSS. 80 splendid and brilliant compositions

PIANOFORTE GEMS. 100 select piano pieces.

HOME CIRCLE. Vol. I. 170 easy p's for beginners.

HOME CIRCLE. Vol. II. 142 pieces, of which 22 are for 4-hands.

PARLOR MUSIC. 2 Vols. 120 easy and popular pieces.

CREME DE LA CREME. 2 Vols. 85 select pieces of some difficulty, suited to advanced players.

FOUNTAIN OF GEMS. 79 easy and popular pieces.

WELCOME HOME. 70 easy and popular pieces.

PEARLS OF MELODY. 50 pieces of moderate difficulty.

PIANIST'S ALBUM. 102 pieces. Fine collection.

All the books above named are alike in size, style, binding and price.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not? Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchial, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '53 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to

CLARK'S

Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair. With Nash & Cutts' No. 3 Grain Cleaner, its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

Wilz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The small cut twig up to branches two inches in diameter cut with ease. State, County or individual rights for sale. Agents wanted. Address

JOHN WILZ,
Santa Cruz, Cal.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - Proprietors.

Office—318 California Street, Room 3.

MENZO SPRING.

Manufacturer of the Best

Improved Artificial Limbs.

OFFICE AND ADDRESS:

9 Geary Street, Junction of Market and Kearny, S. F.

Agricultural Books.

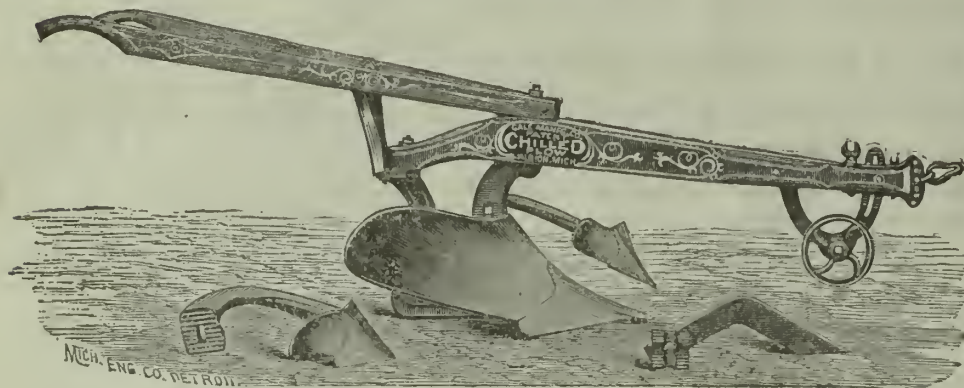
Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

FLOWER SEEDS.

FRUIT TREES.

OUR CELEBRATED GALE'S CHILLED IRON PLOWS!

Still Stands Ahead of all Chilled Plows.



Gale's Chilled Iron Plow, with Patented Jointer and Gauge Wheel.

GALE'S CHILLED METAL.

Metal presents itself as the important feature, being harder than any other plow metal, and so fine in fiber that it will receive a polish almost equal to a mirror. Its fiber does not run parallel with the surface of the casting, as with cast iron and steel, but its direction is through the thickness of the mold head, thus bringing the friction of the soil on the end of the fiber or grain. This feature avoids all reasonable possibility of imperfections being hidden below the surface.

The wood work of the Gale's is made from the best quality of white-oak timber, carefully selected with reference to the use intended. The Beam is placed in the center of its work, thus securing a center draft under all circumstances. It is secured to the Plow by two bolts; one through the slotted standard head in the center of the beam, and the other through the handle brace at its rear end.

New Style Handles and Beams for Wood Beam Plows.

We desire to call attention to our style of attaching Handles and Beams, entirely different from any other in use, and one to be commended for their ease in adjustment. The Handles, especially, because they can be raised in a minute's time to suit the height of either man or boy.

PATENT JOINTER.

We wish to call the attention to our Patent Jointer. The office of this attachment is to turn off from the edge of the furrow a narrow slice of the surface and with it the grass, weeds, stubble or manure thereon, so that when the furrow is inverted the lap is entirely of mellow earth with the trash in the bottom of the furrow and completely covered. It adds but little more to the draft than when a sharp steel coulter is used, and the seed bed can be prepared with about half the cost. It is an implement which, after once using, is considered indispensable, and is almost universally used in many localities. Our patent method of attaching to the standard, instead of the beam of the Plow, has advantages which are at once important and obvious. It only requires adjusting to the proper depth, which is done by means of slots, and requires no "toggling" to make it cut the right width, and it is not affected by adjusting the beam for two or three horses. It is not liable to clog, there being a free passage between it and the beam, for large obstructions to pass. In turning under coarse clover, manure, etc., it has proved itself far superior to all others. With the Jointer properly adjusted, and cutting about one and a half inches in depth, its utility is seen at once, and with it the Plow is very much less liable to clog than with any other attachment.

The Wheel Rig Attachment.

The Wheel Rig for Wood Beam Plows is an attachment that the Wheel runs directly under the beam, and may be adjusted so as to track with the Plow whether the beam is set for two or three horses, simply by moving the axle backward or forward in a slot in the lower part of the shackle. The axle and bearing of the wheels are chilled iron and protected against grit by a cap over each end.

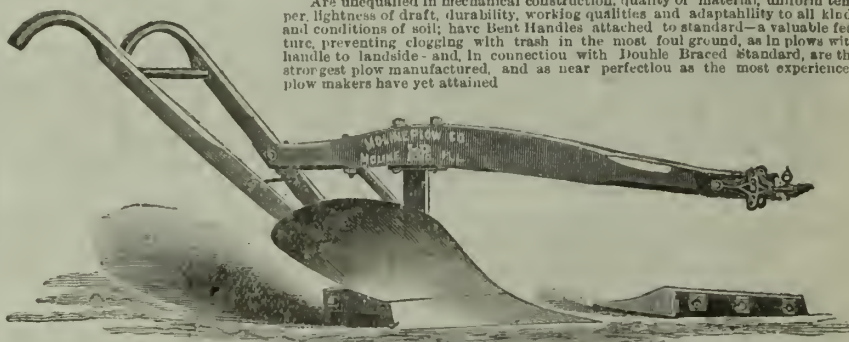
THE COULTER OR SOD KNIFE ATTACHMENT.

The Coulter or Sod Knife, is made of solid roll steel from the knee downward, and is firmly attached (by a patent device) to the standard of the Plow, a method in every way superior to the old one of attaching to the beam, and especially so in the case of adjustable beam Plows, which change the position of the coulter with every adjustment.

Prices of the Gale Chilled Plow.

The No. 15 is a Right-hand Wood Beam Plow, and is for three horses. The Plow was made especially for heavy work, and in splendid shape turns a furrow 8 inches in depth, and 17 inches wide. Weight 115 pounds. Price, \$17 50
The No. 17 is a Right-hand Wood Beam Plow, turns a furrow five inches deep and 12 inches wide. This Plow is commended to Nurserymen and for small farm and garden purposes. Weight, 70 pounds. Price, \$14 50
The No. 18 is a Right-hand Wood Beam Plow, and is for two or three horses. It has never disappointed its many admirers. It turns a furrow 7 inches deep by 15 inches wide. We feel safe in asserting that no Plow in the United States has had so popular and extensive a run, and is as favorably known as a "General Purpose Plow." Weight, 130 pounds. Price, \$15 50
The No. 22 is a Right-hand Wood Beam 2 or 3 horse plow. It is one size larger than the No. 18, is double braced, and is the choice Plow for loose and gravelly soil. Weight, 125 pounds. Price, \$16 50
With Patent Jointer, \$3 50 extra; with Coulter or Sod Knife, \$2 50 extra; with Wheels Complete for Wood Beam, \$1 75 extra.

Star Moline Plows.



No. 6 Wood Beam Slip Share Star Moline Plow.

The Mold Boards are models in shape for turning a smooth furrow, covering completely, cornstalks, weeds, or other vegetation. They are extra hardened throughout, and, therefore, will scour in the most difficult soil and wear longer than any other Plow.

PRICES, WEIGHT, ETC.—No. 3, weight, 40 pounds, cuts 6 inches, \$9.50; No. 4, weight, 45 pounds, cuts 8 inches, \$9.50; No. 4 1/2, weight, 47 pounds, cuts 9 inches, \$10.00; No. 5, weight, 57 pounds, cuts 10 inches, \$13.00; No. 7 1/2, weight, 70 pounds, cuts 11 inches, \$14.50; No. 7, weight, 75 pounds, cuts 12 inches, \$15.00; No. 6, weight, 82 pounds, cuts 14 inches, \$17.00; No. C 7, Scotch Clipper, weight, 78 pounds, Slip Share, cuts 12 inches, \$17.50.

BAKER & HAMILTON, San Francisco, Cal.

CELEBRATED ROCK ISLAND PLOWS

Manufactured by B. D. Buford & Co., expressly to meet the requirements of the Pacific Coast, in a variety of shapes and materials to suit all soils.

The Browne Improved Three Lever Gang.

Has Every Facility for Handling to Advantage, Combined with Great STRENGTH and LIGHTNESS of Draft.

Making a most desirable Gang. Extra Heavy Hardened Bottoms, or the NEW CHILLED IRON when so desired.



ROCK ISLAND CHILLED PLOW.



The New Third Lever Land Gauge Attachment

Throws the Plows to or from the Land at the will of the driver. The great strength of the beams and long sweep of the Levers allowing the Plows to be set to turn any desired depth.



BROWNE SULKY PLOW

Black Hawk Clipper Single Plows.

Plows in endless variety for all work in any soil. Don't purchase without examining our Large and Complete Assortment of Farming Implements, or Send for Circular and Price Lists,

FRANK BROTHERS, Nos. 319 and 321 Market St., San Francisco, Cal.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, DECEMBER 18, 1880.

Number 25

Preservation of Fodder by Ensilage.— No. 1.

As many of our dairy and stock-growing readers have expressed interest in the system of preserving green fodder by ensilage, and as the system has been put to a practical test in this State with a satisfactory result, we have decided to give a couple of illustrated articles, treating of the system, and its methods and appliances. We have already published articles which set forth the rationale of ensilage, which make it unnecessary to pursue that branch of the subject at length. We need but say that the success of the system lies in preserving green fodder for future feeding, so that it shall retain essentially the same nutritive properties as when in a fresh state, and thus provide animals with refreshing and succulent food at a time when the fields yield only dried herbage or none at all. The advantage of such succulent food in the production of milk will be generally recognized, and the profit of maintaining a flow thereof when it is usually reduced by the dry feed, is the pecuniary point to gain in the process.

We lately received from the publishers a copy of a valuable pamphlet, entitled "Ensilage of Green Crops," from the French of Auguste Goffart, with the latest facts connected with this system, by J. B. Brown; published by the New York Plow Co., 55 Beekman St., New York. This little publication contains so much practical information concerning the steps by which the system of ensilage was brought to its present perfection, and the modifications of the methods introduced by American experimenters, that we can recommend its perusal to all who are interested in the subject. We are indebted to the courtesy of the author and the publishers for the privilege of reproducing the engravings in the pamphlet. At this time we shall allude especially to the splendid silos of the inventor of the system, M. Goffart, and to the simpler arrangements devised in this country. At another time we shall show some of the tools used in the preparation of the fodder for storage.

First, then, a few words about the silos shown in the engraving. The rectangular building upon the left is the stable. In the center of the engraving are the silos, elliptical in form, with perpendicular walls as smooth as possible inside. The silos are about 18 ft. high and wide. There are three of these oval silos, so built that two inside walls answer for the three apartments. Concerning the size and form of silos, Mr. Goffart says: "The form of the silo exercises a great influence upon the results. It should avoid all angles, and should offer the least possible resistance to the packing down of the ensilage. The elliptic silo with vertical walls is the best form both for use and for durability. It is important to have them as large as possible compatible with the conditions of easy and economical use. The preservation of the ensilage in small silos is always less perfect than in large ones. No matter how much care is used and how much weight is applied, I have always found the portion which is farthest from the walls to be the best preserved, and that close to the walls there is always some alteration, not serious, but which is it important to reduce as much as possible.

Small receptacles offer proportionally much more surface for contact."

Into the silo is placed the fodder, cut small by a machine which we shall show in our next article. The silo is filled to the top, spread evenly, and then the covering of closely fitting planks is put on. The planks are put on crosswise of the silo, so that when it is desired to remove the fodder, the planks may be lifted one by one. Upon the planks is piled heavy weights, as rocks, or sacks filled with soil, the weight of which gives the pressure to compact the fodder, sinking as the bulk beneath shrinks and settles. The small engraving shows the section of one of M. Goffart's silos, the man at work cutting the

and has now a capacity for 1,000 tons of ensilage. "The earth silo has been more extensively used by Mr. Morris than by anyone else in this country. His soil in Maryland consists of clay for a foot or two, and a kind of rotten rock beneath. He uses oxen and scraper, and makes a trench or pit 5½ ft. deep, 7½ ft. wide on bottom, and 11 ft. wide on top, and any length desired. A width of 11 ft. on top prevents danger of arching. At this slope the sides remain firm, and he does not plaster the face. The surface water is drained from it. In filling it the sides are lined with straw standing, so that the ensilage will slip down, the bottom floored with plank, the top rounded up and covered with a thin

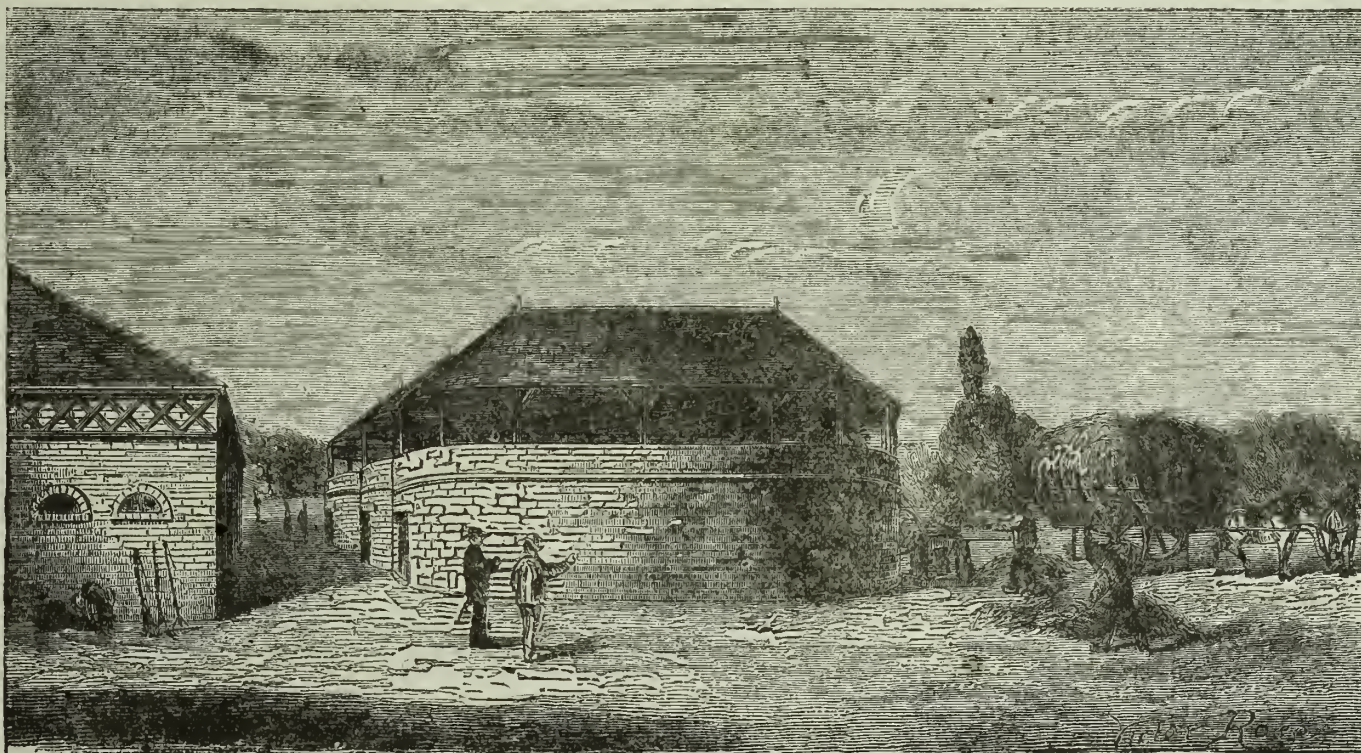
(or longer) and 14 ft. deep, which would hold 72 tons, or sufficient for 10 cows 6 months with full rations, the concrete walls should be 14 inches thick at the bottom and 10 inches thick at the top of the side walls, with the level on the outside of the wall, and the end walls 12 inches thick top and bottom, the inside being perpendicular and smooth, so that the plank covering may settle with the ensilage. The concrete wall is stronger than an ordinary stone wall, and for this short silo, 14 inches at bottom is thick enough. It is not best to go any deeper in the earth than can be well drained, and a trench should be cut on the outside of the wall, 6 to 10 inches deep, all around, to carry off all water that may reach this depth."

In this connection we may introduce an item of California experience with ensilage, which we have just received in a letter from John W. Green, of Hollister, on whose Spring Brook farm the first California silo was built, and the opening of which was described in our issue of Nov. 27. Mr. Green writes as follows: "I will say for the good of those that may feel interested in the process of ensilage, that I deem it a complete success, as far as curing the fodder is concerned. It is eaten with the greatest relish by horses, mules, cows, calves and hogs, and I am feeding 10 head of four-year-old steers. They eat 60 lbs. per day, and what wheat straw they want. They are doing finely. My corn was getting quite old before I got the silo finished, so there is considerable corn to

be seen through the ensilage. Ensilage is cut in one-inch cuts; it is fine enough for all purposes, but at the same time the ensilage would be better, I think, the finer it is cut, as it would pack closer. I think so much of the process that I will build another silo for use the coming season, and should be glad to hear of others doing likewise."

NOMENCLATURE OF FOREIGN VINES.—We begin this week the publication of a work which we trust will be of much value to the grape growers of the State. Its character is quite fully described in the introductory notes which appear in the "Vineyard" department of this issue. There have been many vines brought to this State under many different names, and in some cases, but a part of the name or no name at all remains with the present growers. Giving quite a complete list of the varieties, with a description of their leading characteristics and the many synonyms which pertain to the same variety, will enable many to identify their unnamed or wrongly named fruit. The work will be pursued from time to time in our columns, and the whole will be collected and published in pamphlet form, so that it will be better for future reference. The work is being especially prepared for the RURAL PRESS by Rev. Dr. Bleasdale, Sec'y of the Viticultural Commission, and is copyrighted for the protection of the author and publishers. Our readers will therefore have the first benefit of the work.

GRAPE MILDEW IN ITALY.—An Italian entomologist declares that American mildew is more destructive to vines than the phylloxera, and that it has spread very considerably in Italy.

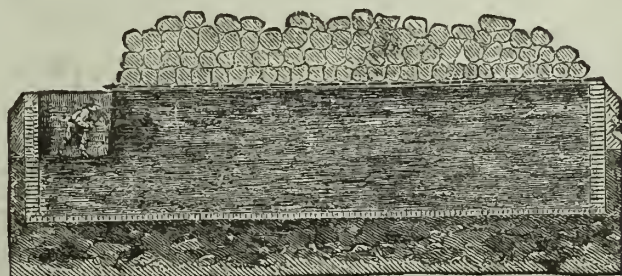


THE SILOS OF M. AUGUSTE GOFFART, BURTIN, FRANCE, THE INVENTOR OF THE SYSTEM OF ENSILAGE.

ensilage for removal, the planks and weights which form the cover.

It will be observed that ensilage, as practiced by M. Goffart, calls for considerable outlay for the building of masonry silos. He finds that the capital required therefor is well invested,

layer of long straw, the thinner the better; above that a sheet of tarred roofing felt, and above that the earth is piled on 2 ft. deep. The cut stalks are pounded in and rolled with a heavy roller frequently at first. Vigilance is the price of safety with an earth silo, for the



A filled Silo being emptied by vertical slicing.

and he no longer builds the earthen pits and temporary arrangements which he first employed. He finds that the fodder pays him well, even counting in the cost of the masonry, roofing, etc. In this country, the introduction of ensilaging has aroused American ingenuity, and several styles of durable silos have been devised, at much less cost than the French structures. Mr. Brown, in his pamphlet before us, gives descriptions of several of these American silos, and we shall outline them for the information of those thinking of applying the system.

Mr. Francis Morris, of Oakland Manor, Md., built up three brick silos inside a stone barn. The silos were about 10 ft. deep, 4 ft. wide, and 24 ft. long. Since the success with these small silos, he has built large earth silos out of doors,

fodder is more liable to be spoiled by the incoming of air or surface water.

"Where the land is of such a nature that deep silos cannot be dug in it and made dry with economy, the next best thing is a concrete silo. The first silo of this kind built in the United States is that of Dr. J. M. Bailey, at Billerica, Mass. He says: 'My silos, 40 ft. long, each 12 ft. wide and 16 ft. deep, capacity about 800,000 lbs., cost me \$500, or about \$1.25 per ton of capacity; larger ones would cost less.'"

E. W. Stewart, some time since, gave full directions in the *Country Gentleman* for building concrete silos, which are reproduced in Mr. Brown's pamphlet, and will be serviceable to anyone who wishes to construct a concrete silo. Of the size of walls, etc., of such a structure, Mr. Stewart says: "For a silo 12 ft. by 20 ft.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Eds.

A Trip Down the Coast.—No. 2.

EDITORS PRESS:—Before leaving San Francisco my friends had painted for me a picture of San Diego, so desolate that I felt certain the reality could not be worse. The only trees in the place they said, were two palm trees three miles out of it; the only crop, cactus; the only soil, dust, and the only water 40 ft. (more or less) under ground. The last allegation is true, except when it rains, as it did to-day; but the others must be taken *cum grano salis*. The trees planted by the early settlers (I don't mean the padres, but the Americans who have gallantly stuck to the place through thick and thin) have now grown into trees sufficiently large to overtop the houses and give the place quite a pleasant aspect when viewed from the bay. I need not say what trees they are. They are the same your Californian plants everywhere he settles; the same that monotonously fringe the flat avenues of Oakland, and wave among the sand dunes and behind the wind-guards of San Francisco. O blue gum, pepper and Monterey cypress! cannot a man escape from you even in this remote angle of this large State?

San Diego looms large upon the maps of the dealers in real estate. There is Newtown, Middletown and Oldtown; there is Roseville on the promontory, at the northern end of the bay; there is a town laid out upon the peninsula of San Diego, between the bay and the ocean, and there is National City. The good old saying about a "city of magnificent distances" is in the mouth of everyone. But the railway will change much, if not all, of this. So hope the natives, and so, apparently, thinks the railroad company itself. The railroads that on former occasions were talking of coming to San Diego, never bought a yard of land, and never did anything else beyond grading a few miles of track. The present one has acted quite differently. It has bought the Bank of San Diego building; it has bought large tracts of land within the boundaries of San Diego City, and it has bought five-sixths of the National ranch, some 11,000 acres. It has entered into a contract with the citizens of San Diego to connect their city with the railway systems of the Eastern States, and in return for this the city of San Diego will give to it large tracts of land within its limits, so that altogether, upon the fulfillment of the contract, the railway will own from 9,000 to 10,000 acres within those limits.

The terminus and works will be at National City; the principal freight and passenger station at a point immediately to the east of San Diego, and thence the railway, passing by Middle and Old Towns, will proceed to San Bernardino. A considerable tract, about 450 acres, immediately east of the present wharf is among the land given by the city on the conditions above mentioned, and it is upon this spot that the depot and wharf of the railway company will be built.

This is the best location upon the bay for the transference of freight, for here a depth of 25 ft. of water can be reached by a pier from 800 to 1,200 ft. long. The present wharf of San Diego is 2,200 ft. long, with its terminus in 20 ft. of water. Below the site selected the water shoals rapidly, and the channel becomes narrower, so that at National City, some three or four miles from San Diego, a pier 2,500 ft. long, would be needed to reach 19 ft. of water at a spot where the channel is so narrow that great expense would have to be incurred to dredge a basin sufficiently wide for a vessel to turn in. For these reasons, the people of San Diego have little fear that their interests will be sacrificed for those of National City, notwithstanding the large interests acquired at the latter place by the railroad through the purchase of the Kimball ranch. The railroad, although incorporated under the new Constitution of California, under the name of the California Southern, and with enough of its shares owned by Californians to comply with the law, is really controlled by the same men who own and control the Atlantic and Pacific, which it is under contract to meet, and the Atchison, Topeka and Santa Fe, the construction of which has already proved so signal a success. It is on account of this that the San Diego people feel now so confident of a prosperous near future. The Boston men who control these railways are too rich and too sure of success to be bought off by the reigning monopoly of California. Perhaps the new monopoly may be no better than the old, but the Eastern people who come here think better of, and hope for better treatment from the Bostonian grandees than from the Californian, and at any rate competition will reduce fares and freights.

The national ranch has been purchased with the view of carrying out a vast colonization scheme. The whole of the large tract is to be cut up into small parcels and sold to settlers, who are to be brought from the Eastern States on favorable terms. The whole of the ranch is what is known as *mesa*; that is, it is tolerably flat and moderately elevated land forming part of the large table or terrace on which San Diego is situated. These lands have hitherto been left uncultivated, except in places where streams that have existed, or that in winter still exist, have scooped out shallow valleys, sheltered by

the higher mesa from the winds, and in some cases having a deep alluvial soil. It is claimed, however, by many, that the mesa will bear all that the valleys will, and that the frost (for occasionally there are slight frosts even here) touch the valleys when they miss the higher mesa. That wells must be dug deeper to procure water is admitted on all hands; but the idea is to procure water for the irrigation of the colony from the Sweetwater river, which runs (when it runs) some 10 miles below San Diego. I say "when it runs" because, except during the winter and spring, the rivers of this section of California do not run, but become dry beds of sand and gravel. But there is water underneath. The water supply of San Diego is procured from the bed of the San Diego river, and in a similar manner it is proposed to utilize the hidden waters of the Sweetwater.

When the railroad has brought San Diego into connection with the Eastern States, it cannot long remain the small and stagnating place that it has been hitherto. With a hay 11 miles in length, the narrowness of the entrance of which keeps the channel scoured, so that there are always from 21 to 23 ft. of water on the bar at low tide, it will secure a share in the commerce of the Pacific, even were it located north instead of south of San Francisco. Its more southern position brings it nearer by 450 miles to all the ports of South America and Mexico, as well as to whatever canals or ship railroads may be made between the oceans across any part of Central America. To New Zealand and Australia it will be nearer than San Francisco. Now, seated in loneliness upon her bay, the city of San Diego sees this commerce pass her by, for she is unconnected with any other city, is on the road to nowhere, and is not, in herself, market sufficient to turn any portion of it from its course to the commercial metropolis of the State. But with direct connection with the interior and the East, a portion of this trade will fall to her share, while by the new facilities offered for travel and freight, the goods and passengers carried will increase, not only to the benefit of San Diego, but probably to that of San Francisco also. Enthusiasts prophesy a population of 50,000 or 60,000 here within five years, but minds of more moderate mold are content to hope for 15,000 or 20,000, and from present indications there appears little reasonable doubt that the expectations of the latter will be realized. Such a growth would not be excessive, nor would such a population be more than the resources of a county almost as large as the State of Massachusetts could find business for in its capital.

W. L. LOCKINGTON.

San Diego, Nov. 25, 1880.

Yolo County Notes.

EDITORS PRESS:—From Sacramento city you can cross over Sacramento river by free bridge in vehicle at any time when the draw is not open for the passage of boats or the flag man does not signal for all to stop until the railroad train shall pass over. When across the draw bridge you are out of Sacramento county and enter Yolo, one of the most favored of our wheat-growing counties. But, just at this entering of the county, I will not enumerate its multiplied advantages and growing prosperities. From its first settlement it has had its slow but steady advance through drouths and floods that would allow only the fittest to survive. These persevering ones have carved out from what seemed often very hard luck, not only comfortable, but very luxurious homes.

As a county, Yolo stands among the first in reference to good central location, climate and soil. Her roads, fences and general farm improvements are creditable, while she claims some superiority in her educational facilities. You enter here Washington—now a small village of 300 inhabitants—once a supposed rival of the capital city. But capital seemed early inclined to concentrate and make one city and leave only a small village here for the name of our country's father. Nearly all the males here are daily employed in the railroad shops of the Central Pacific in Sacramento. A visitor, ignorant of this fact, might err in supposing the male population had all been carried off by high water or low whisky.

Without reference to exact figures I would estimate that over 75 miles of the county's boundary is the turbid waters of the Sacramento river, which furnishes cheap transportation for freighting. A few miles below the village of Washington is the large German chicory farm and steam factory to prepare the roots for the coffee dealers, to whom they sell 300 to 400 bbl. at a time. Prepared coffee would be quite deficient in color and flavor were this simple and healthful root left out. Chicory grows similar to carrots or parsnips, and requires deep, rich soil, such as abounds along the river. When gathered it is conveyed to the steam factory, where it is thoroughly cleansed, sliced, cured, roasted, ground and barreled for shipment. Experiments, such as feeding it to domestic animals, amply prove its nutritious and healthful qualities. It is not the chicory that damages the prepared coffee, but the attempts to counterfeited it with something cheaper. This factory now has a rival established on the San Joaquin. California can furnish an unlimited amount for exportation if able to compete with European cheap labor.

California Rivers.

The noticeable feature of California rivers that have overflowed their banks is the fact that the sedimentary deposits have left the margin near the rivers much higher than the tule lands lying back of them. Consequently the settlements and tillable lands are near the rivers. Passing upward for 10 miles the residents are quite thick, some of them having erected large and neat residences from the profits of alfalfa hay, dairies, melon fields, table vegetables, or wood selling. Some localities suffer considerably from chills and fever, as well as always be found on rich sedimentary lands.

If entirely secure from damage by flood and seepage water, the richness of the soil would ensure fortunes to the owners in a few years. Great energy on the part of a few in one locality in making their levee high and strong, may secure them from any fear of a break there, yet, by the slackness of a neighbor 10 miles above them, the flood may sweep down and drown out their best prospects of a big crop. Every year they feel more deeply impressed with the fact that, in a large sense, "I am my brother's keeper," or that each individual is obliged to hold inseparable interest in the community welfare. The last April floods, breaking through the levee, filled the tule lands and drowned out what would have been excellent crops. One dairyman thus disappointed in his supply of hay and grain, I found hauling straw from near Woodland five or six miles to partially supply his loss.

The industry, courage, pluck, persistent perseverance, or whatever will express their determination to make a living through flood or drouth is not only praiseworthy but sublime. The State is now aiming to help such in this great struggle; and never yet embarked in a more needed or worthy enterprise. Perhaps by the time the next Legislature meets the great engineering problems in connection with debris will be so far solved as to organize some practical reclamation system.

After passing about 10 miles up on the levee road the residents (thence on to Knight's Landing 20 miles) are scarce, and the few are not generally owners but renters or keepers in charge of large tracts of tule lands held by absentees. Hon. David Herscher has, near Ward's Landing, 12,000 to 15,000 acres, used mostly as a stock range. I saw there about 15 acres of Egyptian corn which looked well, though planted the last of June and first of July. Last year some, planted late where another crop was drowned out, yielded three tons per acre and was easily marketed in Sacramento.

A portion of the large Wilcoxon dairy and stock ranch opposite Fremont has been sold to those who have labored thereon for years as hired hands.

Within six miles of Knight's Landing the live family residences are again found, and some of them very nice homes, save a slight uncertainty as to what may happen when an extra flood season occurs. Even the old town of Knight's Landing, with its substantial brick buildings, railroad and boat warehouses, shares in this same feeling of insecurity, and feels the urgent need of State action in reclamation. The width of the tule is about 8 to 12 miles before the higher and arable lands are reached. Great possibilities for the future are in these unreclaimed lands.

The ride in a sulky from Sacramento city along the river-bank road, on the Yolo side, to Knight's Landing is not entirely devoid of interest. There are all the curves and hends necessary for a track in a first-class park, and all the profusion of shrubs, bushes, vines and trees that, in some places, so completely arch over the track as to require shrewd dodging to save eyes and hat. Occasionally the huge sycamore asserts, in a very awkward shape, his superiority over all his neighboring trees. The oaks furnish wood for the city, a new growth soon covering the ground.

This portion of Yolo county is seldom mentioned, as it is so isolated from the main body of the county. I hope to say something at a future date of the main portion. B. W. C.

Knight's Landing, December 2, 1880.

ARBORICULTURE.

A Plea for the Acacia Family.

EDITORS PRESS:—The remarks of Mr. Jessup before the Horticultural Society at its last meeting, are among many evidences that one of the most ornamental and useful of our exotic plant families has fallen into bad company, and consequent disgrace. Lest some one should needlessly carry out the suggestion to root out the acacias, as the San Rafaelites have done, I beg to be heard in their defense.

Two or three years ago an amateur culturist in southern California was complaining of the unfruitfulness of some large bauanias which had been growing for some years untouched by frost. I suggested that he might not have secured bearing kinds, that certain varieties or species of banana were cultivated for their fiber, and that it was as useless to look for fruit upon such as to seek roasting ears upon stalks of broom corn. And there are acacias for almost every conceivable human use, South American species which would prove exceedingly useful in the drier portions of the San Joaquin valley for fences, posts, stakes and fuel; gum-bearing acacias; the seeds of some species dried and pounded

are an excellent substitute for chocolate, others produce wood equal to the best oak. There is scarcely a natural order of trees except the palms more widely useful, and none more easy of adaptation to our climatic conditions.

I suppose the criticism referred to, points particularly to two or three Australian species, which were quite the fashion a few years ago as ornamental trees.

Simultaneously with the earlier attempts at home making upon our coast, the botanical wealth of Australia was made known through the indefatigable labors of the now veteran botanist, Prof. Ferdinand Mueller. Seeds of the eucalyptus or gum trees, of the acacias or wattle trees, of the grevillias or she oaks, the casuarinas or beef woods were in great request, and our pioneer nurserymen lost no time in their cultivation.

In 1869, when I first commenced the study of this family, the nursery of Mr. S. Nolan, on Telegraph avenue, Oakland, contained some 30 species of Australian acacias, a still greater number of eucalypti, several kinds of hakea, metrosideros, malaleuca, banksia, and was the favorite resort of all our visitors from abroad. The avenues leading to the conservatories on Mr. Nolan's grounds were gorgeous in early spring from the large trees of *A. mollissima* and *A. cultroformis*, the leaves of the latter are more beautiful than most flowers, and the tree seems to have been literally showered with its fragrant balls of gold. It was delightful to follow the acacia procession through the months of summer, every week bringing forth a new page of beauty; to observe the willowy grace of *A. linearis*, the odd looking *imbricata*, and especially interesting to notice how nicely the specific names were fitted to point out the most obvious characteristic of *hematophylla*, *iteaphylla*, *melanoxydon*, *reclinata*, etc., etc. Duplicates of all of Mr. Nolan's collection, then the most extensive in the United States, were generously donated by him to the University.

Mr. Brayton was also a great admirer and enthusiastic cultivator of Australian plants, of which there were many fine specimens on the grounds of the Brayton school, and also upon the lawns of Gen. Kirkham and others. In ten years they have almost totally disappeared, because planted upon lawns, or as belts in confined situations they have succumbed to constant irrigation, and the mutilation of their tops and limbs. An acacia tree subjected to blue grass treatment, necessarily becomes diseased, the roots are filled with mycelium of fungus, while the top looks fresh and flourishing; the disease spreads upward, and the first strong wind destroys them.

One of the most beautiful acacia trees in California, more than a foot in diameter, had been growing for twelve years in Mr. Hayward's grounds, in San Mateo, when it suddenly dropped its leaves and died. I saw it cut down. The entire stem was soft and leathery, like the fungus which we used to get from old logs and call "punk," in our childhood.

Now let us trace the family history of these acacias, and especially of the mimosa branch of it, and see to what unnatural conditions we have subjected them. They, with the *myrtaceae*, form a large part of the Australian scrub, and require no water, nor should they have too much cultivation. Their roots run deep, and if properly set in well dug and drained holes, the after cultivation may be confined to keeping down the weeds. Thus treated, the wood will be hard, the cells well compacted, and the young trees making slower growth will furnish the poorest pasturage for the scale bug or other parasites.

The seeds of acacias are all very hard, and require hot water treatment to make them germinate. The clean, jet-black, polished shell is insect proof, and the young plants are among the cleanest and most vigorous. Pot them until the roots are like a corkscrew, then deluge with cold water two or three times a week, and you will fill their veins with the impoverished sap which seems to invite the scale. The oleander, which in its native state covers the "scarred disgrace of ruin," growing best on old walls and heaps of rubbish in the Orient, here under copious irrigation, growing in shade, will subside more scales to the square inch than any plant I know. The olives in the city of Los Angeles furnish frequent illustrations of the fixed relation between excessive irrigation and the development of parasites. A *Grevillia robusta* which I saw in the grounds of Mr. Shaffer was so covered with the scales that he cut and burned it. I had bought a very young grevillia in his nursery; it was perfectly clean, and is now 25 ft. high; my oleanders are equally untouched. I could not find any scales, though I am growing many of their favorite food plants, when Prof. Comstock visited us. I consider it a settled fact that healthy trees will not furnish the conditions favorable to parasitic growths. Many of the doomed acacias are desirable trees for small places, from their constant flowering, and neat habit of growth. Such is *A. retinodes*, examined by Dr. H. Behr in 1846, and found to be very rich in tanner's bark and in gum. The wood, gum and tannic acid from *A. cebil*, a La Plata species, attracted much attention in the Philadelphia exposition.

The Botanical Dictionary of Paxton, enumerates 400 species of which I have only 10 growing. If I had room I would have a hundred, choosing the most valuable for tannin and timber. Some natives of dry subtemperate regions will furnish good fuel three years from seed. I have not touched upon their value as *incense* bearers. My dwarf species, *A. farnesiana*,

yields a store of perfume balls every month in the year; the blossoms are in demand for the manufacture of many fashionable accessories of the toilet. Scale bugs or no, I could not spare those bright gold tassels from among the wreaths of spirea and hawthorn, and of all yellow flowering trees none are so cheerful, so graceful in foliage or so abundant in bloom.

JEANNE C. CARR.

Pasadena, Dec. 5, 1880.

THE DAIRY.

Breeding of Dairy Cattle.

EDITORS PRESS:—That the best breed of cattle for farmers is that which will give the best returns all around in proportion to the capital invested, the food consumed and the labor employed upon the same in bringing about the desired results, no one will deny. Few farmers are so situated that they can profitably devote their cattle to the production of beef alone, therefore it is to the possession of some breed which naturally yields large quantities of milk and butter while used in the dairy, and afterwards can be disposed of profitably to the butcher, that the general farmer or dairyman turns a longing eye.

How shall we get possession of such a breed without going beyond the limits of our capital? is a question often asked. I have repeatedly stated my views on this subject, the principle of which depends upon proper selection of sires and dams, not exactly as some enthusiasts do that one occasionally hears of, who, one would think, are desirous of raising up some new breed of cattle to astonish the world, and as they seem to think, for the benefit of posterity, by crossing together two pure breeds, generally the Short Horn and the Jersey together, spoiling both as a pure breed of cattle. Such experimenters are not often heard from after the results of the first cross have been made known. If such breeders continue breeding for any length of time they are breeders of no particular breed of cattle, but of a class that are hardly entitled to the distinguishing type of "graded cattle" but rather of a class in which the bad qualities of both breeds are more likely to blend together and show upon the surface than are the combined good qualities of the two breeds, more especially if the breeding is followed up by the use of bulls of the newly formed mixture.

The skillful breeder of any pure breed, who has the requisite patience combined with his skill—or science, some might call it—to persevere long enough, after he has made up his mind what his object in breeding shall be, can generally gain the end he has in view by producing a type of cattle that can be relied on, with almost a certainty of reproducing their own particular type through future generations; but the man who mixes up breeds with the idea of forming some other breed, more perfect in all their forms and characteristics than any we have at present, will be apt to find that it requires more time than is generally allotted to one human being to accomplish the end in view.

If one man thinks Jerseys the best for his purpose, or another Devons or Herefords, and another Short Horns, by all means let each choose his favorite breed, and stick to it; still, the molding of the style and usefulness of the cattle bred will depend as much on the breeder as on the breed. But by far the largest part of the good cattle bred for practical purposes will be grades, of necessity, for generations to come, for the very reason that the whole of this country alone could not be stocked with pure-bred cattle to the full extent of its keeping capacity, for, it may be hundreds of years to come, at least, according to the present ruling of our Herd Books, which is, "that all entries shall trace to imported cattle eligible for entry in the English Herd Book."

But it is quite well known among practical men that four or five crosses of Short Horn bulls upon a good style of a cow will give so much of the Short Horn character and usefulness to the descendants as to place them on an equality with the pure bred ones for the practical purposes of producing milk and beef—the mainstay of "rent-paying" cattle.

It is but a short time, and that not for the first time (neither will this, I hope, be the last), since I gave my views on the subject of raising up a good herd of cattle by selecting the best of common cows and the best of Short Horn bulls. I say the Short Horn, because it is well known that the Short Horn, judiciously crossed upon any ordinary farm cattle, makes a great improvement in both milking and growing qualities. To show that Short Horns are not behind any other breed as dairy cattle, I quote the following from reports on the fifth annual show of the British Dairy Farmers' Association, held at Islington (London), England, in the last week of October last. The *Mark Lane Express* says, in regard to Short Horn cows (eligible for Herd Book):

The judges, in making their awards, appear to have kept in view the main object of the show, and no prizes were given to animals destitute of dairy merit. Several entries were quite unsuitable for a dairy show, and the class, as a whole, was scarcely calculated to increase the reputation of the pure-bred Short Horn as a milking race.

The next class, Short Horns shown in pairs (not eligible for Herd Book), or what we in this country call grades, were good:

There were two well-matched pairs of roans, with capital udders, which were nearly equal in merit, and before deciding between them the judges had them milked, when each pair gave about 23 quarts. Those placed first had rather the best-shaped udders and teats. Mr. Stafford's pair of white cows were placed third. One of them, "Maiden," was shown singly last year, and was then placed first. She has a fine top and a very nice character, with a good-shaped udder; but her companion was not nearly as good a dairy cow.

Passing on to the report on Holstein cows, we find the following:

Class 8, for Dutch or Holstein cows, contained 18 entries, and was, probably, the best collection of these useful dairy cattle, as yet exhibited in England; they were carefully examined by many dairymen, and the general opinion was much in their favor as useful dairy cattle, some of them being also by no means bad beef animals. They are large cattle and are, probably, large consumers. They seem to possess strong constitutions, and are credited with giving a large quantity of milk, rather poor in quality. It will be remembered at the last dairy show the prize for the largest quantity of milk at two milkings was given to a Dutch cow, but her milk, when afterwards tested by Dr. Voelcker, gave only 2½% of fat and 8½% of solids, a quality so low that it is below the standard of pure milk. The quality will, however, be further tested by analysis.

The *Agricultural Gazette* has the following on the milking competition at the dairy show:

The results were arrived at on Friday, the trials being for quantity yielded per cow per day of 24 hours, with a comparison of the quality of the milk as determined by Dr. Voelcker's analysis. The first prize Short Horn cow, "Daisy," of the West London Dairy Society, gave, in two milkings in 24 hours, 43½ lbs. weight of milk of a very high quality, which latter merit carried the first prize. Mr. George Taylor's Short Horn cow, "Beauty," yielded a greater quantity, namely, 50½ lbs. of milk, but of a quality somewhat below that of the other, thus lowering her to the second place. The first prize Dutch cow gave 40½ lbs. of milk of good quality; and the second prize Dutch cow, 43½ lbs. of a lower quality. The first prize Ayrshire gave 25½ lbs. of milk, and the best Jersey, 30½ lbs. of milk. The rich quality of the Jerseys and Guernseys was so superior as to require a second analysis before the comparative merits of the competing cows could be determined.

By the above extracts, which are all we find on the quantity and quality of the milk taken from cows of the several breeds exhibited, it will be seen that the Short Horn cows gave the most milk; that from the prize cow being rated very high in quality. The Dutch cows gave about 8 lbs. less each for the 24 hours, and of a lower quality.

It would have been interesting to have had the 30½ lbs. of milk from the best Jersey and the 48½ lbs. weight given by the best Short Horn tried in the churn, for comparison of quantity of butter yielded by each cow's milk—just to convince the world that, for a combination of all the good qualities to be found in cattle, the Short Horn is still ahead.

ROBERT ASHBURNER.

Baden Station, San Mateo Co., Nov. 11, 1880.

THE VINEYARD.

Catalogue of European Vines, with Synonyms and Brief Descriptions.

[COPYRIGHTED.]

The following catalogue of nearly 600 varieties of the most useful and profitable European vines, with about 2,000 different names by which they are known in different countries, and often in different parts of the same country, will supply a want felt in every wine-growing country of the world. It was originally compiled by Mr. Heyne, but was never published as a book. It is now edited by Rev. Dr. Bleasdale, Secretary of the Cal. State Viticultural Commission, and will be issued hereafter in book form, with a continuation by himself; especially as regards those European vines which have been acclimatized in Australia during the last fifty years, and their adaptation to the various vine-zones of the Pacific coast:

Note.

The work now offered to the viticulturists of California was compiled a few years ago, as far as the first 538 varieties and their 1,764 synonyms, by Mr. E. B. Heyne, a capable botanist, now residing at Adelaide, South Australia. I have had the pleasure of his acquaintance for many years, and can testify to his painstaking and accuracy as an economic botanist. His labors in arranging the following catalogue of vines and their synonyms forms a valuable contribution to our viticultural knowledge.

I have continued the lists as far as I could by selecting out of Portuguese works on vineyards, especially the Reports of the Royal Commission, "*Sobre os Processos de Vinificação*," Lisbon, 1867-8, in doing which I have selected only the most esteemed varieties used for wine in the best viticultural districts.

From actual knowledge of a number of varieties which have been acclimatized in different parts of Australia, and have proved most profitable, I have made selections suitable for the different climates of the Pacific Coast, and indicated the class of wine to be expected from them.

To facilitate reference, an alphabetically-arranged index of all the names mentioned has been added; the numbers to this refer to the name adopted in the descriptive catalogue under or as the synonym of which, each may be found.

JOHN J. BLEASDALE, D. D., and Secretary of the Board of State Viticultural Commissioners, San Francisco, Cal. November, 1880.

Introduction.

From plants of great and general importance like the vine, which are, and have been, extensively cultivated in so many different parts of the world, there have been produced in the course of time a great many varieties—in many instances so distinct from the present stocks common to all, that only the experienced and scientific observer can trace their relationship. Researches like these, however interesting they may be to the man of science, have nevertheless but little or no importance for the practical cultivator, who has only to deal with the varieties as he finds them, and whose aim must be to make the best use he can of each, for which purpose he will follow, or, perhaps improve upon, the recommendations concerning them as stored up in the writings of the various authors treating on this subject. Unfortunately, however, for the practical vignerons, the nomenclature of the various varieties of vine is so sadly confused that not only the more important ones are often known under a host of different names, but even the same name is occasionally applied in different countries or districts to different varieties. For want of a proper and generally adopted classification, it becomes thus an almost hopeless task for any one, even though possessed of an extensive library, to recognize, under mostly foreign names, a favorite sort, cultivated perhaps for years already in his own vineyard, and renowned for the production of some peculiar wine, or otherwise deserving of attention. It is a well-known fact, that amongst the several causes which exercise more or less influence on the quality of the wine obtained, in whatever country it may be, the proper selection of the grapes producing it ranks first. Soil, climate, or other local conditions, will doubtless change to a certain degree the character of any kind of wine; but the change will never be so great as to totally obliterate the characteristic qualities peculiar to the variety of grape from which it was obtained. Dr. Guyot, an authority of high repute, speaks as follows on his subject: "It is in reality the variety which determines the quality of the wine obtained from any locality. Plant the vineyards of Chateaux Lafitte with Gamays or Gouais, and you will obtain wine of the worst kind; whilst from Carbenet Sauvignon, Pinots, etc., whether they are grown in Madeira, Spain, Algeria, or, we may add, Australia, an excellent wine will always be made, which fairly resembles that obtained from these grapes in Bordeaux or Bourgogne. It certainly will vary more or less, because soil, aspect, climate, season, and method of manufacture and cultivation will exercise a decided influence on the strength, flavor, bouquet, etc., of the liquor." A remark like that just quoted, the correctness of which is fully borne out by authors of equal renown—as Odart, Pellicot, and others—clearly shows that, when forming new plantations, it becomes an object of the greatest importance to make a proper selection of the sorts to be planted. To enable us to do this a knowledge of the different varieties cultivated in the principal vine-growing countries is, however, indispensable, so as to allow of selecting only such as are likely to be suitable for our soil and climate. Our vignerons generally not having had an opportunity to test the value of many of the best wine grapes to be found in France or other wine-growing countries, are, as a matter of course, confused by the nomenclature of the varieties amongst us, many of which, according to the different countries in which they are chiefly cultivated, are known under ten or twenty different names. There being no work in which a complete classification has been made, a task exceedingly difficult where the distinctive marks are but slight, and even to a certain degree depending on local influences, the following list has been compiled from the works of some of the most renowned authors on this subject, amongst which may be mentioned the *Ampelographies* of Count Odart and of Rendu, and the works of Babo, Hogg, and Mackintosh.

Whilst well aware that by actual and careful comparison of the varieties described, which amount to 538 (for which 1,764 synonyms are quoted), their number may probably be yet considerably reduced, and also admitting that in a work of this kind errors may have occurred in joining varieties bearing like names, and resembling each other so far as could be judged from the often scanty descriptions given in different books, it is nevertheless hoped that a catalogue like the following, showing at a glance the name of each variety which is most generally adopted, together with its synonyms, and a short description of its fruit and habit, may be of use to our vignerons, who, when considering the difficulty attending a compilation from works written in three different languages, will probably excuse whatever shortcomings they may find. Still this list may perhaps serve as the ground-work upon which to base future observations on this, to us, all-important subject.

Note.—The country or district in which each name is chiefly used is placed in parenthesis. In a few instances, however, the name of the author who first named the variety is substituted; for instance, amongst French authorities Odart, Rendu, Cazalis, Alut; Babo and Stolz, amongst German writers, and Chiarlone, a Spanish author of great repute. Names, and in some cases also descriptions, of varieties marked "Britain" were obtained from Hogg's *Fruit Manual* and from Mackintosh's *Book of the Garden*.

1. AGRIER (Isère).

Chabrilhon (Isère). Numerous loose bunches, with small, black, olive-shaped berries. Vigorous plant, adapted for clay soils and schists. Highly-colored and spirituous wine.

2. ACUDET BLANC (Tarn and Garonne).

Similar in appearance and taste to Sauvignon, but berries smaller and longer; close, compact bunches. Plant not vigorous. Table and wine grape.

3. ACUDET NOIR.

Variety of above; very fertile. Bunches handsome, well filled with black oblong berries. Wine grape.

4. ALBANA (Sicily).

Plant vigorous, but not fertile. Golden-colored, elongated; very sweet berries. Ripens early. Good strong wine, which keeps long.

5. ALBILLO DE HUELBA (Spain).

Long close bunches, with yellow round berries, of sugary, aromatic taste. Wine grape.

6. ALBOURLAH (Tauria).

Kirmisi Misk Isionn (Tauria). Numerous very handsome bunches, well filled with large, slightly oblong brown berries, flesh cracking, sweet, slightly muscat flavor; leaves large, deeply lobed, sharply toothed on edge, glossy above, naked underneath; stalks and nerves violet; plant vigorous and fertile. Excellent table grape.

7. ALEATICO NERO (Toscana).

Aglianico (Italy). Moscatello Livaticio (Italy).

8. ALEATICO BIANCA (Italy).

Resembles the Black Muscat, but its berries are a little smaller; muscat flavor not so strong; bunches long, close, occasionally loose; berries black, round, a little flattened; leaves sharply-toothed, glossy above, naked below.

9. ALEATICO BIANCA (Italy).

Variety of last, with white berries. Both are excellent wine and table grapes.

10. ALEATICO (Cote d'Or).

Allicots (Cote d'Or). Gihoulot blanc (Cote d'Or).

11. ALVARILHÃO (Portugal).

Blauer Oporto (Germany). Früher Portugieser (Germany). Plant de Portugal (France).

Bunches, close-shouldered; berries, medium-sized, round, black filled with sugary and yet acidulous juice; ripens early. Wine and table grape.

12. ANGOUR (Persia and Armenia).

Several varieties of this grape, most of which are as good for making wine as for the table, are known.

13. ANGOUR ALY DEREKY.

Bunches very large, often eighteen inches long; berries black like plums, stoneless. Table grape.

14. ANGOUR ASI.

Black grape. Good wine.

15. ANGOUR ASKERY.

Berries very small, white, and sweet. Wine grape.

16. ANGOUR ATABECKY.

Excellent white wine grape.

17. ANGOUR CHAHAMY.

Good grape for making red wine.

18. ANGOUR HALLAGUEH.

Very large black bunches and berries.

19. ANGOUR MADERPETCHEE.

Bunches composed of large and small berries. Wine grape.

20. ANGOUR RICH BABA.

Berries very large, elongated, almost cylindrical; without seeds, white; very sweet and pleasant. Table and wine grape.

21. ANGOUR SAMAR KANDY.

Red wine grape, chiefly used for making Persian Shiraz wine.

22. ANGOUR TEBIZZY.

Bunches large; berries long, black, and stoneless. Good table and wine grape.

23. ARAMON (Herauld).

Burchard's Prince (England). Gros Boutellian (Draguignan). Pisscoth (South of France). Pissevin (Hyères). Rébailaire (Haute Garonne). Revallaire (Haute Garonne). Ungni (Uni) noir (Var).

Plant vigorous. Very fertile. Leaves naked on both sides; yellowish green. Bunches with long herbaceous stalks; well filled with large, round, black berries. Good table grape, but inferior for wine-making.

24. ARROJA (Hantes Pyrenées).

One of the best wine grapes of the department, resembling Carbenet. Bunches, however, are closer and longer. Berries black. Leaves not so much lacinated.

25. ASCTATES (Pyrenées).

Wine grape.

(TO BE CONTINUED.)

PATRONS OF HUSBANDRY.

Meeting of the National Grange.

Our report last week gave a part of the second day's proceedings. The balance of the time that day was occupied with statements from the representatives as to the condition of the Order, which we summarize as follows: Colorado—"Hard year for farmers; many left their homes and went into mining; Granges therefore suffered." Delaware—"Good, flourishing condition." Florida—"Circumstances have been against us." Georgia—"In better condition than last year." Illinois—"Received last year more members than for several years." Indiana—"Have had several set-backs." Iowa—"Experienced disasters, but propose to put new life into the work." Kansas—"Believe the condition to be better than a year ago." Kentucky—"Going on." Maine—"Stronger than ever." Maryland—"Standing better than ever before." Massachusetts—"Excellent." Michigan—"No reasons to be discouraged." Mississippi—"Doing much good work." Missouri—"On the up-grade." New Hampshire—"Stronger than ever before." New Jersey—"Now on a foundation that will continue." New York—"Upon a sound and enduring foundation." North Carolina—"Much better condition than a year ago." Ohio—"Some parts of the State doing well; others not." South Carolina—"Some Granges have gone down; others have gone forward." Tennessee—"Not so prosperous as some, but never had so many good, sound Granges before." Texas—"Not prospering." Vermont—"In some parts flourishing; others not." Virginia—"Though not flourishing as might wish, still there is much to be thankful for." West Virginia—"Less falling off than for two or three years." Wisconsin—"Not so strong in numbers, but in interest and confidence have advanced." Pennsylvania—"Progress has not been what it should have been." Oregon—"We have brighter prospects and good hope."

Third Day.

The Grange, says the *Grange Bulletin*, had now fairly got down to work, the "Experience Meeting" had been gone through, committees had been appointed, delegates had all arrived, and during these two days, much of the business of the session was presented under the call of the roll of States for its introduction and reference to the proper committee without debate.

But few requests were made for changes in the Constitution.

Several States asked that something be done, either to revise the present song books or prepare another.

A special committee was appointed to prepare memorial to Congress for a law to prevent the spreading of the cattle disease known as pleuro-pneumonia, now prevailing in some of the Middle and Eastern States.

One afternoon was spent in listening to reports from the representatives of each State as to the action, if any, that had been had in accordance with the report and resolutions adopted at the last session of the National Grange looking to the introduction of the study of the elementary principles of agriculture into the common schools of the rural districts. It was gratifying to find how much progress had been made. Tennessee has taken the lead and under the able advocacy of Bro. T. B. Harwell, the Worthy Master of the State Grange, and a member of the State Senate, and the first to propose this advance step so fully in accordance with the spirit of our Order, the proper legislation has been had, a book prepared, and the study added to those that are by law taught in the schools of the State. Other States had performed active work in the same direction. In a number the question had been agitated and was meeting with favor, and from a few came the report that so far no action had been taken. This subject was again referred to the Committee on Education, of which Bro. Harwell is chairman, and we doubt not his report when presented and printed will be found to contain much that is valuable on this important subject.

On Friday evening the sixth and seventh degrees were conferred. A very large class took the sixth degree, among whom were visiting Patrons from the States of New York, New Jersey, Pennsylvania, Ohio, South Carolina, Virginia, Mississippi and Delaware. Others who had taken the sixth degree at the Canandaigua session last year were advanced to the seventh and highest degree in our Order.

Bro. Thing, as Chairman of the Committee on Good of the Order, presented one report that brought out considerable discussion at times during several sessions, and after recommending and adding the Executive Committee to the Committee to consider the report, it was finally adopted very nearly as originally presented. We present it below as presented in

the Washington papers, the slight modifications will appear in the official copy when printed and sent out in time for the session of the State Granges that meet in December.

Report of Committee on Good of the Order.

Worthy Master and Patrons:—Your committee believe that the welfare of our Order and the necessities of husbandry alike demand that we as an organization of practical farmers step boldly to the front and at once declare ourselves an aggressive association, not in theory merely, but practice as well.

Resolutions, addresses, manifestoes or complaints coming from any body of Patrons from the subordinate to the National Grange, inspire corporations, monopolies, rings or political parties with no feeling of fear or even uneasiness, so long as theories are not reduced to practice; but when we, as an Order numbering some eight or nine hundred thousands of intelligent, thoughtful men and women, and including those dependent upon us representing some three millions of souls, having an active organization in nearly every State, a National organization through which we can reach every member, and a weekly issue of special Grange literature in every State, when such an organization, through its chosen representatives, declares its unalterable purpose to follow up its principles and resolutions with the ballot, wholly regardless of party connections or political leaders, we may be assured that such action will not be disregarded, and that our influence as an Order will not be underrated.

We meet here not only as the representatives of our Order, but also of that great class whose toil feeds the world. The eyes of the farmers of America are upon us. Practical results are expected from this meeting. Shall these expectations be realized? If yes, how? What can we, as legislators of the Order, do for the advancement of the material interests of the farmer? What course can we point out through which he may improve his own circumstances? We may talk as eloquently as we will of the necessity of intellectual and social culture, and moral elevation, and their paramount importance and value, but after all has been said and its truth acknowledged, still the great fact remains that to open the way for progress in these directions, the pecuniary circumstances must be made comfortable. If it be true that "man cannot live by bread alone," it is no less true that he cannot live without the bread. When we contemplate the wonderful agricultural productions of our country, and the vast columns of statistics as furnished by the Census Bureau and Agricultural Department, we must not forget that it is not from these aggregates that the wants of the farmer or his family are to be supplied, but only the few cents of profit arising from the operation. If middlemen in the form of commission men, agents, forwarders, warehouse men, patent-right manipulators and trade politicians, are allowed to rob the farmer of his small margin of profit, then has he indeed become but a hewer of wood and a drawer of water for other men.

In view of these considerations and of the alarming encroachments of corporations and monopolies, of the co-operative combination of capital generally, of the vast and constantly increasing power and influence of idle capital, which is at best but a parasite upon the industry of the people, and in view of the small results which have followed the efforts of this body in the past, your committee believe that the time for more aggressive measures has arrived, and in accordance therewith the following resolutions are respectfully presented:

Resolved, That the National Grange of the Patrons of Husbandry demand that the Commissioner of Agriculture be made the Secretary of Agriculture and a member of the President's Cabinet, with the same salary as secretaries of other departments, and that this department be sustained and encouraged by appropriations commensurate with its importance.

Resolved, That we also demand the enactment of a general railroad law, prohibiting all discrimination in favor of or against any class, locality, or interest in the transportation of passengers or freight; also prohibiting excessive or exorbitant rates.

Resolved, That we demand such revision of the patent laws as shall effectually protect the innocent purchaser or user of a patented article or implement, and make the manufacturer or vendor alone responsible for violation of the law.

Resolved, That we demand the immediate enactment of a graduated income tax to the end that all wealth may bear its equal and just proportion of the expense of Government, and that productive industry be so far relieved from the burdens of taxation as shall be consistent with strict justice to all.

Resolved, In view of the unwillingness and tardiness hitherto manifested by legislators in according to the farmers the rights they so justly claim, the National Grange will, in behalf of the Order of Patrons, hold each Senator and Representative in Congress, responsible for his action upon the subject-matter of each of the foregoing resolutions, and that we pledge ourselves as a body and as individuals, and we earnestly and cordially invite every Patron and every farmer to unite with us, to use our whole influence both by word and ballot, wholly regardless of party, political and personal considerations, to prevent the re-election of any member failing to support by his vote each of the above measures.—(Committee: D. H. Thing, Maine; W. H. Cheek, North Carolina; R. W. Baylor, West Virginia; Mrs. Levi Booth, Colorado; Mrs. F. W. Nicholson, New Jersey; Mrs. A. P. Forsyth, Illinois.)

Election of Officers.

ALHAMBRA GRANGE, Martinez, Contra Costa Co.—John Strentzel, M.; H. Hollenbeck, O.; B. R. Holliday, L.; Elam B. Barber, S.; James Kelley, A. S.; James McHarry, Sr., C.; H. Raap, T.; Mrs. Maria B. Lander, Sec'y; Miss Susie Edwards, Ceres; Miss Mariette Bent, Pomona; Miss Lulu Holliday, Flora; George W. Boss, G.; Mrs. E. D. Boss, S. Trustees: F. M. Warmcastle, three years; M. R. Barber, two years; Thomas A. Griffin, one year.

EDEN GRANGE, Haywards, Cal.—Election Dec. 11th. O. Dennis, M.; L. Perham, O.; J. Russel, L.; J. E. McDermid, S.; E. D. Brown, A. S.; Mrs. R. Knox, C.; L. Stone, T.; Miss J. Sharai, Sec'y; B. Wood, G. K.; Mrs. C. L. Hauschildt, C.; Miss Angie Wood, P.; Miss Mary Annay, F.; Miss Dora Annay, L. A. S.; Organist, Miss M. Russel; Trustee, G. C. Baxter. Installation second Saturday of January, 1881.

STOCKTON GRANGE of San Joaquin Co.—C. Grattan, M.; A. Litchfield, O.; Thos. E. Ketchum, L.; J. B. Boody, S.; J. B. Harelson, A. S.; Wm. Kuhl, C.; I. Lander, T.; Wm. G. Phelps, Sec'y; Wm. L. Overhiser, G. K.; Mrs. C. Grattan, Ceres; Miss Fannie V. Howland, Pomona; Miss Lou Harelson, Flora; Mrs. S. P. Sabin, L. A. S.

YUBA CITY GRANGE, Sutter Co.—Lee Douglas, M.; S. H. Ross, O.; Geo. Ohleyer, L.; J. H. Gladden, S.; B. F. Frisbie, A. S.; Miss Josie Heddam, C.; H. C. Jones, T.; Mrs. M. J. Frisbie, Sec'y; J. Hardy, G. K.; Mrs. E. Ohleyer, Ceres; Mrs. L. E. Walton, Pomona; Miss Maggie Fortna, Flora; Miss Anna Ohleyer, L. A. S.

YUBA CITY GRANGE.—Yuba City Grange met on Saturday, Dec. 4th, in regular meeting, and we are informed that this was one of the most enthusiastic meetings the society has held for some time. The attendance was good, and the interest manifested in the principal business of the session—the election of officers for the ensuing term—was sufficient evidence that the members have lost none of their love for the Order. It was decided to hold an installation feast on New Year's day, and neighboring Granges are asked to participate in the festivities of the occasion. These feasts of Yuba City Grange have an almost State-wide celebrity, and we have no doubt that the announcement above will serve to fill the hall on New Year. At that time, the officers, elected on Saturday last, will be installed.—*Banner*.

ALL GRANGES are requested to send us the list of officers for 1881 as soon as elected, together with other matters of interest to Patrons and general readers. The publication of information in our columns of the discussions and transactions had in Granges will tend to increase interest in meetings in all parts of the State.

AGRICULTURAL NOTES.

CALIFORNIA.

BUTTE.

MEAT BLOCK FACTORY.—Gridley *Herald*, Dec. 11: Messrs. Kelly, Parker and Stiles have located the necessary machinery on the timber lands of Thresher's ranch, and are now engaged in manufacturing meat blocks for the San Francisco dealers. Timber suitable for the purpose is not very plentiful, but by changing location every day or so the enterprising workers manage to keep themselves busy and obtain a sufficient number to pay them for their trouble.

COLUSA.

CUCZO CORN.—*Sun*, Dec. 11: Ham Sherer brought to our office this week several specimens of the Cuczo corn with some of the common corn on which it had mixed. The Cuczo corn cannot be said to be a success, but Mr. Sherer thinks that by planting it a few years it will become acclimated and will then become a valuable acquisition. Some of it had formed short ears on the first joint below the tassel, and several large grains were found on these ears. One specimen was a cluster of ears. It was evidently so much out of its latitude that it did not know how to grow. Mr. Sherer will plant it again another year.

CONTRA COSTA.

LOADING WHEAT AT PORT COSTA.—They have been distinguishing themselves at Port Costa again by putting 1,175 tons of wheat into the ship *Thirlmere* on Saturday last. This may be considered a first-class day's work.

EL DORADO.

FRUIT AND WINE.—*Mountain Democrat*, Dec. 11: The fruit harvest (with the exception of grapes) in and about Coloma, has this year been to a great extent very light, peaches a complete failure, pears and plums good and apples not one-fourth of a crop, owing to the fearful destruction and ravages of the codling worm. Many of our largest fruit growers are in a quandary, as to whether to allow their apple trees to stand or not; some being of the opinion that the scourge may be checked, others that if the apple crops destroyed will not the worm attack the plums and peaches in lieu of their accustomed feed becoming short, these complex questions rather making the fruit grower knit his brows and make him think of a dark outlook. The vintage has been simply immense, the wine cellars of Messrs. Chalmers, Endris, Othick and Rasmussen being stocked to their fullest capacity, besides the quantities that have been shipped to the winery at Shingle Springs. The dried fruit has almost all been shipped and sold a month ago, so growers will not have to go on the Spring trade with its generally dull aspect. After the holidays will again be heard the sharp clicking sound of the pruning shears and saw—showing at least that the fruit grower will not give up the fight, although fate seems against him so far as a few varieties of fruit are concerned.

FRESNO.

RESULT OF IRRIGATION.—*Expositor*, Dec. 9: The land around Kingsburg is gradually filling up with water, the effect of the many irrigating ditches through the country. This is perceived by the water raising in wells and the sand holes and depressions, which were formerly dry, but are now becoming miniature lakes and ponds. Whenever these lands fill up with water from below, they become immediately productive and very valuable. The opportunity to get cheap lands in an irrigated district may not last as long as people imagine. The late abundant rains have put the farmers in good spirits and to work at the same time. Many gang plows will be running this week, and we predict that under the present encouraging prospects a very large area will be sown to grain. The variety of wheat known as the "Propo" is now the general favorite.

THE CHEESE FACTORY.—The Washington Colony cheese factory is now closed for the purpose of squaring up the season's business, and it will now be idle for a time and wait for fresh cows to come in, but it will be running again by the 15th of January, and will be run through the season, say till the 1st of November next. The excellent quality of the cheese that has so far been turned out, has been a good advertise-

ment for the factory, and its products another season will find a ready sale.

COMING.—A number of English farmers are expected to locate on the colony soon. The company has an agency in London, working up the matter. The agency is in charge of a Mr. J. B. Adams, and is located at 57 King William St. A big sign reads, "California Colony, Fresno county, Cal." By means of this agency the entire county is advertised. The colonists are hard at work preparing their land for planting, and a large number of acres of orchard, vineyard and alfalfa will be put in as soon as the weather will permit.

HONEY.—*Republican*, Dec. 11: Mr. P. Loucks, of King's river, paid us a visit this week, and informs us that during the past season he has taken 11,400 lbs. of honey from his apiary, and his bees have increased from 50 stands at the commencement of the season to 110 stands, and he also has on hand about 125 lbs. of wax. Such is the result of one season's work in operating and starting another industry in our county. It was asserted by many that the production of honey could not be successfully and profitably conducted in Fresno county. Mr. Loucks has fully demonstrated that by proper attention and care it is practicable and profitable. And still there are opportunities for the introduction of other industries with profit. We have yet to learn of a single enterprise, that has paid in other localities, and which has been tried in an intelligent manner in Fresno county and failed. Our resources are practically unlimited.

LOS ANGELES.

CITRUS FAIRS.—A note from Mr. Geo. Rice, Secretary, says: "Our Citrus fair will be held on March 14th, to 19th 1881. The premium list will be large and complete. The arrangements are for the 'Citrus fair on wheels' to be made up from this fair and started East by March 21st."

CORN.—*Downey Courier*: Corn husking is proceeding vigorously throughout the valley at present, and bids fair to continue uninterruptedly until after Christmas. We learn that the general yield is excellent, and that the outlook is promising for remunerative prices.

WHEAT.—We learn that a great quantity of Odesa wheat has already been sown in this neighborhood and throughout this section, from the foothills to the Corritis. Farmers are thus profiting from their experience of last year, and sowing early so as to give the crops the benefit of the entire winter rains. Every farmer that can do so should at least raise sufficient wheat to provide his own flour.

NAPA.

WORK.—*Reporter*, Dec. 10: Mr. Jos. Gordon, of Gordon valley, was in town yesterday. He reports the late rains sufficient to start the plows in his section—in fact he says the rain of Wednesday rendered the ground so wet that the farmers were compelled to stop plowing for a few days.

HOGS DIED.—During the recent storm Mr. A. S. Roney, who lives in the Napa redwoods, lost 40 head of fine fat hogs from exposure to the cold damp weather. Mr. Allenbaugh, who lives just beyond the brick-yard, southeast of town, lost about \$170 worth of live pork from the same cause.

PLACER.

LUMBERING.—*Argus*: Messrs. Towle Bros.' saw-mills shut down for the season about the 1st inst., owing to the storm which left some four ft. of snow on the ground in the vicinity of the Bear valley mill. The past season has been rather shorter than usual for the lumber manufacturers, owing to the late snow-falls of last spring. The season just closed has been a very busy, though a somewhat brief one. The operations of Towle Bros. are conducted on a large scale, and they justly rank among the leading lumber manufacturers of California. Nearly, if not quite 200 men are employed in their mills and in the woods, during the summer season. Their sawyers get about \$125 per month and found; their engineers, \$100; and their ox-teamsters, \$80 per month. Their monthly pay-roll figures up from \$12,000 to \$15,000 during the season—and sometimes \$18,000. The average rate of wages paid to the men is about \$3 per day, taking them one with another. The men, it will thus be seen, are paid first-class wages; the firm being shrewd business men, would rather pay good men good wages than have poor workers at half price.

SANTA BARBARA.

LIMA BEANS. *Carpintoria, Cor. Press*, Nov. 22: The beans are nearly all barvested. The few farmers who have not quite finished, have made all necessary preparation for protecting their beans against any sudden stress of weather. The crop, as predicted some time since, cannot be called heavy, but the quality is unusually good. The determination of every farmer to put the crop into market in a better condition than ever before has been fully carried out, therefore there seems to be no good reason why a remunerative price should not be obtained. According to information received from M. F. Smith, owner of the wharf at this place, only about one-fourth the quantity of beans has thus far been shipped this year, as was shipped last year prior to this date. Farmers appear to be holding their beans to obtain better prices than are now quoted. Regarding this matter of prices, farmers last year at this time were getting from \$4 to \$6 per 100 lbs., and now \$3.25 per 100 lbs. seems to be the standard price. Up to the 15th of the present month no lima beans had been received in Chicago or New York, while at this time last year

about 475 tons had been shipped for those markets. It is also learned from reliable authority that the beans thus shipped were all disposed of long before this year's crop was a certainty. Indeed, few, if any, of the beans from last year's crop left the two cities above mentioned. One thing, therefore, appears certain, namely, that it is not owing to the present supply of the article at the East that farmers are not offered better prices and quicker sales at this time. It appears to me that the trouble is nearer home. It would seem advisable for the farmers to wait awhile before disposing of their bean crops, only selling sufficient to satisfy present needs. If it should prove that nothing is made by holding on, if no better prices are obtained, let us profit by the lesson, and diversify our crops next year. George Wride reports by careful weight, 20 tons of lima beans from 19 acres. This productive farm is in Carpinteria—on the Casitas Pass road.

SANTA CRUZ.

WORK.—*Courier-Item*, Dec. 8: While in many sections the wind was a gale, and the rain a deluge, we have been greatly favored. Plows started all over the county yesterday, and the outlook for seed-time is the most favorable that could be desired.

SAN JOAQUIN.

SAN JOAQUIN COUNTY HORSES.—Stockton Independent: San Joaquin county has long been notable for the excellence of its horses. A large number of the best teams in San Francisco have been raised in this county. A stranger visiting Stockton any day, more particularly on a Saturday, when an unusual number of farm teams appear on the streets, would be surprised if not amazed at the superiority of the equine stock everywhere noticeable. Farmers have generally discovered that it costs no more to keep a good animal than a poor one, and that attention paid to the breeding of good animals is a great pecuniary advantage, while it is always more satisfactory to have good horses on a farm than scrubby mustangs. Improvement in the breeding of horses and the consequent increase in the value of that kind of property has been going on for many years. At an early day blooded horses and brood mares were imported, and the importations of the best breeds has continued to a lesser or greater extent ever since. The progeny of the early importations has almost entirely driven out the native stock. Every year the families of some of the first imported animals are exhibited and greatly admired at the Agricultural fairs, where the satisfactory results of careful breeding are clearly demonstrated to visiting strangers. It would pay parties desiring to purchase as good horses as can be procured on the American continent, to direct their attention to San Joaquin.

SONOMA.

THE LIVER FLUKE.—Healdsburg Flag, Dec. 9: Early this week we visited the ranch of Messrs. Young Bros. & Cagwin, in Alexander valley, and found that since last spring's shearing they had lost over 600 head of well graded sheep from a band of about 1,500, and that they were, on the very day of our visit, engaged in removing pelts from carcasses that had succumbed during the week. They have decided that death ensues from a leech or fluke that emanates from a spring on this property, or the grass near it (perhaps in the form of spawn), which ultimately attacks the liver, and, as in a case found last week, entirely destroys it. The spring will be fenced off. A proof that the leech emanates from the pools and wet grass near the spring is that they have not lost a single buck among the whole 600 sheep that have died. And this is explained again in the fact that the bucks are kept in the hills, except in the dry season, and in the dry season there are no pools or wet grass near the dangerous spring. The losses have been at times from 10 to 15 per day, but now do not exceed 3 a week. The gentlemen have the sympathy of their neighbors.

NOTICEABLE INCREASE IN WOOL SHIPMENT. Shipment from Healdsburg last year, 450,000 lbs.; this year, 720,000 lbs.; gain, 27,000 lbs., showing that Healdsburg is being regarded as a preferable market for wool, and no doubt as a better place to trade.

TEHAMA.

EDITORS PRESS:—The weather at this writing is all our sheep, cattle, stock men and farmers could possibly wish for. Monday will see many teams traversing the stubble with the gang-plows, the busy life of our farmers will be at its height ere the holidays approach, and the signs of prosperity, peace, plenty and industry will be apparent on every hand. Showers with light winds, heavy fogs and refreshing dews have saturated the ground evenly and satisfactorily, enabling excellent work to be accomplished in the fields, as well as giving assurance of an abundance of winter feed for live-stock. Though the rains were later and a blustery north wind prevailed late in the fall, discouraging and discomforting our sturdy husbandmen, the late change has compensated them for the past disagreeableness. Christmas is now coming along with its good cheer, and from all appearances a right merry time will be had by those who, for the past year, have successfully tided over the rough seas of financial life and are entering safely the port of Sound Credit and the harbor of Cash. Wheat has gone up a trifle, and many farmers have sold since my last for better prices than they at one time anticipated. Hogs are now being slaughtered by our local butchers who of late years have cured a prime lot of pork, which dealers

in our county and adjacent have proved to be equal in flavor, and more profitable than the imported article. Four cents per lb. is being paid for prime lots. Apples, potatoes, chickens ducks and turkeys are now being marketed. Turkeys are shipped to the lower markets where they fetch a fair price; the birds will be better at Christmas than they were at Thanksgiving. They were like the season—a month behind any previous year. Several bands have been visited by the disease which I wrote you about a short time ago. The remedy recommended by Mr. Eyre proved beneficial in some cases; but with those far advanced with the complaint, no cure could be effected. No doubt the disease was brought on from the scarceness of food, and in some cases from impure water. Our turkey farmers, as a rule, are inexperienced in the management of poultry, so are liable to pay dearly for their experiments in the raising of turkeys. Some seasons turkeys pay well; other seasons they are a very poor speculation. Butter is good, and will no doubt drop some in price, owing to the favorable weather. Dairying can be carried on near town, and several of the adjacent farmers bring in a batch of butter when coming to town. It seems strange that a city of over 2,000 inhabitants has not yet established a market for the sale of poultry, eggs, cheese, butter and small products of the farm. This theme, however, requires an article of its own which may be produced in the near future. Wood haulers are now busy, and should be doing a paying business. The charges for a tier of stove-wood are \$2. Many a time no measurement is taken, and a strong suspicion enters the mind of the innocent purchaser that a tier is very, very small. Wood haulers are proverbial for their unreliability; they say their wood is first-class live oak, or hard black oak when selling the wood at their own price; but when it comes in, Oh, what a falling off is there! Oftimes rotten, worthless stuff has to be taken and paid for; again, they promise to bring in the wood at a certain date, but nearly always forget their word. Now if they were to deal honestly with their customers, they would make a better living and be thought more of.—FELIX Red Bluff.

Arctic Exploration.

The Cruise of the "Jeannette" Discussed by the Academy of Sciences.

At the last meeting of the California Academy of Sciences an interesting discussion took place concerning the *Jeannette* expedition to the Arctic. A very large audience was present, including Capt. Hooper, of the revenue cutter, *Corwin*, and his officers; Mr. W. H. Dall and Mr. Baker, of the U. S. Coast Survey, and several whaling captains, all of whom had been in the Arctic this summer. Among the audience were a number of persons interested in Alaska and others to whom the subject of Arctic exploration generally is of interest. The proceedings were opened by Mr. Chas. Wolcott Brooks, who read a very elaborate paper on the subject of Arctic exploration. He had gathered the main facts regarding the conditions in the Arctic this year from conversations with the whaling captains, and by examination of their logs.

Last Seen of the "Jeannette."

After coaling at St. Michaels, the *Jeannette* passed through Behring's straits, made a stop at Cape Sereos on the northern coast of Siberia to leave letters, from which point he evidently steered direct for the southeasterly point of Herald island, near which he was seen, Sept. 2d, by Capt. Barnes, of the whaler, *Sea Breeze*. The next day the smoke from his smoke-stack was seen by several other whalers, who were to the northward of the *Sea Breeze*. He was still standing northward. This was the last that has been seen or heard of the *Jeannette*. Mr. Brooks then proceeded to present such information as he had been able to gather from the log books of whalers in regard to ice-flows, winds, etc., from which it appears that the time of Capt. De Long's arrival in the Arctic was peculiarly fortunate, as he undoubtedly found an open passage between ice barriers along the eastern point of Herald island, and thence along and near the east coast of Wrangell Land for 200 or 300 miles. The whaler at the whaling ground below Herald island was such as indicated a most favorable opportunity for the *Jeannette* to make her way north. The whaling fleet did not leave the vicinity of Herald island until about the middle of October—some six weeks after the *Jeannette* passed up and through the fleet, but not near enough to any ship to have communication. When the fleet left the

Two Missing Whalers,

The *Vigilant* and *Mount Wollaston* which were considerably to the northward of the balance of the fleet, were unable to follow by reason of the rapidly forming ice to the southward of them, and when those two ships were last seen they were steering north into clear water. Within the next day or two an impassable barrier of ice must have been formed in the vicinity of Herald island, through which neither the *Jeannette* nor the missing whalers could have made their way either during the winter of 1879-80, or even during the past summer.

The life-history of Captain Ebenezer F. Nye, of the *Mount Wollaston*, is a startling romance of hair-breadth escapes from shipwrecks and positions of great danger, and he has been heard to say that he should not fear to winter in the Arctic with his vessel. Now, what is more natural than, when finding themselves thus cut

off and closed in completely by ice in the straits south of them, and knowing for a certainty that they would be obliged to winter in the Arctic, a desire if possible to catch another whale or two and stow away the blubber to supply them with food necessary to withstand an Arctic winter? To satisfy their most pressing demand for winter food they would be obliged to keep in channels of open water, however far north such might extend at this season of the year. As the open area available to them trended northwesterly, continuing probably while the ten days of southerly winds which are known to have prevailed, their progress northward would be more easily effected.

Speculation Concerning Subsequent Movements of the "Jeannette."

The next consideration of the whalers would be, after obtaining food, to select a place to winter near some protecting shore, say Wrangell Land. Having seen the *Jeannette*, which they knew intended to winter far north, and observing her pass up that same northerly channel but five weeks before, it is quite natural that they should seek to reach a point, with a fair wind to favor them, at which they could hope to communicate with her most easily, either directly or by building a fire, whose rising smoke would attract her attention, knowing that a vessel so well fitted was the nearest and only source of assistance in case of pressing necessity. Captain Bauldry is quite confident that, for some time after he left the whalers, the water continued open far north of where he last saw them, especially along the channel-way, where the current sets along the east coast of Wrangell Land and past Herald island. Whatever ice was formed above, was continually broken up and repacked into hummocky ice along the southern borders of the open water in the Arctic, and was built up upon this barrier until the open water to the north was filled with ice. The series of gales from the northwest which prevail in the Arctic late in the season drift all loose ice southward from the vicinity of Herald island and the channels around Wrangell Land, and while thus packing this ice into impenetrable masses at the southern portion of the Arctic, he believes they must open a clear channel, which would enable Capt. De Long, with the *Jeannette* already in position and capable of steaming against a head wind, to penetrate to higher northern latitudes, if so inclined, and attain parallel quite inaccessible to any vessel which might enter the Arctic a year later. A repetition of the same class of weather and winds this year may again enable him, late in the season, even after the straits are closed, to follow northward along the eastern shore of Wrangell Land and to attain a still higher degree of latitude through open areas of water, on the borders of which wild geese, ducks and other sea-fowl go annually to rear their young.

Icebergs in the Arctic.

Captain E. E. Smith, who was ice pilot of the revenue cutter, *Thomas Corwin*, and who has made 13 trips to the Arctic, spending one winter among the Innuits, says that icebergs are not formed in the Arctic on the Pacific side. There is only what is termed hummocky ice, which may, however, be piled 100 ft. thick. He has seen such ice aground in 10 or 12 fathoms of water. Captains estimate the average thickness of ice where it freezes without displacement, at about 21 ft. Capt. Thomas Long, in 1867, remained for three days within 15 miles of Wrangell Land and made a drawing of the coast from Cape Thomas to Cape Hawaii. Several high peaks were seen. Although frequently seen, it is admitted that no person has yet succeeded in landing upon this generally unapproachable *terra incognita*.

No News From the Natives.

Dr. W. H. Dall, acting as assistant in charge of the U. S. Coast and Geodetic Survey in Alaska, just returned from a cruise in the Yukon, and states that in his intercourse with the natives he had received no news of the *Jeannette*. None of the whalers in the Arctic this year have received any tidings of this vessel. The *Thomas Corwin* made five trips across the Arctic basin, besides visiting every available point along the coasts of Alaska and Siberia. In visiting Point Barrow he found the ice packed to within four miles of the shore. When at Cape Lisburne the crew mined and took on board 25 tons of excellent coal from surface croppings. It burned well, making steam readily and giving off little more smoke than anthracite. Captain E. E. Smith informed Captain De Long of this abundant supply of coal.

Safety of the "Jeannette."

With the facts as far as known before us, we may reasonably argue that had any abandonment of the *Jeannette* taken place, with her 76 trained dogs, her seven dog-sleds and two experienced Inuit hunters, all admirably trained and equipped for ice travel, and the large stock of carefully prepared pemican which she carried, the sled parties would have made for the southern edge of the ice-pack near Herald island and as the most natural of all spots frequented by American whalers, to whom alone they could confidently look for relief. Having abundant proof that no such parties appeared, we may feel assured that the *Jeannette* is safe and sound, and that her polar voyage of scientific exploration is proceeding favorably according to the plan of its enterprising and generous patron. It is fair to presume that she passed northward along the unknown coast of Wrangell Land beyond immediate communication, just as all on board fully hoped and intended.

News in Brief.

COAL prices are declining.
MORE earthquakes in Europe are reported. ♀
MADAME THEIRS died in Paris on Saturday.

FIVE firemen were burned to death at Cincinnati Saturday.

FIFTY THOUSAND soldiers will be sent to Ireland, if necessary.

FURTHER legislation on the Indian affairs is proposed in Congress.

It is estimated that 25,000 colonists have entered Indian Territory.

A SHOCK of earthquake was felt at Seattle, W. T., Sunday evening.

DURING the late storm, snow fell to a depth of three ft. at The Dalles, Or.

EAST PORTLAND, OR., experienced a slight shock of earthquake Sunday night.

MOUNT BAKER, in Washington Ter., is throwing out fire and smoke from its summit.

CONTRACTS have been let for grading 18 miles of railroad from San Diego northward.

JAY GOULD'S conservatory on the Hudson, which cost \$150,000, was burned Saturday.

SPAIN wants an amicable agreement with the United States about duties on certain goods.

FRENCH expelled Jesuits are announced as arriving at certain of the American, continental ports.

IN 1879 the gain to the revenue resulting from the increased classification of sugar, was \$303,327.

A BITTER war of rates is anticipated between the Western Union and American Union telegraph Co.

NINE-TENTHS of the business portion of Pensacola, Fla., was destroyed by fire Saturday night.

GOULD has bought the privileges of the International Railway Co. from San Antonio to the Rio Grande.

DURING the canal season the largest movement of grain ever made by the canals of New York took place.

SAN SIMEON and Leffinwells wharves, San Luis Obispo county, were considerably damaged by the late storms.

IN a fight with "moonshiners" near Cooksville, Tenn., one revenue officer was killed and another beaten nearly to death.

A BILL has passed the Brazilian Senate making naturalized foreigners and freedmen eligible to seats in the Chamber.

THE San Francisco Board of Education has declared that hereafter the positions of all lady teachers who marry, will be declared vacant.

THE jury in the case of Schroeder, for the killing of Dr. Lefevre, at Oakland, after being out 72 hours returned a verdict of not guilty.

A CIRCULAR regarding admission to the grade of cadets in the revenue marine service, has been issued by the Secretary of the Treasury.

It has been decided that General Howard will not return to the Department of the Columbia, but will have an Eastern Department.

THE Petroleum World of Titusville, Pa., charges that for the 19 months ending a year ago last winter the Standard Oil Co., made \$19,000,000.

THE Reading and New Jersey Central roads are said to have united to build a line from Harrisburg to Pittsburg parallel to the Pennsylvania Central.

A RESOLUTION has been adopted in the House of Representatives, expressing sympathy with the laboring classes of Ireland in their present trouble.

EX-GOVERNOR CHAMBERLAIN, of Maine, makes public the fact that Mackay the Nevada millionaire, and a wealthy citizen of Philadelphia, have given \$50,000 each for the endowment of Bowdoin College.

THE proposal to settle the Greek questions by arbitration of the Powers has not yet been formally made. It is thought that Germany and Austria do not favor it.

SECRETARY of Navy, Thompson has tendered his resignation, and will accept the Chairmanship of the American branch of the Panama Inter-oceanic Canal Company.

THE demand for vessels in the trade between America and Europe is greater than the supply, and 95 vessels, mostly steamers of the largest class, are building on the Clyde.

PASSENGER arrivals in San Francisco last month aggregate 4,439, and the departures 4,482, a net loss of 43. The arrivals from China and Japan were 453 and the departures, 1,363.

THE Persians have destroyed Uchni, killing many inhabitants. They afterwards defeated 12,000 Kurds at Mergewar. Sheik Abdullah is organizing another force for an attack in the spring.

THE Pope has conferred on D. T. Murphy, a wealthy merchant of San Francisco, the hereditary title of Marquis, in recognition of his great services to religion in America and Europe.

DURING the last 11 months the port of New York has made a relative gain in the grain movement over other ports, showing 51% as against 49% of receipts during the same period of last year.

THE Senate has confirmed the following nominations: John B. Neil, Governor of the Territory of Idaho; Stephen P. Twiss, Associate Justice of the Supreme Court for the Territory of Utah; Warren Bristol, Associate Justice of the Supreme Court for the Territory of New Mexico.



My Ship.

[Written for the RURAL PRESS by NORMA.]

When my ship comes in, when my ship comes in,
For many long years my song has been;
And the freight of love 'twould bring to me
Was more than Eastern treasure could be.
I looked in the future with Fancy's eye,
And beheld a most noble argosy,
With gleaming sails, and coo'ers gay,
Come grandly sailing up the bay.

I waited for the vision bright,
But it always seemed just out of sight;
And beaming above Hope's brilliant star,
To guide my ship from regions afar.
My heart was glad, though it tarried so long,
And I said to myself, "Be patient, be strong,
Sometime in the future, 'twill surely come,
And the hope of my life land safe at home."

At last, when lonely and tired one day,
I saw my ship outside the bay.
'Twas a glorious sight to my weary eye,
For I thought it afar, when lo! it was nigh.
I thanked the Lord for his mercy and love,
Who could look down from his throne above,
And grant such a blessing to "even me,"
My beautiful ship from over the sea.

The sun shone brightly o'er waters blue,
The sky was fair, the wind gently blew;
With sails outspread and glittering spar,
My ship seemed just beyond the bar.
But while I looked with joy and pride,
The ship was tossed from side to side;
The clouds grew black, the thunder roared,
And rain in blinding torrents poured.

The loud wind blew a fearful gale,
And left the masts of every sail;
Then with a loud and sudden shock,
The ship was dashed against a rock.
I cried aloud, "O, Father hear,
And save the ship so near and dear!"
The billows rolled o'er line and spar;
My ship went down beyond the bar.

The Minister's Pie.

"Look here, Sally!"

Mrs. Deacon Farrell, brushed the flour from her hands, casting meanwhile a complacent eye over the well-filled kitchen table, with its generous array of unbaked pies and cakes, the plump turkey stuffed and trussed ready for the morrow's baking, and the big chicken-pie to which her skillful fingers had just put the finishing touches, as she repeated rather more decidedly:

"Look here, Sally! There's enough chicken left, with the giblets—that I never put in my own pie, because the deacon don't relish 'em—ter make a Thanksgiving pie for the minister's folks. 'Twon't need to be very large," she added, in reply to Sally's doubtful look. "Only the minister and his wife,—an you can bake it in that smallest yaller dish."

"Now I am going up stairs ter look over them rug-rags, 'an you make it and bake it right off, so I can send it over by the deacon. He's got ter go out to the Corner this afternoon, and can take it along as well as nct."

She bustled out of the door, but the next moment, seized perhaps with a sudden pang of compunction, she put her head in again, to say warningly:

"Be sure you put in a good parcel of gravy; that'll keep it from bein' dry, if 'tis half giblets."

"Yes'm," answered Sally, briskly; and catching up the rolling-pin, she brought it down with an emphasis upon a lump of dough on the mold-board.

As the stairway-door closed behind her mistress, Sally dropped her rolling-pin, and a look of perplexity crept over her dull face, making it 10 times more stolid than usual, while she repeated, in ludicrous bewilderment:

"Giblets! What, in all creation, if anybody can tell me, does she mean by them?"

Involuntarily she took a step forward, but checked herself as quickly, while a cunning smile replaced the look of perplexity, and she muttered triumphantly:

"I guess I ain't a-goin' ter confess my ignorance ter the deacon's wife, and hear her say, as she always does, 'Two terms to the 'cademy, Sally, and not know that!' No, ma'am! not while there's a dictionary in the house!"

So, softly creeping into the adjoining sitting-room, Sally hastily opened the big dictionary on the deacon's writing-desk, and began her search for the mysterious word.

"G-i-b—here 'tis!" and she read aloud to herself, with an air of triumph, the following definition:

"Those parts of a fowl that are removed before cooking,—the heart, gizzard, liver, and so forth," she repeated, joyfully, and she retraced her steps to the kitchen, and began, with great alacrity, to fill, according to directions, the minister's pie; keeping up, meanwhile, a running fire of comment for her own special benefit.

"Six gizzards! Well that is rather 'steep,' as Dan Watson would say. But I guess the deacon's wife knows; if she don't, tain't none o' my business. Six hearts! Them's small and tuck into the corners handy. Six livers! Seems

ter me they don't fill up much," and she glanced, with a perplexed air, at a pile of denuded chicken bones that formed her only resource.

"Now, I wonder," with a sudden inspiration, "what that 'and so forth' meant? Here's 'hearts, gizzards and livers,' plenty of 'em, but no 'and so forth,' and the pie aint more'n two-thirds full yet. It must mean," and she cast a bewildered look at the half-filled pie, "the chicken's legs. I never knew nobody ter put 'em in a pie, but that must be what it means, an' they'll just fill up."

No sooner thought than done. In went the three pairs of stout yellow legs upon which their unfortunate owners had strutted so proudly only a day before; on went the well-rolled dough, covering them from sight, and into the oven went the minister's pie, just as the mistress of the house re-entered her kitchen, and with an approving glance at the snowy pastry, remarked encouragingly:

"That pie looks real nice, Sally. I shouldn't wonder if, in time, you came to be quite a cook."

It was Thanksgiving morning, and Miss Patience Pringle stood at the minister's back door. To be sure it was rather early for callers, but Miss Patience was, as she often boasted, "one of the kind that never stood on ceremony." Indeed, she didn't consider it necessary even to knock before she opened the door, although she was thoughtful enough, in open-it, to do so softly. The minister's wife was just taking from the oven a newly-warmed chicken-pie, which she nearly dropped from her hands, so startled was she by the sharp, shrill voice that spoke so close to her ear:

"Good mornin', Mis' Graham. Hain't been ter breakfast yet, I sec. We had ours half an hour ago. I know that my mother used ter say that if anybody lost an hour in the mornin', they might chase after it all day, an' not catch up with it then."

"That's a good lookin' pie,—pretty rich pastry, though, for a chicken-pie! I don't never put much shortenin' in anything of that kind; it's rich enough inside ter make up. But you're young, an' have got a good many things ter learn yet. I run in ter see if yer could spare me a cup of yeast, mine soured, an' the last batch o' bread I made I had ter throw to the hogs."

"Certainly," and a roguish smile flitted over the fair face of the minister's wife, at this specimen of her meddling neighbor's own economy. But she had learned the rare lesson of a judicious silence, and taking the cup that Miss Patience produced from beneath her shawl, she bade her visitor be seated while she left the room to get the desired article.

As her steps died away, Miss Patience noiselessly arose from her seat, and approaching the dresser on which the pie stood, peered curiously into the apertures in the crust, her sharp face expressing eager curiosity.

"I'll bet a ninnepence she didn't know enough ter put crackers in. I wish I could get one look, jest ter satisfy my own mind," she added, and determined to accomplish her object at all hazards, she ran a knife deftly around a small portion of the edge, and inserting four inquisitive fingers, lifted the brown crust, and took a glimpse of the contents.

A look of unmitigated disgust passed over her face. Dropping into a convenient chair, she actually groaned aloud:

"Well, I never! an' we payin' that man five hundred dollars a year, besides a donation party at Christmas. Ough!"

Unsuspecting Mrs. Graham, as she returned with the yeast, was somewhat puzzled by the sudden frostiness of her guest, who hurried out of the house as if some dreadful contagion had haunted it; but when the minister, in carving the pie that the deacon's wife had sent, made two curious discoveries almost simultaneously, the reason for Patience's altered demeanor was made plain, and the young pair indulged in a hearty laugh that made the old parsonage ring like a peal of Thanksgiving bells.

The Tuesday following was the regular day for the weekly sewing-circle, and seldom had that interesting gathering proved so lively and animated as on this occasion.

Miss Patience was in the field bright and early, and it was evident at a glance to those who knew her best that she was well nigh bursting with some important secret that she was only waiting a fitting opportunity to divulge. That opportunity was not long in coming, for Mrs. Dea. Farrell, who was a constitutional croaker, took occasion to say, in reference to the hard times:

"The deacon has been tryin' ter collect the church tax, and he says he never found money so tight in all the years he's lived here. It's as hard ter get five dollars now as it used ter be ten."

"And no wonder," spoke up Miss Patience, with the stony severity of a sphinx. "You can't expect folks ter feel like payin' out their mowey when they see it fairly thrown away an' wasted."

Everybody looked curious, and some of the younger girls began to bridle defiantly. The minister's sweet young wife was evidently a favorite with them, at least.

"What do you mean by that?" asked Mrs. Deacon, pointedly. "Mis' Graham is young and inexperienced, to be sure; but, as the deacon was sayin' yesterday, she does very well indeed, considerin'."

Miss Patience tossed her head knowingly. "I don't want ter say nothin' ter hurt her, but, livin' next door as I do, I can't always help see-

in' and hearin' things that other folks can't be expected ter know about, and when I see an' know things like"—

There was an ominous pause, and the deacon's wife asked, excitedly:

"Like what?"

"Chicken-pies, with the legs an' feet of the chicken baked in!"

Had a thunderbolt fallen among them, it could not have caused greater surprise to those tidy, thrifty New England housekeepers than this dreadful revelation of the incapacity of their pastor's young wife.

"Are you sure of it?" gasped one matron, breaking the ominous silence.

"I know it for a fact," was solemnly returned.

"Chickens' legs in a pie!"

"She's a born fool!" ejaculated the deacon's wife, indignantly, "and I'm thankful for her poor husband's sake, that I sent her over one of my pies yesterday. They had to throw hers away, of course, and it's lucky that he didn't have ter go without his Thanksgiving' breakfast on account of her ignorance an' shiftlessness."

"How did you know about the pie?" asked one of the girls.

Miss Patience bristled defiantly. "That's nobody's business but my own!" she retorted tartly. "I don't go round ter find out things, but when they're thrown right into my face, as you might say, I don't shet my eyes no more'n other folks."

Just here the door opened, and in walked the subject of their conversation, her pretty face glowing with the haste she had made, and a mischievous twinkle in her brown eyes, that nobody noticed, so occupied were they in hiding the confusion that her sudden entrance had created.

Walking up to the table where most of the ladies were sitting, she saluted them cordially; and then, holding out upon the end of one slender finger a well worn silver thimble, she said, archly:

"Where do you think I found your thimble, Miss Patience?"

So pleased was Miss Patience to regain her lost treasure, that she forgot for a moment all her assumed dignity, and exclaimed, joyfully:

"Well I declare, I am glad ter see that thimble once more! I told Mary Jane that I felt sure I had it on my finger when I run into your house Thanksgiving' mornin' arter that yeast. But when I got home, it wa'n't no-where to be found. Now where did you find it?"

Her shrill, high voice had attracted the attention of all in the room, and everybody looked up curiously as the minister's wife replied, with an innocent smile:

"In the chicken pie that our good friend here—and she nodded brightly to Mrs. Farrell—sent me. I left the pie on the dresser when I went down cellar arter your yeast, and as soon as I came back, I put it on the table, and when my husband cut it, there was your thimble in it. How could it have got there? It is certainly very mysterious anyway."

Silence, dead, profound, yet, oh, how terribly significant to the deacon's wife and her spinster neighbor, fell upon the group.

This was apparently unnoticed by Mrs. Graham, who, with a playful admonition to Miss Patience to take better care of her thimble in future, began an animated conversation with the ladies nearest her, that soon restored the company to their wonted ease and good-humor.

But poor Miss Patience! She never heard the last of that lost thimble. While the deacon's wife, to the day of her death, never trusted any hands but her own to make Thanksgiving pies for the minister.—*Youth's Companion.*

GENERAL GARFIELD AT THANKSGIVING SERVICE.—The plainest church in Washington with the most unpretentious congregation, is the one where General Garfield attended Thanksgiving services, Thursday. The correspondent of the Boston Advertiser says: The fashionable churches were crowded, and their commodious audience rooms were tastefully decorated with grains and fruits and autumn foliage. General Garfield had been invited to attend the President's church, and his declination being known, it was supposed that he did not expect to attend anywhere, so there was only the usual audience in the little church where he and his wife are members. The church is a small one-story frame structure, only 30 ft. by 40 ft. There is scarcely a village of 300 inhabitants in the north that cannot boast a more pretentious church building. In this quiet spot and in this plain manner the President elect attended his first service in the capital. At its close the small congregation, with which he and Mrs. Garfield have long worshiped, crowded around those who were now the most prominent couple in the land, and extended most hearty congratulations. The simple surroundings, the audience without official rank, the great prominence in the country of the two central figures, and their full identification with these church friends, together made a scene deeply touching to the few strangers who witnessed it. The allusions of the pastor to the great honor which had come to one of their members was in keeping with all the rest.

SIR WALTER SCOTT once lent a book to a friend, and as he gave it to him, begged that he would not fail to return it, adding good-humoredly: "Although most of my friends are bad arithmeticians, they are all good book-keepers."

Our "Home Circle."

[Written for the RURAL PRESS by MRS. C. I. NICHOLS.]

Surely the area of our "Home Circle" is fast becoming classic ground. What touching lessons of cheerful endeavor; what earnest pleas for truthfulness; what brave words for independent thought, and homely, self-supporting industry, and to "owe no man anything but to love one another!" And here and there all along the line the beautiful coming in to drape the rough places and plant flowers where weeds and briars had spread their unsightly pall.

In prospecting for experiences, we have opened some rich leads, and may congratulate the RURAL on the promise of its future. Biography—but more especially autobiography—simply and truthfully written, is a happy medium of the most instructive, as well as the most interesting literature of any age or country. And what are the fragmentary experiences of individuals but the uncompiled annals of the biographer? Men and women who have held on to intrinsic belongings in the struggles of life, have histories to narrate of more worth, as guides to the inexperienced, than theories cast in the most finely wrought fabrics of the imagination.

The Wife's Share in the Farm.

Notwithstanding the time which has elapsed, I take up my correspondence where I left it, and express my satisfaction with Bro. Berwick's home experiences. He never seemed so altogether one of us as when he presented himself with his painstaking wife and well-trained children, and photographed in our Circle gallery his modest home, with artistic touches outlining its beautiful possibilities and wholesome associations. The toiling wives of acre-smitten farmers will thank him in their hearts for his companion pictures of the "big ranch" with its servitude, and the "chicken ranch" with every farm adornment short of a mortgage." Our little valley has recently witnessed the sorrowful vacating of several fine ranches by means of these parasitic ornaments. What more pitiful sight than the overworked wife and mother, broken down in the struggle for an unencumbered home, turned out empty-handed to renewed toil, with no security that the future, more than the past, holds for her a hope of home not to be crushed out by the "community fund" law of unrecompensed wifely service! And right here, as a matter for general personal consideration, I appeal for the adoption of some measure securing to a woman the home which her services not less than her husband's, and her needs more than his, entitle her to. A farm paid for and entered as a homestead cannot be sold without consent of the wife; and this is her sole legal security even to a home which her industry and economy made possible. Every day, farms are bought—often against the earnest entreaties of the more prudent wife—on a cash payment from the joint accumulations of both, with an unpaid balance, secured by mortgage, which eventually absorbs the premises, including the advance payment, and turns wife and little ones out of doors. No contract imperiling the interests of both should be held valid without the consent of both attached thereto.

Equality in Education.

I hardly need express my hearty endorsement of Bro. Berwick's expressed views of the value and objects of education. I do not believe the man lives who can overestimate them; and surely not a hungry souled woman. Was there a ring of "scorn" in my mention of a "college course," Bro. Berwick? I did not so intend, but it may have been, since I must confess to the existence of conscious provocation. Our different estimates of the value of a collegiate education—which it seems both of us desired, but neither could attain—is based partly upon what a college course required and what it denied, in its less practical character of 50 years ago, and partly from the difference of our standpoints. No invidious distinction of sex closed the college doors against Bro. Berwick. He has, therefore, nothing to forgive.

"Drink deep or taste not the Pierian Spring;
'Tis shallow drafts intoxicate the brain,
But drinking largely sobers us again."—POPE.

Was it shallow drafts intoxicating the men of that early day, that caused them to assume the incapacity of women and close against them the professions and higher institutions of learning? A "liberal education" should have stimulated to diffusion of its benefits. "Learned professions" that had to wait for women to round out and adapt them to humane proportions, were a misnomer. But the woman's courage and persistence, that is fast liberalizing the institutions, and stamping the exclusiveness of professional lore, can afford to forget the past.

PHOTOGRAPHS OF THE NEBULA IN ORION.—Prof. Henry Draper has succeeded in obtaining a most accurate photograph of the bright part of the Nebula of Orion, in the vicinity of the trapezium. The photographs show the mottled appearance of this region distinctly. They were taken by the aid of a triple objective of eleven inches aperture made by Alvan Clark and Sons, and corrected especially for the photographic rays. The exposure was for fifty minutes. The Professor promises to publish, at an early date, a detailed description of the negatives.

Chaff.

WHY is so much bread baked? Because it is all kneaded.

"Is this the Adams House?" asked a stranger of a Bostonian. "Yes, till you get to the roof; then its eaves."

KANSAS school teacher—"Where does our wheat go to?" "Into the hopper." "What hopper?" "Grasshopper!" triumphantly shouted a scholar.

SAID a school teacher: "If I have 10 apples and give you five and your big brother five, what will be left?" "I'll be left," responded the younger brother "for he will get away with all of them."

"WHICH do you like best, your father or your mother?" inquired a visitor of little chubby-fist. "Oh, I like ma the best. She spansks me with the soft side of her hand; pa takes a shingle."

"I NEVER did see such a wind and rain storm," said a man in a coffee-room. "And pray sir," inquired a would-be-wit, "since you saw the wind and storm, what might the color be?" "The wind blew, and the storm rose," was the quiet rejoinder.

"WELL, old fellow, where have you been?" "Been round to one of my creditors—old Skinfint, and—what do you think? I had all the difficulty in the world to get him to take a little money!" "Oh, that's impossible. Why?" "Because he wanted a whole lot!"

THE recent sentence of Perry, the London underground robber, got somewhat "mixed" in its translation into the Russian papers. Instead of announcing that he had received 20 years penal servitude and 30 strokes with the cat, the provincial journals of Russia stated that he had been sentenced to "20 years' imprisonment with 30 cats!"

Miners' Families and Mining Towns.

"Well I am going to leave you," said an old Comstocker yesterday, as he offered his hand to your correspondent.

"Where are you off to?"

"Down to Arizona."

"For good?"

"If I fall easy I'll stay where I'm put."

I was astonished. He was a man who had hung on to the Comstock through thick and thin since '61. He had for years been the proprietor of a popular saloon and of the leading faro and keno games. He had been an Alderman, and one of the leaders of the Republican Party. His horses have been the fastest, his turnouts the nattiest, and altogether he has been a "prominent citizen."

"Is the Comstock played out?" I asked the departing prominent citizen.

"Yes, for me. There is nothing in the saloon or the games now. The town is gone in."

"How do you account for it? There seems to be a pretty big population."

"Yes; but it ain't the right kind. You see that row of buildings (waving his hand to indicate one side of C street). Well, all them rooms upstairs used to be filled with boys. Now the boys all have houses back here on the hill—all got wives and children, and don't appear on the turf nights no more. That's good for them, but it's bad for me. Why, if you want to know why the town's gone in, just drop around the schools when the youngsters are being let loose. In the flush old times a young one was a phenomenon here; now there's thousands of 'em. Well, all of them cubs have got to be fed, and the fellows that's got to feed 'em and cloth 'em ain't got any money to throw away. That's good for them, but it's bad for me. As a citizen I am glad of it, of course; but as a matter of business it's just ruin, and I am off for Arizona. It's a new country, and old times come again."

"You'll open a game?"

"Of course. That's what I'm after. I'll prospect around and find a camp that isn't too near the railroad, and open a saloon and give 'em a lay-out."

"Why do you want to get away from the railroad?"

"Why? Because when a town is near a railroad it soon gets filled up with dead-brokers and stiffies. It's easy to get to and to get from. Men that travel by stage have got to have money, and they're the kind of men that make a camp hum in my line.—*Cor. Examiner.*"

Christmas Reception of Contributors.

EDITORS PRESS.—Suppose you have a Christmas or New Year's reception for the lady contributors of the "Circle," by card, each sending in her maiden name and place of nativity? I see there are several Vermonters; and in the early experiences of several more I find such a likeness to my old home-life, that I fancy we may be old acquaintances, or next thing to it, acting in masquerade. Won't they throw off their masks for the nonce? I laid aside my pen during hot weather, but am shoving it again, and, though still confined to my invalid chair, am having much to enjoy and be thankful for. How is our dear Mary Mountain? I have been fearing, from absence of the "Farm House Chat," that she might be worse in health again. C. I. H. NICHOLS.

Young Folks' Column.

Our Puzzle Box.

Numerical Enigma.

I am composed of 15 letters.
My 6, 7, 15, 9, 14, 4 is a sign of the zodiac.
My 13, 3, 11, 1, is a Greek letter.
My 5 is a personal pronoun.
My 2, 10, 8, 11 is a plant.
My 4, 12, 6, 14 is an esculent grain.
My whole is the proudest title of our country.

OLD JOE.

A Constellation.

1. Defaces.
2. A Hebrew, a vegetable, and to revolve curtailed.
3. A Roman numeral, a consonant, and ourselves.
4. An exclamation, a grain, and upon.
5. A personal pronoun, and a bony covering of certain insects and fishes.
6. A conjunction, to propel a boat in a certain manner, a beverage, and an exclamation.
7. An appeal, assistance, and luxurious repose.
8. Having taken a certain position and a vase.

JAMES.

Problem.

A gentleman, watching a fort at a distance, perceives the discharge of a gun, and hears the report in exactly twenty-one seconds afterwards. Supposing light to travel at the rate of 192,000 miles per second, and sound 1,000 feet per second, what is the distance from the fort to the point where the observer stands.

O. G.

Letter Arithmetic.

E G R O W I
M N T

T I W O E D R

O M D E R T M

I T W M G O T

M D G T T D W M R

The letters in the multiplication above, when transposed into the order indicated by the figures represented, form a word signifying at an improper time.

DICK N. S.

Poetical Selection.

When the war is o'er, the hat is ring
See the men an' dhar vest, ha sret urn
eda gain,
Tiss wee to vis it thes till woo, dw here spr
in gs
The fir st low er of thep lain.

Answers to Last Puzzles.

CROSS-WORD ENIGMA.—Saint Paul.

BLANKS.—1. Heart, hear. 2. Bind, bin. 3. Fare, far.

4. Boat, boa. 5. Barn, bar.

RHOMBUS.—F A M E

B A L E

H A T E

N O T E

CHARADE.—Dandelion (dandy-lion).

HOUSEHOLD FURNITURE.—1. Car-pet. 2. Piano (pca-Ann-o).

3. Rock-ing chair. 4. Ward-robe.

The Skating Party.

I shall never forget that beautiful moonlight evening when a party of young people had a wild frolic in skating on Mennebunk pond in H., a town in Vermont.

Squire Jenkins, the principal man of the little village, had three children—Ada, a lovely daughter of about 20 years, Lillian, aged 14, and Harry, a son of 12 years, who was blind. The misfortune of the child was very sad, yet, as he was of such sunny temper, and so gentle and kind, he was a universal favorite with all who became acquainted with him. He shared the sports of his playmates as far as possible, and when a skating party was formed, blind Harry went with the rest, drawn on a light sled by two of the swiftest skaters among the boys.

It is said that the blind have an acute sense of hearing and touch that others do not possess, and many facts seem to prove this theory correct.

The evening had passed very pleasantly with the skaters, until a challenge was given by a few to reach a certain point first—Harry's champions giving the lead, for on no condition would they leave him behind. Harry shared the excitement, and shouted and was eager to gain the desired point.

I forgot to tell you that the poor boy was not always blind. Two years before, scarlet fever had left him as he was now; whether it would be a permanent affliction was not fully decided, yet it was feared to be the case. Of course Harry knew every spot, and felt through the kindness of his mates, an eager interest if almost he could join in every game as of yore.

It had been much warmer for several days, yet the ice was thought to be safe and thick. The contestants had nearly reached the farthest side when Harry, by quick intuition, felt the ice crack and give beneath him, and felt a dampness strike his cheek. Instantly he gave a quick cry of alarm, and the next moment there was a crash, a scream, and Josiah Bentley, one of the boys drawing him, broke through a thin crust, going straight into an air hole and submerged his companion. The sled partially settled against the broken edges, and held, while Harry, firmly grasping his seat, bent carefully forward and plunged his hand into the icy current, catching hold of the sinking boy, who called frantically for help.

Rescue was at hand, but it was a work of great difficulty and great danger, as the thin ice would bear but little weight. One of the lads, Paul Reed, saved himself by catching hold of the sled and drawing himself out. The other "Si" Bentley, was held up by blind Harry until help arrived.

It was a narrow escape from death, yet no life was lost. They must have been drowned had it not been for Harry and his sled. When the party went quickly and soberly back to the

house they had left so full of glee an hour before, and gathered around the table whereon a warm supper was provided, do you wonder that tears mingled with the smiles as they gazed upon the three boys who so nearly found a watery grave.

GOOD HEALTH.

What is a Cold Bath?

The season of the year when very many people who have experienced pleasure and advantage from a daily cold bath have to discontinue the practice, is come. Months will elapse before the return of genial weather will allow of their indulgence in what may be termed man's natural stimulant. Among the young and robust there are a large number who are able to bathe even in the depths of winter; the advantage of so doing is, however, questionable. But let it be once well understood what a cold bath really is, and the course by which we can avoid Scylla and Charybdis will be obvious. A cold bath is not necessarily a bath in water of the temperature of the atmosphere. A bath is truly and really cold when it produces a certain physiological effect—a slight, momentary shock, followed by pleasant and lasting reaction. These effects are for the majority of people most pleasantly obtained by bathing in water about 35° to 40° below the temperature of the body—the usual temperature of unbeated water in June and July. Bearing this in mind we can enjoy our physiological "cold" bath as safely and pleasantly at Christmas as at midsummer, and there is no necessity for the most timid or weakly to discontinue his morning tub because the summer weather is over. When the water sinks below a temperature of 60°, let it be heated to that point and then used, and we shall still have our "cold" bath, though of heated water. The daily stimulant effect of such a bath is so beneficial to the great majority of persons and is of such marked service in maintaining health, that it is very important to have it widely known that a cold bath may be taken all the year round, provided cold is not mistaken to mean "at the temperature of the outer air." To heat our bath during the winter months is too often thought to be unmanly, while in reality it is truly scientific, and to bathe in unbeated water all the year round, whatever the temperature that water may be, is to prove one's self an ignorant slave of outward circumstances.—*Lancel.*

BENEFIT OF LAUGHING.—Dr. Greene, in his "Problem of Health," says there is not the remotest corner or little inlet of the minute blood vessels of the human body that does not feel some wavelet from the convulsion occasioned by good, hearty laughter. The life principle, or the central man, is shaken to its innermost depths, sending new tides of life and strength to the surface, thus materially tending to insure good health to the persons who indulge therein. The blood moves more rapidly, and conveys a different impression to all the organs of the body, as it visits them on that particular mystic journey when the man is laughing, from what it does at other times. For this reason every good, hearty laugh in which a person indulges tends to lengthen his life, conveying as it does, new and distinct stimulus to the vital forces. Doubtless the time will come when physicians, conceding more importance than they now do to influence of the mind upon the vital forces of the body, will make their prescription more with reference to the mind, and less to drugs for the body; and will, in so doing, find the best and most effective method of producing the required effects upon the patient.

SLEEP.—By far the best sleep is obtained at night—nature's chosen period—at a time when all is hushed and favorable to the best repose. The fowls early seek rest, as the sun sinks, and then set us the good example of early rising, with joyous song. Beside the repose and rest of the body, important and absolutely needful changes are effected in the system, while observation and experience prove that sleep obtained by day can never equal that at night. The young, in all of their vivacity and activity, need more sleep, and relatively more food than adults, and females need far more than males, especially mothers. Their labors, toils, cares, anxieties, watchings over their children, their whole round of duties necessarily tax and depress the nervous system, absolutely demanding much sleep—far more than many secure. Of these, those known as the "nervous"—with diseased nerves, exhausted—need the most—all they can secure. Sleep, on an empty stomach, is the best "nervine" for such.

HOW TO KILL A TAPEWORM IN AN HOUR.—Dr. Karl Bettelheim, of Vienna, narrates, in the *Deutsches Archiv*, a heroic method and nearly sure cure in the short time of three quarters of an hour to two hours. It is this: He inserts a tube in the esophagus, to the stomach, and pours down from 200 to 400 grams of a very concentrated decoction of pomegranate root, having previously had his patient fast for 24 hours. The worm is stupefied, and passed, bead and all, to a certainty; the patient has no sickness of the stomach, and no nauseous swallowing to do.—*Medical and Surgical Reporter.*

DOMESTIC ECONOMY.

Holiday Dinners.

Good Health says: "Friends, those of you who expect to treat your children and relatives or neighbors to a holiday feast, let us give you a hint. Before making preparations for the occasion pause a moment to consider whether it would not be best to deviate a little from the almost universal custom of making our national holidays the occasion for animal gormandizing. Instead of loading the table with articles of food of a character certain to injure the digestive organs, and to work mischief in every part of the vital organism, would it not be better to put upon the table a variety of good, wholesome foods which might be partaken of with impunity, and which will not stimulate the palate to glutony?"

"Overeating at Thanksgiving, Christmas and New Year's dinners annually causes many cases of sickness and not a few deaths. Doctors are always busy the next day after these holidays, and may generally expect an unusual increase in business."

"Nothing could be more unreasonable than for people who understand the laws of health as relating to diet, to depart on special occasions from the course which their reason leads them to generally pursue, and by their actions, at least, declare to be good and desirable at those special times what at all other times and on all other occasions they pronounce bad and unwholesome."

This is sound advice. Why are all our holidays, days of unreasonable, unnatural feasting? Our women might make a great reform in the world in this respect.

SAUER KRAUT.—The best we ever ate we made ourselves for many years, and for a considerable time with our own hands, and always from Savoy cabbage. It was manufactured in this wise: In the first place let your "stand," holding from a half barrel to a barrel, be thoroughly scalded out; the cutter, the tub and the stamper also well scalded. Take off all the outer leaves of the cabbage, halve them, remove the heart and proceed with the cutting. Lay some clean leaves at the bottom of the stand, sprinkle with a handful of salt, fill in half a bushel of cut cabbage, stamp gently until the juice just makes its appearance, then add another handful of salt, and so on until the stand is full. Cover over with cabbage leaves, place on top a clean board fitting the space pretty well, and on top of that a stone weighing 12 or 15 lbs. Stand away in a cool place, and when hard freezing comes on remove to the cellar. It will be ready for use in from four to six weeks. The cabbage should be but tolerably coarse. The Savoy variety makes the best article, but is only half as productive as the Drumhead and Flat Dutch.—*German town Telegraph.*

WASHING COMMON WORKING PANTS.—The *Scientific American* gives the following as the best method for washing a pair of common working pants, that is tolerably greasy, so as not to discharge the color. It is impossible to wholly prevent the washing out of the dyes; still, if treated in the following manner, and not allowed to remain too long in the water, the effect of the washing on the dyes will be less apparent: Water 1 gallon, soap $\frac{1}{2}$ lb.; boil to dissolve; add 2 oz. borax; dilute with about 8 gallons of water; work the goods through as quickly as possible, and rinse without wringing. An aqueous solution of 1 part copperas and 7 parts logwood extract, may be used for reviving the faded color of cheap black goods.

FRIED APPLES.—Fried apples, when nicely prepared, make a very agreeable accompaniment to the morning meal. The following is my way of cooking them: Juicy, thin-skinned, and not very sour apples are best. Slice them, leaving the skin on, and put them to fry in some suitable dish in which you have a little melted butter. Add a very little water as often as proves necessary to keep them from scorching. Stir them quite often and when nearly done add a little salt and a spoonful of sugar, if you choose.

TAPIOCA JELLY CAKE.—Beat two eggs in a teacup and fill up with rich, sour cream; one teacup of white sugar, one cup of flour, a little soda; not quite half a teaspoonful unless the cream is very sour. Bake in four round tins, and brown as little as possible. Have a jelly prepared by soaking four tablespoonfuls of tapioca in warm water until transparent, then add more water and place your dish in boiling water on the stove and cook until a transparent jelly; flavor strongly with lemon, almond or wintergreen.

FRENCH ROLLS.—Sift a pound of flour into a pan and rub into it two ounces of butter; mix into it the whites only of three eggs, beaten to a stiff froth, and a tablespoonful of strong yeast; add a saltspoonful of salt and sufficient milk to make a stiff dough. Cover it and set before the fire to rise. It should be light in an hour. Then put it on a paste-board, divide it into rolls or cakes; lay them in a floured pan and bake them about 10 minutes in a quick oven.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.

Per line	25	80	\$2.00	\$ 5.00
Half inch (1 square)	\$1.00	\$3.00	7.50	24.00
One inch	2.00	5.00	14.00	40.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.

DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, December 18, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Preservation of Fodder by Ensilage—No. 1, 393. The Week: Isthmus Avenue; The Fruit Business; The Sheep Rot, 400. United States Fish Culture; Strawberries; Manufactures and Interest; Vineyard Notes, 401.

ILLUSTRATIONS.—The Silo of M. Auguste Goffart, France, the inventor of the System of Ensilage, 393. New Strawberries, 401.

QUERIES AND REPLIES.—Pear Growing; Alfalfa Hay; Berry Growing in Colorado, 400.

CORRESPONDENCE.—A Trip Down the Coast—No. 2; Yolo County Notes, 394.

ARBORICULTURE.—Plea for the Acacia family, 394.

THE DAIRY.—Breeding of Dairy Cattle, 395.

THE VINEYARD.—Catalogue of European Vines, with Synonyms and Brief Descriptions, 395.

PATRONS OF HUSBANDRY.—Meeting of the National Grange; Election of Officers; Yuba City Grange, 393.

AGRICULTURAL NOTES from the various counties of California, 396-397.

NEWS IN BRIEF. on page 397 and other pages.

HOME CIRCLE.—My Ship (Poetry); The Minister's Pic; Gen. Garfield at Thanksgiving Service; Our "Home Circle," 398. Chaff; Miners' Families and Mining towns; Christmas Reception of Contributors, 399.

YOUNG FOLKS' COLUMN.—Our Puzzle Box; The Skating Party, 399.

GOOD HEALTH.—What is a Cold Bath? Benefit of Laughing; Sleep; How to Kill a Tapeworm in an hour, 399.

DOMESTIC ECONOMY.—Holiday Dinners; Sauer Kraut; Washing Common Working Pants; Fried Apples; Tapioca Jelly Cake; French Rolls, 399.

MISCELLANEOUS.—Arctic Exploration; 397. Grape Seed Oil, 402.

Business Announcements.

Randall Pulverizing Harrow—Baker & Hamilton, S. F.
McSerry Grain Drills—Frank Bros., S. F.
Niagara Starch—D. L. Beck & Sons, S. F.
Seeds—D. M. Ferry & Co., Detroit, Michigan.
Threshers—Minard Harder, Cobleskill, Scho. Co., N. Y.
Los Gatos Nurseries—S. Newhall, San Jose, Cal.
Rock's Nurseries—John Rock, San Jose, Cal.
Garden Seeds—Thos. Meherin, 516 Battery St., S. F.
American Exchange Hotel—Chas. Montgomery, S. F.
Weekly Times—Cincinnati, O.
Hannay's Nursery—John Hannay, San Jose, Cal.
Annual Meeting—Grangers' Bank, S. F.
Pacific Business College—320 Post St., S. F.
Santa Clara Valley Nurseries—B. S. Fox, San Jose, Cal.
Hotel de Redwood—M. P. Owen, Soquel, Cal.
Santa Cruz Homes—M. P. Owen, Soquel, Cal.
Riding Saw Machine—Linthorpe, Rice & Co., S. F.
Grape Cuttings—H. W. Crabb, Oakville, Napa Co., Cal.

The Week.

The sunshine is bright and warm today (Wednesday) after another rainfall which has covered nearly the entire surface of the State. For two days it has been raining in the extreme north, and on Tuesday the rattle of the drops began in the lower latitudes. The storm seems to have shaded off into showers toward the south, while in the central and southern parts of the State it fell in torrents a part of the time. On the whole it has been a most kindly rain, warm and penetrating, and now a stay of the sunshine will be welcome in order that the plows and the seed may reach the fields. The amount of water precipitated already equals last year's figures around the bay and at some points in the interior. The weather wise make the comforting announcement that we shall have an orthodox California winter. A few sharp frosts have passed, and henceforward we shall have chiefly night rains and peerless sunny days to delight the heart and array the gardens and fields with glorious blooms. We trust the prophet may speak truly, for during the last two years California has strayed far away from her own standard of a proper winter.

Preparations for the Christmas holidays are now in full progress. The various self constituted "headquarters of Santa Claus" in the city are in full blossom and the mothers flock to them like doves to their windows. Out of the reach of these establishments which are best adapted to those with long purses, there are quiet plannings and workings for the delight of the little ones and a wonderful activity in kitchen chemistry to ensure the success of Christmas cheer. It is well that it is so for 'Christmas comes but once a year.'

Our Isthmus Avenue.

All the world seems to be working for the development of the Pacific coast, and like Bar-kis, we are "willin'." The rival canal routes from Atlantic to Pacific oceans across the Isthmus are pushing forward with zealous haste. De Lesseps with his Panama project has made his attack upon the world's purses, and has come off with a victory beyond the anticipation of the most sanguine. The subscription of about \$120,000,000 in a few days to carry out a scheme of this kind is certainly a surprise to most people in this country. Something over \$1,000,000 worth of the stock was taken in San Francisco, where the Panama has not been looked upon as the popular route. The present state of the enterprise is that the stock has all been taken, the books closed, and there seems nothing for De Lesseps to do now, but to break ground and go forward with the mammoth ditch. He has secured the services of Hon. R. W. Thompson, U. S. Secretary of the Navy, to lead his American adherents.

The success of De Lesseps has proved a sort of bomb in the camp of the Nicaragua route people, and they are stirred to unusual activity. The dispatches of Wednesday morning brought the text of a bill introduced in Congress to incorporate the Maratime Canal Company of Nicaragua, in which U. S. Grant heads the list of incorporators. The bill provides that the capital stock shall consist of 1,000,000 shares at \$100 per share, thus yielding a fund of \$100,000,000 for the construction of the canal. One per cent of the value of the stock shall be paid at the time of subscription, and other payments at such time as the directors shall determine. The bill, it is expected, will pass Congress with but little delay, and the enterprise will be pushed forward with the full force of the comparative cheapness of the route, and the pride of the country in having an avenue across the Isthmus wholly under American control. As soon as the charter is obtained and the subscription books opened, the real test of the project will come, for the money is the root of the venture after all.

Thus the two rival canal routes have entered the lists together with the apparent lead in the possession of De Lesseps. We of this coast can but rejoice at the speed of the contestants, for if each succeeds in gaining the requisite funds there seems little to prevent the building of both canals. It may be of advantage to have competition, providing both enterprises can be supported by the business there will be to be done; if not, a combined effort to put through a single canal would be preferable. The future alone can decide all issues and in the meantime we can but hope that no disaster will interfere with the speedy union of the oceans.

It may be expected that the canal projects even during the process of construction will give a new impetus to Pacific coast industries. It is announced that P. Huerne, an architect of this city, has received an appointment from M. Convreux, chief engineer of the Panama canal, as head engineer and agent for making plans and furnishing materials for the inauguration of the construction of the canal. Much of the machinery needed will be manufactured in this city, and the material will be purchased here also. This will bring activity to our foundries and machine shops and also have an indirect effect upon the produce market by increasing the number of well paid consumers. It will also bring to this a new tide of capable immigrants who will come to invest in productive enterprises because the coast will be brought so much nearer to the world's markets. To those who have already enlisted in Pacific coast production and have had to bear the burden of shipment around the Horn or overland the new outlet will bring encouragement and better returns for their labor.

It does seem from all indications that the Pacific coast is now upon the course toward a wider and sounder prosperity than ever before. It is true that now and then some manipulator in the stock market folds his tent and steals away for new fields in the East where people are not so well educated in stock gambling mysteries as they are here. Many of these men have done but little for the real prosperity of our coast but have rather amassed their wealth by shrewd ventures to secure the money which others have earned in the small industries of life. They have invested little or nothing in true productive enterprises, and consequently were not firmly wedded to the best interests of the country. The few of this class who have left us are over balanced by the many active eastern capitalists who are now buying our mines and our farming lands and spending money freely to develop the properties they have acquired. We can well afford to exchange citizens with the East if the transfers should continue in the kind of material which has thus far been delivered.

Meantime the railroad projects which are to open new quarters of our State, are being pushed with vigor and all the benefits of competition seem to be promised to the most remote corners of the State. There was never better heart and hope among the people, and the decade now beginning promises to be the most important and interesting one in our existence.

The Fruit Business.

The growing disposition to invest money in the establishment of fruit canneries shows the confidence of the canners in the market which they have found in all parts of the world, and it is at the same time a surety to the fruit grower that his planting of new orchards will bring him fit recompense. During the year now closing there were several fruit canneries established in different parts of the State, and the fact that these new institutions spring at once in the front rank of the trade shows the quality of their goods and the demand for them. It is rare in any industry for a new concern to stop at once into a successful business. Generally there is time required to gain recognition of their brands and the excellence of that which lies beneath the surface. In this respect this year's experience of the new Californian canneries is exceptional, and those who invested their money and time therein are to be earnestly congratulated, and there are several new enterprises promised to be in condition before another fruit crop is ripe. One large concern is now in process of construction in this city by the wholesale house of Lusk & Co. These parties have secured a lot on the south side of Brannan street, between Third and Fourth, for \$24,000. The lot fronts 137½ ft. on Brannan, and runs back 275 ft. to the northerly line of Townsend St., on which it also has 137½ ft. frontage. The location is well chosen, being close to the railroad and convenient for discharging or loading. The property was formerly covered by the old German Hospital, and has not been occupied since that institution was burned down. Immediate steps will be taken to erect the necessary buildings for an intensive canning business. Probably not less than \$20,000 will be expended in improvements within the next three months.

The fruit canneries in this city are the saving clause in the shipment of fruit to this city. The eagerness with which their agents purchased the surpluses of fruit arriving from day to day, and the activity with which they reached out into the orchards and gardens for fresh material had a marked effect upon the average prices of fruits this year. It will be well for the fruit-growers to have canneries multiplied in this city, for much of the produce of the State naturally seeks this market and there have been years when the surplus was dumped by drayloads into the bay. There is hardly any reason to expect a repetition of this wicked waste, for what does not go into the fruit dishes on our tables soon finds itself in the tins of the canner and is there imperishable and valuable.

While there will continue to be plenty of business for canneries located in San Francisco, there should also be an increase of interior establishments. What can be done when these concerns are well managed, and are located in the midst of good fruit, is shown by this year's experience at Santa Barbara and at Riverside, and perhaps at other points which do not occur to us at this moment. San Jose has, of course, sustained her reputation as a veteran at this business. Now that new orchards are coming into bearing each year, as new avenues of transportation are opening and as the market for our preserved fruits is active and apparently worldwide, let there be many other establishments fitly located and wisely managed. Do this and then adopt vigorous measures to protect our orchards against the invasion of destroying insects and the money will roll into the hands of diligent producers.

DEATH OF HENRY BARNUM.—Henry Barnum, a journalist of long experience, died in this city last week, aged 61 years. He was at one time editorially connected with the PRESS; his engagement terminating about five years ago. Since that time Mr. Barnum suffered much from ill health and impaired faculties, from which death finally brought relief. He was a native of New York, where he was taught a trade which he followed for some time. His taste and talent led him, however, toward literary labor, and he was for several years connected with the Utica Observer. He was an earnest, constant worker so long as his strength remained. He was unobtrusive and retiring in his manners, and in life he was found on the right side. His departure will be long regretted by those who knew him best. Mr. Barnum leaves two sons and two daughters; his wife went hence before him.

THE SHEEP ROT.—We print under Sonoma county, in our "Agricultural Notes" this week, an interesting statement concerning the loss of sheep by a parasite which attacks the liver, and is known as liver fluke. This pest produces the disease known as "sheep rot." It will be seen that the owners of the decimated flock trace the origin of the evil to a spring which apparently produces a swampy spot, and they propose to fence in the spring and thus keep the animals away from it. Of course, where the water is needed, it would be just as good a safeguard to clean out a spring, removing all vegetation, and keep it clean, and give it an outlet so as to keep the water running. If this is done there is little danger of taking up the parasites in the dry season. On low, wet pastures, in the rainy season there is always some danger.

QUERIES AND REPLIES.

Pear Growing.

EDITORS PRESS:—I send two pears; I would like to know the name, and if they are a good, desirable pear for market. How are they for size? Pear trees in this vicinity, these in particular, for the five years I have lived here, have yielded good, paying crops every year, rain or no rain. In looking about to make some improvements, I came to these pear trees, and I have quite an idea of setting out five acres in pear trees, as I have fine land for them, and they have proved all right for our climate. Do you think the codling moth will make me repent the venture when they come in bearing? Does the codling moth travel far to get from one orchard to another? Will one orchard infect another one-half a mile off? I have an idea that the pear is the Winter Nells, but want to be sure before buying trees. Are pear trees best on pear or quince stock?—READER, Point of Timber, Cal.

The pears are fine specimens of the Winter Nells variety. Probably no venture could be better than planting the five acres with trees of this sort. They are a fine market fruit, and in locations where they do well are very profitable. The codling moth need not be feared if due diligence is used in fighting it, and if there is no orchard within half a mile. The insect can go that distance easily enough and farther too. It will, of course, come in faster if the direction from the nearest infested trees lies in the course of the summer winds. It would not be wise to stop planting because of the insect; rather let the resolution arise to struggle with it. The greater progress it makes through the State, the better price will be gained for the fruit of those who protect their trees. And then there may be a law this winter which will drop on the moth from all sides, so that the effort on the part of the vigilant may have its proper weight. Pear stock is best for the pear; quince stock makes dwarf trees. There is no need of dwarfs in this State. The standard tree does not grow over-large, and it comes in bearing much earlier than at the East. Quince stock is used at the East in part to hasten fruiting. Here, if it is used, the top is very apt to blow off unless the bud is set low in the ground, and then it may send out its own roots and be a standard after all. Nearly all our California pear orchards are of the standard trees.

Alfalfa Hay.

EDITORS PRESS:—Will you please tell me why alfalfa hay does not bring as much in the market in California as other kinds of hay, and whether or not your farmers hate it to dispose of it like other hay? What sized bales do they make, and what style of press do they use? The reason why I desire this information is because I expect to have large quantities of alfalfa hay to dispose of, and I wish to learn all I can of how your farmers handle it. Judging from your market reports in the PRESS, all other kinds of hay outsell alfalfa; and here, so far, alfalfa outsells all other kinds. I have given it a careful test as feed for horses and cattle, and I would rather have it than anything; but stock will eat a great deal more of it than of any other kind of hay.—E. R. SIZER, West Las Animas, Col.

One of our largest users of alfalfa hay assures us that one reason why alfalfa hay does not sell better is the fact that it can only be used with moderation and care. It is condemned by horsemen as an unsafe feed, as it bloats the animals. Scarcely any alfalfa hay is sold to horse feeders. This restricts its use to cow feeders. With cows it is also looked upon as an unsafe food by itself. It gives milk a disagreeable taste and a tendency to souring, unless it is mixed with a large excess of other hay, as for example the hay from native California clovers, which is usually styled "cow hay" in the market. It also bloats the animal. Second crop alfalfa causes bloat as quickly as Eastern red clover. Alfalfa hay is very strong feed and makes abundant milk, and would be very desirable were it not for its effect upon the milk and danger to the animal. The first crop alfalfa hay has more coarse material in it, and is safer than the second crop which is a compact mass of blossoms and green leaves and stems. The second crop, however, sells higher than the first, because it is richer in nutritive matters. Mixed with other coarse fodder, sometimes with cut straw, alfalfa hay is very valuable and largely used, but its limitations cause it to take a low rank in the market. Alfalfa hay is baled like other hay, the bales weighing from 190 to 250 lbs., according to the style of press used; the ordinary weight of bales is 200 to 225 lbs.

These are some of the points concerning the use of alfalfa hay. The subject would be a good one for our readers to discuss in our columns. What is the experience of each in the use of alfalfa hay? There may be a difference in its growth in Colorado, or the other ways which our correspondent compares with it may be different from those esteemed most highly in our markets. The subject is open for remarks.

Berry Growing in Colorado.

EDITORS PRESS:—In response to the interrogation regarding blackberries, I desire to say that Wilson's Early possesses the most good qualities, and gives the most general satisfaction. The Snyder is good, but will be considered too small where others can be grown. Its chief merit is in hardiness. The Wachusett Thornless is a swindle, and a dishonor to its disseminators, for it is villainously thorny, and more like a dewberry than a blackberry. The so-called thornless thus always proves worthless. The best black raspberries are the Gregg and Mammoth Chester. I consider black raspberries the most profitable of all berries when once established in consequence of the little care they require. V. DEVINNY.

Denver, Colorado.

ON FILE.—"Mountain-top Letters," J.; "Agriculture and Stock Growing," F.; "Beekeeping in Pavilions," V.; "A Sweeping Cap She Wore," D.; "Insect Killing, etc.," O. S. C.; "Iron as an Insecticide," H.

United States Fish Culture.

We have just received from the Smithsonian Institution, the report of Hon. Spencer F. Baird, U. S. Fish Commissioner, concerning the work done under his management during the year 1878. It is a massive volume of more than 1,000 pages, and is full of valuable information concerning food fishes and other things pertaining thereto. We shall not attempt an outline of the features of the report, for they are so many that the space we have at command would only allow us to catalogue them. Rather would we call attention to the immensity of the work undertaken, by referring to what has been done by the United States within our own State. We read that the season of 1878 proved the most productive in the history of the establishment on McCloud river, and the number of eggs of the California salmon obtained was truly enormous. There were taken 14,000,000 eggs, a number far exceeding those taken in any one season by all the salmon establishments of the world put together. Mr. Stone, who had the work in hand, reports that 18,000,000 eggs could have been taken, but there was no need for so many. The fish from which these eggs were drawn were taken between August 20th and October 5th. Several times from 7,000 to 9,000 fish were taken from the water in a day. Of the 14,000,000 eggs taken, part were hatched out at the McCloud river establishment for the maintenance of the supply in the Sacramento river, and the balance sent to the East; a part being sent to foreign countries in return for their fishes sent to our commissioner.

It must interest all Californians to read of the way in which our peerless native salmon is being transplanted to the waters of the world. Mr. Baird writes that, owing to the very high opinion entertained by European fish culturists of the California salmon as a food fish, both on account of the ease of its cultivation and the fact that it resists higher temperatures of water than the Atlantic salmon, it was determined to renew the experiment by a transmission in 1878; and Mr. Mather was authorized to repack the eggs in his own way and accompany them to their destination. In accordance with instructions he therefore met the car containing the eggs from California at Chicago, and received 250,000 for Germany, 100,000 for France, 100,000 for Great Britain and 100,000 for the Netherlands. These he carried to his residence at Newark, and after repacking them by his own method, he took passage by the Bremen steamer *Oder*, and arrived at Bremerhaven on the 23d of October. The consignment for France was shipped from Southampton, on the way, and that for England was sent, for the most part, to the Southport aquarium. The eggs for the Netherlands were met by an agent of the government at Bremen and transported to Amsterdam, where they were hatched out by the Zoological Garden. The new venture proved to be a perfect success, a very small percentage of the eggs failing to be hatched out. Of the eggs of the German consignment, 45,000 were sent directly to Mr. Haack, at Huizingen, for introduction into the Rhine. One hundred and fifteen thousand were sent to Mr. Shuster, at Freiburg, for the Danube and the Rhine; and 30,000 to Hameln, for the river Weser. Various smaller lots were distributed to other places; and all were successfully hatched out and placed in their destined waters. The 100,000 sent to France were also hatched out with comparatively small loss and introduced into various rivers of the republic. Those for the Netherlands were equally successful. The number actually received in Amsterdam was estimated at 85,000, and of these over 60,000 produced healthy fish, and were planted in various streams.

Another feature of Prof. Baird's report of especial interest to Californians is a paper by R. A. Poppe, of Sonoma, describing the introduction of carp to this State by the late J. A. Poppe. It is the first complete account ever published of an effort which must be counted of great service to the State, for carp are now to be found in ponds in all parts of California, and their successful growth is leading to the building of artificial ponds and stocking of natural ones by many land owners. It is a story of deep interest which is told of Mr. Poppe's unyielding endeavor. How he obtained 83 carp in Germany and started with them across the Atlantic, with his own hands nursing them during the voyage, continually pouring the water back as it ran from the first can through the second into the third; thus keeping his fish in the same water, because he could get no fresh water for them. Despite his effort, and because of the lack of ice to cool the water, more than three-fourths of the first died before he reached New York harbor, and more died while the steamer lay in quarantine. When he landed in New York city he had only eight alive to give the benefit of fresh water. Hence he came overland, and arrived in San Francisco August 5, 1872, with the eight still alive; but delay here caused more to die, and he reached his ponds near Sonoma, with only five puny fish, "not larger than a steel pen"—the very smallest of the lot with which he started from Germany. The hardness of the carp enabled these five to thrive; and in May, 1873, the five had grown to be each 16 inches in length, and they were attended by a progeny of 3,000. Henceforward

Mr. Poppe's effort was eminently satisfactory. His ponds became stocked, and he sold fish to other breeders, and they, too, filled their ponds, and ate and sold the fish; until now, as we have said, the whole State is being interested in carp culture. Mr. Poppe's life was spared until he saw the full success of his persistent enterprise; and his memory may be cherished as one who enriched his chosen State by the introduction of a new and valuable food supply.

In addition to his account of the introduction of this fish to California, Mr. R. A. Poppe gives a paragraph concerning the adaptation of carp to this State, which seems well justified by the experience of our readers who have written to us on the subject. He writes as follows: As to the probable extent to which carp culture may be carried in California, and what its probable success will be, no one, of course, can be able to say. That it can become profitable, I have not the least doubt. The carp, more than any other fish common to us here in the extreme west, is hardy, prolific, and does excellently in our waters. It can be raised with much less trouble and expense than any other, and is as good if not better than any. There are hundreds of acres of marsh and waste lands in California which, by a little labor could be prepared for the culture of the carp. An acre devoted to this purpose is the most profitable investment a farmer could make. Anyone making the experiment will acknowledge beyond a doubt, that the money necessary was never invested to better purpose. Besides supplying the market, there is a delicious dish for home consumption.

New Strawberries.

We give on this page engravings of three strawberries which Mr. Felix Gillet, of Nevada City, has introduced to this State. Mr. Gillet has, during the last few years, introduced more than 60 varieties, a number of them of French, English, Danish origin, and the three shown in the engravings are among those which have succeeded best. The engravings were made from photographs taken in Nevada City, and consequently represent California grown fruit. Last year we gave representations of the Carolina Superba and Bonne Bouche, to which varieties



Fig. 1. Rubis.

eties the remarks above also pertain. From Mr. Gillet's new catalogue which is just issued, we shall take descriptions of the varieties shown.

Fig. 1 is the "Rubis," which Mr. Gillet pronounces remarkably fine. It is early, fruit large and uniformly so, regular, conical but broad; sweet and highly flavored; deep, brilliant, glossy scarlet. Fruit stalks long and erect, some of them bending to the ground under the burden of the berries. Mr. Gillet has never seen a berry keeping so clean as the Rubis, which is due to its stout, long fruit stalks upright among the erect leaf stalks. Seeds outside of cavities; therefore a very good berry for shipping. Regular shape, beautiful color and good shipping qualities—everything recommends this remarkable variety as excellent for market. Rubis is quite vigorous and hardy, as was shown by its behavior through the terribly cold winter 1879-80. The annexed engraving is a good picture of Rubis, though the average size is a little smaller than the berry represented in the cut.

Fig. 2 is the Flora. It is also a fine early variety, but the berry is altogether different in shape than Rubis, as the accompanying cut shows. In color, flavor and shipping qualities, Flora is the equal of Rubis. The berry is large, long, well-shaped; of a beautiful scarlet color, with salmon-colored flesh and nice flavor.

Fig. 3 is the "Gloire de Zuidwyk," a berry which has been mentioned before by Mr. Gillet in his letters to the *RURAL*. It was originated in Holland by Arie Koster. This variety bears enormous berries, wedge-shaped, of a fine red color; flesh firm, salmon-colored; very highly flavored; seeds outside of cavities; first rate for shipping; fruit-stalks quite long and stout, but bending to the ground under the heavy weight of the enormous berries, which, by the way, are very easy to pick, like Rubis and Flora. Very productive; semi-early. The accompanying engraving represents the average size of this magnificent variety; well named "Gloire de Zuidwyk."

Mr. Gillet gives an intimation of the points which he has aimed at in making his tests of imported varieties. He says he has had regard, first, to the robustness and hardness of the plants; second, to their productiveness; third, to the size, quality and color of the fruit. It is upon these grounds that he recommends the varieties contained in his list; but more particularly: Rubis, Gloire de Zuidwyk, Flora, Princess Dagmar, Carolina and Bonne Bouche.

Manufactures and Interest.

Just now the attention of the public is drawn prominently in the direction of home manufactures. California is not as prosperous as her sister States just at this moment, and we are beginning to think that we must establish manufactures to work up our raw material. The question is, whether we can do this under the conditions existing here at present. Theorizing is all very well, and "general principle" statements sound nicely. But have we the men



Fig. 2. Flora.

among us with the nerve to put their money into manufacturing and take it out of the old grooves where it earns interest without responsibility.

The truth of the matter is, that our California capitalists have, in the way of manufactures, done very little. They have never taken any risk. They let the poor man do that. In other countries, capitalists start up an establishment, put in their money honestly, and go to work. If the thing fails, they lose their money; but if it succeeds, they are gainers. They take ordinary business chances, of course.

With us it is different. A man or a few men want to start up a manufacturing establishment, and must rent premises or put up buildings, and buy machinery, and have some means to start in on. With the necessary knowledge of how to accomplish their object with the works prepared, they haven't the money to prepare them. They therefore go to the capitalist. He does not ask them how many men the pro-



Fig. 3. Gloire de Zuidwyk.

ject will give employment to, nor how much they can make per annum. He asks them what security they can give for the money. He doesn't propose to go into any manufacturing institution with his money. He wants, simply, to lend it. If they can give good security and pay good interest, all right; if not, they may say good-morning.

Now, there is more truth than poetry in this statement. Nearly every man who has started in at a manufacturing business here has had the same experience.

The consequence is, that the manufacturing establishments of California are fewer than they should be. The capitalists are more money leuders than anything else. Another result is, that what institutions there are in existence, are on a smaller scale than they should be. Persistent men go to work with a desire to build up a business, and those who can't give security must do the best they can, or give up the idea.

It is the poor man who takes the risk in all these transactions. He has got to run the works, take all the responsibilities and chances, and the risk of failure. The capitalist sits in his office and draws the interest. If it does not come promptly, he shuts down, and that is the end

of the works. He loses nothing. It takes no difference to him.

Those who have had the temerity to go into manufacturing here have always had to fight their way against older established institutions East. They have had to overcome the absurd prejudice against home productions. They have had to pay higher wages than their competitors, and higher expenses also. But the worst fight they have had is with high interest. When they overcame all other obstacles, there stood the interest in the way. The man supposed to be their "backer" and helper financially, is the man drawing the life blood from the institution in the shape of interest. He is the "Old Man of the Sea" on the shoulders of the business, bearing it down.

We must not expect to make any advance in manufacturing here until these conditions are changed. People ought to be satisfied to invest their money legitimately in an enterprise, and depend upon its profits. Unless our capitalists will do this, it will be extremely difficult for us to compete successfully with similar establishments East. Or perhaps some enterprising capitalists from the East will come here and go into manufacturing among us, as they are already coming and buying up our good mines, under the noses of our money-lending, interest-consuming capitalists. When they do, perhaps our monied men will come to their senses and start in to help the State in the way they should have done long ago.

Vineyard Notes.

A reader of the *PRESS* who has a vineyard in Napa county, having noticed the allusion by Mrs. Carr in the *RURAL* of Dec. 4th to one of the famous French vineyards, Chateau Lafitte, brings us files of Parisian newspapers with further information concerning the value and production of other of the world-renowned vineyards. We take from the authorities thus furnished us the following particulars: There are six great brands; Chateau-d'Yquem, Chateau-Lafitte, Chateau-Margaux, Chateau-Latour, Chateau-Haut-Brion. The Chateau-d'Yquem belongs to the Marquis de Lur-Saluces. The domain comprises 143 hectares (a hectare is 2.4 acres), of which 90 are devoted to the growth of white grapes. The wine of the years 1859 and 1861 was sold at 6,000 fr. the barrel (a "barrel" means the cask of Bordeaux which contains about 60 gallons). A barrel of Chateau-d'Yquem was sold to the Grand Duke Constantine in 1859 for 20,000 fr. In 1864 this wine, new, was sold at 4,500 fr. the barrel, and in 1867 at 3,000 fr. The annual produce is 120 barrels. The Chateau-Lafitte belongs to the Barons Alphonse, Gustave and Edmond de Rothschild, who have inherited it from Baron James de Rothschild, who bought it for 4,140,000 fr. in 1863. The annual produce is 180 barrels. The best wine is sold at 9,000 fr. the barrel. The Chateau-Margaux was sold in 1863 for 5,000,000 fr. to Mr. Pillet-Will, who now owns it. The Chateau-Margaux produces 155 barrels a year. The Chateau-Latour is owned by Messrs. de Flers, de Beaumont, de Gravelle and de Courtivon. The annual produce is 90 barrels. The Chateau-Haut-Brion belongs to the heirs of Mr. Amedee Larrieu; annual produce about 100 barrels. Among the famous Bordeaux crus are the Mouton, belonging to the Rothschilds; the Branc-Cantenac, to Messrs. Berger & Roy; the Cos d'Estournel, to the Erarazus; the Montrose, to Mr. Mathieu Dollfus; the Chateau-Leoville, to the Marquis de Las Cases; the Baycheville, to Mr. Heine; the Cestas, to Baron Haussmann; the Rauzan-Gassies, to Rhone-Pereire; the Chateau-Lacombe, to Mr. Chaix-d'Est-Ange. Our friend has ordered cuttings from all these famous vines from a correspondent in Bordeaux, and will plant them in Napa county to test their adaptation to this climate.

Concerning the relative proportions of wine production and consumption in France we find some interesting information. The wine crop of 1879 was 25,000,000 hectoliters, or 30,000,000 hectoliters below the average of the last 10 years. The annual consumption in France is 40,000,000 to 45,000,000 hectoliters. Everybody expected a rise in the price of wine, and some conscientious dealers laid in a stock from abroad. The rise in price, however, never came, and the market remained well supplied. The reason was, that the natural deficit was compensated for by artificial means. Wine was manufactured out of dry grapes. All the raisins to be found in the Eastern ports were bought up, and wine manufactories sprang up all over the country. Around Paris alone there are seven steam power wine manufactories. The cost of a cask of raisin wine is about 50 fr., and it was sold at 100 fr., thus giving a profit of 100%. But the competition has now become such that the price of raisins has risen from 12 fr. to 75 fr. the 100 kilogrammes. The consequence is that raisins have been abandoned, and wine is now manufactured out of glucose, a sugary matter obtained from the potato, out of the residues of molasses, out of rotten apples, dried prunes, dates, figs, and all kinds of refuse fruits, and even out of beet root. These abominable liquids are colored artificially, and cut more or less with Spanish wines or white wine. The adulteration and manufacture of wine has attained such vast proportions that the principal dealers, who had taken measures to supply the market loyally with harvest wine from foreign countries, have taken steps to put a stop to the gigantic fraud. The imposture has reached such a pitch that not one-third of the wine now drunk at Paris is real grape wine.

Grape Seed Oil.

We recently made some allusion to an oil obtained from grape seeds as something quite new. But a correspondent of the *Scientific American*, from which journal we gleaned the information, writes that the "alleged discovery has been known for more than a century. As early as 1770 oil was made from grape seeds in Italy and France. In 1800 there was a factory at Olby which had existed from time immemorial. Other factories existed in Bergamo, Italy, in 1770; in Rome and in the vicinity of Ancona before 1782; Naples, 1818; Germany, before 1787.

"In the south of France, where the grape-oil industry is carried on, from 10 % to 15 % of oil is obtained, the oil being better and sweeter than nut oil, and remaining fluid at a lower temperature. It is used in lamps, and gives a bright light, without odor or smoke.

"In extracting the oil from the grape kernels, the refuse left after distilling brandy or making verdigris is dried and ground fine in an ordinary mill, the yield of oil being in direct proportion to the fineness of the grinding.

"Some manufacturers first press without heat, obtaining about five per cent. of oil, afterwards the stuff is heated and pressed with a yield of 10 % or 15 % more oil. The oil is of a light yellow color, and in course of time obtains a density of 0.9202 at 59° Fah., and solidifies at about 3° Fah. M. Laliman errs in recommending this oil for watches, for although it does not congeal as soon as other oils it becomes viscid and rancid when exposed to air. Grape oil saponifies readily, but the soap lacks hardness and density.

"Black grapes contain much more oil than white grapes. The kernels of grapes from vines in full vigor yield more oil than those from very young or very old vines. In France the vines of Roussillon, Aude, and Herault give the most oil. In general black grapes produce from 15 % to 18 % of oil; white grapes, 10 % to 14 %.

"It is probable that American vines, especially those of California, yield more oil than French vines. In the south of France 25 lbs. of kernels are allowed for 25 gallons of wine. It is easy to estimate the quantity of oil that is annually lost in grape producing countries."

May it not be that there is here a hint for a new and profitable branch of industry that might be successfully introduced into this State?

H. H. H. Horse Medicine.

Stockton, February 4, 1880. H. H. Moore & Son, having this day purchased the right, title and interest of William & Moore in the H. H. H. Horse Medicine, will continue its manufacture as Sole Proprietors.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Tonic Bitters,

Of Iron, Peruvian Bark and other Medicinal Agents. Our Tonic Bitters is a Restorer of Life to the System, weakened by disease of any kind.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Kidney Remedy.

One trial of this Truly valuable Remedy will convince the most unbelieving sufferer from Kidney Complaint of its wonderful power. Send for Circular.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Sarsaparilla.

A Pure Extract of Blood Purifying Products for the cure of Skin Diseases, Eruptions and General Debility. Address

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Cough Syrup.

The Triumph among Cough Syrups. Ask your Druggist for it and take no other. A sure and speedy relief is certain.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

H. H. MOORE & SON'S Ague Remedy.

It is Purely Vegetable. We guarantee this Old and Tried Remedy to be without equal for the Cure of Chills, Fever and Ague, Biliousness, Etc.

H. H. MOORE & SON,
Druggists, Stockton, Cal.

AGENTS WANTED Everywhere, to sell the **Best Family Knitting Machine** ever invented. Will knit a pair of Stockings, with heel and toe complete, in 20 minutes. Will also knit a great variety of fancy articles, for which there is always a ready market. Send for circular and terms to **The Twombly Knitting Machine Co.**, 409 Washington St., Boston, Mass.

LAND

Good land that will raise a crop every year. Over 14,000 acres for sale in lots to suit. Climate healthy. No drouths, bad floods, nor malaria. Wood and water convenient. U. S. Title, perfect. Send stamp for illustrated circular, to **EDWARD FRISBIE**, Proprietor of Reading Ranch, Anderson, Shasta County, Cal.

THE GARDEN CITY



Gang and Sulky Plows.

Our Gang and Sulky Plows are the result of many years' experience in their manufacture, aided by a long series of practical tests in the hands of some of the best farmers on the Pacific Coast. They are extremely simple, strong and durable, and have several features superior to all other known Gang or Sulky Plows. One feature of great importance is the **Brake** arrangement, for raising the Plows out of the ground. By this means even a boy can raise them with perfect ease, since the horses do the raising as soon as the brake is applied to the wheel. Another desirable feature consists in having but **one** simple lever for regulating the depth of furrow, and raising or lowering the plows.

We have lately added a **Lever** on the Gangs by which the Pole is moved to the right or left, for the purpose of giving the Plow more or less width of furrow, as may be desired. It can be operated by the driver while the Plow is in motion. For plowing around circular corners, or curved furrows of irregularly shaped lands, it works to perfection.

We also make a **jointed Pole**, which allows a free up and down play of the same, and does away with any pressure upon the horses' necks, that might otherwise occur in plowing over uneven surfaces.

We invite the attention of all who intend to purchase this class of Plows, feeling assured that after a careful examination, ours will receive the preference over all others.

LA DOW'S JOINTED PULVERIZING HARROW, FOR TWO, THREE AND FOUR HORSES.

REMEMBER that this is the **ONLY HARROW** that has the right to use a **LEVER** to change the angle, or that has the Axles of the Gangs binged together, or that has **Flexible Joint Bearings ON THE AXLES**.

SEND FOR CIRCULARS AND PRICE LIST.

GEO. A. DAVIS, SOLE AGENT,
No 327 Market Street, - - San Francisco.

NICOLL THE TAILOR!!

Branch of New York

INSPECT OUR IMMENSE STOCK.

Do Not Fail to See

THE ELECTRIC LIGHT!!

Call and see the **ELECTRIC LIGHT** at **NICOLL'S**, by which Colors and Quality may be Seen as **Clearly at NIGHT** as at **NOONDAY**.

TO ORDER:

Pants

From \$5.00.

Suits

From \$20.00.

Overcoats

From \$18.00.

Usters

From \$15.00.

Dress Coats

From \$20.00.

GENUINE 6x BEAVER SUITS from \$65. English Cords for Hunting Suits. Samples, with instructions for self-measurement, sent free.

Only White Labor Employed, and none but Experienced and First-Class Cutters.

A SMALL STOCK OF UNCALLED FOR PANTS, VESTS, COATS, OVERCOATS, ULSTERS, AT AN IMMENSE REDUCTION.

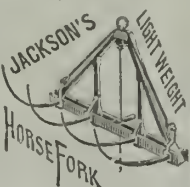
Nicoll the Tailor's Grand Tailoring Emporium

727 Market Street, San Francisco, Cal.

Jackson's Agricultural Machine Works AND FOUNDRY,

6th and Bluxome Sts., near S. P. R. R., San Francisco.

Manufacturer of Feeders and Elevators, with recently invented Spreader, Horse Forks for Headings or Hay, Folding Derricks, Hoadley Straw-Burner and Automatic Cut-off Governor for Portable Engine, Separator Shoes and Repair. **WINDMILLS** for Stockmen and Gardeners. Buy and sell second-hand Threshers and Engines. Machine Castings a specialty. Address **BYRON JACKSON, Prop'r.**



50 Landscape, Chromo Cards, etc., name on, 10c. 20 Gift Edged Cards, 10c. Clinton & Co., North Haven, Ct.

M. COOKE.

R. J. COOKE

PIONEER BOX FACTORY,

Corner of Front and M Streets, Sacramento

ALL KINDS OF

Fruit and Packing Boxes Made to Order, AND IN SHOOKS.

Communications Promptly Attended to.

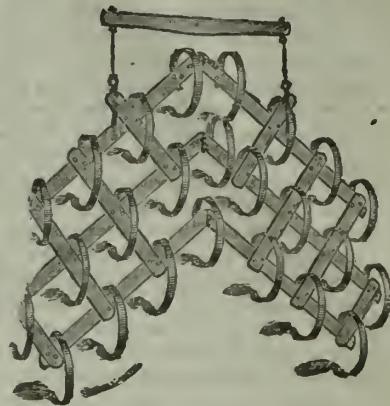
COOKE & SONS, Successors to COOKE & GARGOY

Engraving.

Superior Wood and Metal Engraving, Electrotyping and Stereotyping done at the office of the **MINING AND SCIENTIFIC PRESS**, San Francisco, at favorable rates

Agricultural Articles.

READ THIS.



THE CALIFORNIA

Spring Tooth Harrow

PROVES TO BE THE MOST PERFECT IMPLEMENT

FOR VOLUNTEERING

Ever used on this Coast. The stubble fields are made as fine and mellow as a summer-fallow.

No Farmer Can Afford to be Without Them.

It will cost nothing to try one and satisfy yourself. Manufactured and sold only by

BATCHELOR, VAN GELDER & CO.,

Nos. 900 & 902 K Street., Sacramento.

AND THEIR AUTHORIZED AGENTS.

The Famous "Enterprise,"

PERKINS' PATENT Self Regulating

WINDMILLS,

Pumps & Fixtures.

These Mills and Pumps reliable and always give satisfaction. Simple, strong and durable in all parts. Solid wrought-iron crankshaft with double bearings for the crank to work in, all turned and run in babbit boxes.

Positively self regulating with no coil spring or springs of any kind. No little rods, joints, levers or balls to get out of order, as such things do. Mills in use six to nine years in good order now, that have never cost one cent for repairs.

All sizes of Pumping and Power Mills. Thousands in use. All warranted. Address for circulars and information,

HORTON & KENNEDY,

GENERAL OFFICE AND SUPPLIES, LIVERMORE, ALAMEDA CO., CAL. Also, Best Feed Mills for sale.

San Francisco Agency, **LINFORTH, RICE & CO.,** 323 & 325 Market Street.

MATTESON & WILLIAMSON'S



Took the Premium over all at the great plowing Match in Stockton, in 1870.

This Plow is thoroughly made by practical men who have been long in the business and know what is required in the construction of Gang Plows. It is quickly adjusted. Sufficient play is given so that the tongue will pass over cradle knolls without changing the working position of the shares. It is so constructed that the wheels themselves govern the action of the Plow correctly. It has various points of superiority, and can be relied upon as the best and most desirable Gang Plow in the world.

Iron Founders, Machinists and Manufacturers of Improved Agricultural Implements. General Jobbing and repairing done in the best manner at most reasonable rates. Send for circular to **MATTESON & WILLIAMSON,** Stockton, Cal.

WEST SIDE GANG PLOW.



With Patent Reversible and Double Pointed Self-Sharpener's Ing Share. Suitable for any kind of soil. Best Plow in use. Send for Circular and Price List. Manufactured and sold by **THOS. POWELL, Stockton, Cal.**

SADDLES, HARNESS, WHIPS, LEATHER,

W. DAVIS, 410 Market St., S. F. Manufacturer and Dealer in All Goods in this line. Send for Catalogue

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

HENRY PIERCE, 723 Montgomery Street, S. F. Jersey Cattle, bred from Importation direct from Jersey Island, and winners of most of the prizes at Oakland, Stockton and the State Fairs. "Victor of Yerba Buena," of noted butter strains on the Island, and known to be the best Bull ever imported to this coast, now stands at the head of this famous herd. "King of Scituate," son of the famous 705 pound butter Cow, Jersey Belle, of Scituate, which now stands at the head of Mr. Pierce's noted herd, at Scituate, Mass., will soon be brought here.

PETER SAKS & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Seraphina Bull and Kirklevington Duke 2d, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal. Proprietor of Gabian Herd. The foundation of the Gabian Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Loran and Hope families; also representatives of the pure Bates, Oxfords, Dutchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland, Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Norman-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the Sato Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 413 California St., S. F.

POULTRY.

ALBERT BURBANK, 43 California Market, S. F. Importer and Breeder of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochon Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

IRRIGATED LANDS FOR LEASE AND SALE.

THE GREAT COLORADO VALLEY LAND AND IRRIGATING CO.

Offer for Lease and Sale a large tract of land in small farms, on extra liberal terms to settlers.

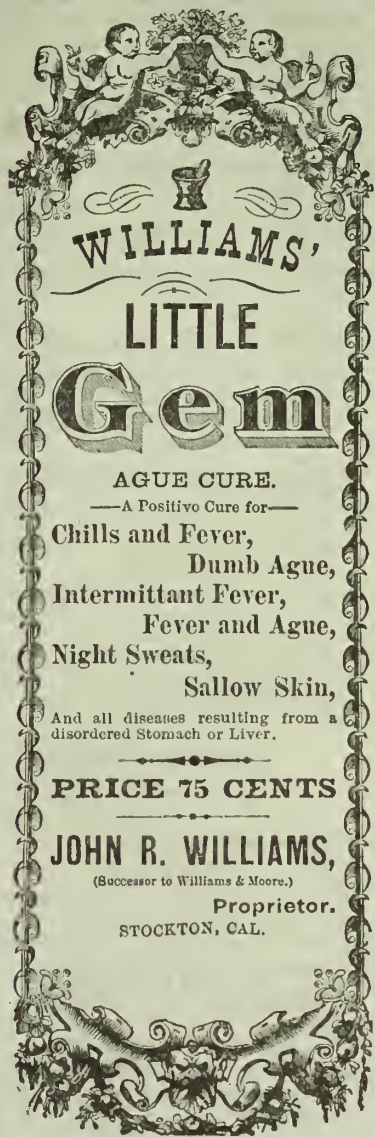
Adapted to the growing of Semi-Tropical and Deciduous Fruits, Fibrous Plants, Vines, Cereals, Etc.

Situated on the California side of the Colorado river, opposite the town of Ehrenberg, and deriving its irrigating water by Canal from the Colorado river.

Full particulars, terms, etc., will be forwarded on application to

THOMAS H. BLYTHE, 724½ Market Street, San Francisco.

Or to GEORGE S. IRISH, Superintendent, (on the land).



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittant Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

BEFORE BUYING OR RENTING AN ORGAN

Send for our LATEST ILLUSTRATED CATALOGUE (32 pp. 4to), with NEWEST STYLES, at \$51 and upward; or \$6.35 per quarter, and up. Sent free. MASON & HAMLIN ORGAN CO., 154 Tremont St., BOSTON; 46 E. 14th St., NEW YORK; 149 Wabash Av., CHICAGO.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

PATENT

CAL. METALLIC WINDOW SCREENS.

This is the Best and Cheapest Window Screen ever offered to the public. Useful and Ornamental. To exclude Flies and Mosquitoes, it has no equal. It is an article of comfort, convenience and economy, and needs only to be known to be deemed a household necessity.

J. REARDON, 328 Bush St., S. F.

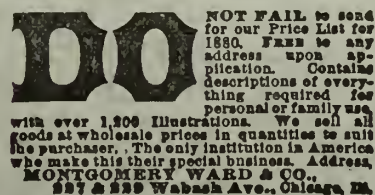
100,000 BLUE AND RED GUMS.

200,000 Cypress, Pine and Acacia.

Very fine Stock and Cheap. Beautiful, Fresh and Finest Variety of Monterey Cypress Seed, \$3.00 per pound, pre-paid by mail. Blue Gum and Acacia Seeds. Postoffice address,

GEO. R. BAILEY, Oakland, Cal.

Nursery located at Dwightway Station, East Berkeley.



DO NOT FAIL to send for our Price List for 1880. Free to any address upon application. Contains descriptions of everything required for personal or family use, with over 1,200 illustrations. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, **MONTGOMERY WARD & CO., 237 & 239 Wabash Ave., Chicago, Ill.**

54 All Gold, Chromo and Lithograph Cards, no 2 alike, name on, 10 cts. C. DePuy, Syracuse, N. Y.

Poultry.

Price List—1880-1881.

NOW READY.

UNLIMITED RANGE
116 Acres.



HEALTHY STOCK.

Brahmas, Brown Leghorns, Plymouth Rocks, Langshans.

BRONZE TURKEYS, PEKIN DUCKS.

Carbolic Powder—Four Pound Package \$1 00.
Pamphlet on the Care of Fowls, Diseases, Cures, etc. adapted especially to the Pacific Coast, price 15 cents.
Please send stamp for Price List to

M. EYRE, Napa, Cal.

GEORGE TREFZER, NAPA CITY, CAL.,

BREEDER OF

Brown and White Leghorns,

Plymouth Rocks, Light Brahmas, Houdans and Pekin Ducks.

A from a very fine lot of Imported Stock. A fine lot of young stock for sale now at reasonable prices.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,

Near the University, Berkeley Alameda Co., Cal

GRANGERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING, Vice-President.....Napa Co
J. V. WEBSTER.....Alameda Co
URIAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS MCCONNELL.....Sacramento Co
L. C. STEELE.....San Mateo Co
SOLOMON JEWETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general Banking business.

CURRENT ACCOUNTS are opened and conducted in the usual way.

GOLD and SILVER deposits received.

CERTIFICATES of DEPOSIT issued for Gold and Silver.

TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months.

EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1875.

GUNS

Lowest prices ever known on

Breech-Loaders, Rifles, and Revolvers.

OUR \$15 SHOT-GUN

at greatly reduced price.

Send stamp for our New Illustrated Catalogue (B)

P. POWELL & SON, 235 Main Street, CINCINNATI, O.

ADJUSTABLE SIDE HILL HEADER WAGON.

Side Hill Harvesting Made Easy.

This wagon can be adjusted by the driver to a level on a pitch of 25° and turned around and the level maintained in turning. A pitch of 40° is required to overturn. Address,

TAYNTON & DERRICKSON,
Clayton, Contra Costa County, Cal.



LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant.

Price reduced to \$1.60 per gallon. For directions and testimonials apply to

PALENER, BELL & CO.,
Sole Agents, 430 California Street, S. F.

52 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in gold and jet, 10c. Clinton Bros., Clintonville, Ct

Lands for Sale and to Let.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Sequel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,
Sequel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Sequel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,
Sequel, Cal

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapes, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,
Santa Cruz, Cal

H. S. SARGENT,

Importer, Breeder and Shipper of

Thoroughbred Stock.

Poland China or Magie Pigs from Imported Stock.

Thoroughbred Jersey Bull.

Also two Jersey Bull Calves,

Strictly thoroughbred, for sale cheap.

Bronze Turkeys for sale, bred from

Imported stock.

Address H. S. SARGENT, Stockton, Cal
(Care Grangers' Union.)

NEW CHAMPION



Price—Plain Barrels, 12 Bore, \$15 00.
" " " " 10 " 16 00.
" Twist Barrels, 12 Bore, 17 00.
" " " " 10 " 18 00.

The frame and trimmings of all these guns are nickel plated. This gun possesses many advantages over any single breech-loading gun yet produced in this country. It has a patent side snap action with a safety attachment, by means of which it can be opened only when the gun is at half-cock, thus insuring perfect safety in loading. The workmanship and materials used are first class; no gun being allowed to leave the factory until it has been thoroughly inspected. We take great pleasure in offering this gun to the public, and feel safe to say it is the best Am. Single Breech-Loader yet produced.

E. T. ALLEN, Agt., 416 Market St., S. F.

Windmills!

HORSE POWERS!

TANKS AND PUMPS

Built and repaired at

No. 51 Beale Street, S. F

Send for circulars.

F. W. KROGH & CO

(Successors to W. I. TUSTIN.)



[COM.]

Vaccination for Scab in Sheep.

EDITORS WATCHMAN:—I desire to announce to your readers that I have discovered a method of protecting sheep from the scab disease by vaccination. The principle is identical with that involved in vaccination to prevent smallpox in the human species. I do not claim that my method of vaccinating sheep will prove an absolute prevention of skin disease, but it will either prevent it or reduce the disease to a milder form, as vaccination in human kind reduces smallpox to varioloid. In the case of sheep there may, in some cases, be a slight surface irritation of the skin which can be easily removed, but there will be no attack of the scab in its well-known virulent and penetrating forms. Anyone desirous of inquiring into this new method of meeting the scab disease may address me at the Baldwin Hotel, San Francisco.

S. H. KENNEDY.

San Francisco, Dec. 8th.

P. S.—Address, after January 15, 1881, Omaha, Nebraska.

HALL'S VEGETABLE SICILIAN HAIR RENEVER is a scientific combination of some of the most powerful restorative agents in the vegetable kingdom. It restores gray hair to its original color. It makes the scalp white and clean. It cures dandruff and humors, and falling out of the hair. It furnishes the nutritive principle by which the hair is nourished and supported. It makes the hair moist, soft and glossy, and is unsurpassed as a hair dressing. It is the most economical preparation ever offered to the public, as its effects remain a long time, making only an occasional application necessary. It is recommended and used by eminent medical men, and officially endorsed by the State Assayer of Massachusetts. The popularity of Hall's Hair Renever has increased with the test of many years, both in this country and in foreign lands, and it is now known and used in all the civilized countries of the world.

FOR SALE BY ALL DEALERS.

THE AMERICAN EXCHANGE HOTEL, so well known to all the traveling public, has been refitted, overhauled and put in first-rate condition, and is now under the management of Charles Montgomery, proprietor of the three "Montgomery Hotels" on Second street, in this city. He is an old hotel man, having had many years experience. He will run the American Exchange on improved principles. The building has been thoroughly renovated.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

FIRST-CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

H. HOFFMAN, Proprietor of the St. James Hotel, San Jose, opposite the Plaza. First class in every respect. Free Bus.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CAVEN, Propr.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Dec. 15, 1880. There has been rather more activity in trade this week, and some heavy transactions consummated. The leading grains are a little advanced, and a firmer feeling discernible. On the other hand, the advance of the season is bringing a larger supply of Dairy and Poultry Yard products, and prices are declining.

Abroad there has been little change. To-day's Liverpool dispatch to the Produce Exchange is as follows: California Wheat—Average, at 9s 9d to 10s 1d; cargoes, off coast, 47c; nearly due, 46c 6d; just shipped, 45c 6d. Floating cargoes are steady. Liverpool spot Wheat is firmer. Cargoes on passage for shipment do not meet with much inquiry.

The Foreign Review.

LONDON, Dec. 13.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "The continued dry weather has been advantageous to agriculture, but the unseasonable mildness will prove a wholesome check to the rapid growth of early-sown wheat. The British grain trade has been materially smaller, and everything cheaper, while some descriptions were nominally unchanged. At the beginning of the week the demand for Wheat and Flour was very slow, both in London and in the provinces. Both declined a shilling, and still further on Wednesday. On Friday there was practically nothing doing, and Wheat was difficult to sell. The supply of Wheat is larger, and there appears to be indications of values lowering. During the week prices for Wheat and Flour declined over 2s, both in London and in the provinces. Foreign grain has been depressed throughout the week, and in London was much smaller, but there was a considerable increase in breadstuffs. There was an increase in the visible supply in America, and the large receipts from India have weakened the position of holders. The cargo trade off the coast declined steadily until Friday, when a better demand for American Red Winter was manifested, and its value improved 3d. On Saturday foreign breadstuffs, in all positions afloat, were weak. The spot supply was consumed steadily at from 1s to 2s reduction for all descriptions. New Wheat and foreign Flour were carefully taken at a reduction of 1s to 1s 6d. Barleys were in liberal supply at most of the provincial exchanges, but the trade has been inanimate throughout the country. Prices continue to decline, but the lowest point has not yet been reached. Grinding and distilling rates were reduced from 6d to a shilling, and secondary qualities considerably more. Bright malting samples, however, which are rare, were unchanged. The same may be said of foreign Barley. For Oats there has been a restricted demand. Light sorts were cheaper; foreign steady and unchanged. Malt, notwithstanding the supply and quantity on passage was smaller, and ruled weak, and spot has declined 6d to 9d since Monday, the trade probably being influenced by the decline in the American markets.

Sales of English Wheat during the week were 41,766 quarters, at 45s 1d per quarter, against 41,603 quarters, at 46s 2d per quarter, corresponding week last year. Imports into United Kingdom, week ending December 4th, 1,441,366 cwt Wheat; 315,201 cwt Flour.

Freights and Charters.

The latest Wheat charters reported were, all except one drawn prior to arrival, for Cork. The exception is the British iron ship *Cromartyshire*, 1,554 tons, at £2 13s, spot. The others are the British ship *Dumbartonshire*, 915 tons, £2 2s 6d; British ship *King Coltrick*, 1,532 tons, £2 1s 6d; British bark *Mary Emily*, 449 tons, £3 2s 6d; British iron ship *Tiverton*, 1,175 tons, £3 1s 3d.

The list of vessels now in port, under charter for Wheat, comprises 43 vessels of 60,015 tons of registered tonnage, with a carrying capacity for 90,000 tons Wheat. This is probably as much Wheat as will be shipped for the next 30 days. There is also a good supply of disengaged tonnage in port, and Wheat shippers are demanding concessions from ship owners, but so far with little success. A year ago Saturday, 31 vessels of 44,000 tons of tonnage were in port under engagement for Wheat.

Eastern Grain and Provision Markets.

NEW YORK, Dec. 11.—The past week has been of unusual irregularity in commercial circles. Speculation has been unusually lively on all commodities in which this species of trading forms a conspicuous part. In Wheat the most radical fluctuations have occurred, the general tendency having been toward a lower point, although to-day the market was more active, and 1¢ 1/4 higher. Barley is in fair demand and firm. Provisions remain very quiet, and prices are weak.

CHICAGO, Dec. 11.—The Grain market came very near being demoralized at one time during the week ending to-night. In two days the prices of Wheat marked a decline of nearly 6 cents. At the close, however, there was a substantial rally, which saved the panic that might have ensued. Corn and Oats sympathized with Wheat; Rye took an independent course, and Barley obstinately shot upward until it reached the dizzy height of \$1.10. Provisions flopped around in apparent uncertainty. The hog crop seems to be an unstable element in the Provision trade. Some time ago the daily shipments exceeded by far any previous records. Now the receipts are less than half those of last year. It seems to be a settled fact that the farmers will combat low prices with great energy. This is apparent from the relations between the prices and the receipts. When prices decline a little either in Grain or Hogs, the receipts, without delay, also drop off. When prices revive and show an advancing tendency, the receipts augment *pari passu*. The "Independence" of farmers was never more manifest than now. They evidently propose to get good, round prices or keep their truck. Sales for the week were made for the January option as follows: Wheat, \$1.07 1/2 @ 1.07 1/4; Corn, 39¢ @ 41¢; Oats, 31¢ @ 33¢; Pork, \$12.80 @ 13.40; Lard, \$8.25 @ 8.57 1/2. The closing cash prices were: Wheat, \$1.03 1/2 @ 1.03 1/4; Corn, 39¢; Oats, 62¢; Rye, 87¢; Barley, \$1.10; Pork, \$11.50 for new, \$13 for old; Lard, \$8.35 @ 8.37 1/2.

NEW YORK, Dec. 14.—The markets are very quiet. Wheat is dull, and there is an entire absence of export demand. Barley is strongly held. No. 1 Canada at \$1.30; No. 1 bright at \$1.35 @ 1.40. Provisions are lower and neglected.

New York Dried Fruit Markets.

NEW YORK, Dec. 11.—Raisins are less active in demand, and prices are easier; layers, \$2.10; London layers, \$2.50; Valencia, 87¢. Prices are steady under a good demand at 63¢ 6d. Figs are in fair demand and steady. Currants are in good demand and firm. Dried Apples are in good demand for evaporated, and firm.

Eastern Wool Markets.

BOSTON, Dec. 1.—At the present writing there is a very strong tone to the market and a good demand from manufacturers, but there is less speculative feeling among dealers than existed a few weeks ago. A large portion of the fleece Wools in the market is held under instructions, not to offer until after Jan. 1st, and a considerable percentage of the clip is still in the country, to be marketed later on, unless the owners decide to carry over to another season; in addition, several thousand bales of California Wool are on the way by sailing vessels from San Francisco. From these sources we are likely to have a large amount of Wool put upon the market during the late winter and spring months, and it is questionable whether the manufacturing demand will be sufficient to justify much advance from the present basis of value. We look, however, for a good steady trade for some months to come, with perhaps a further hardening of values during the next 60 days. The opinion of the best competent to judge, is that a repetition of the rapid advance of last season would be a decided detriment to all connected with the trade, as it would undoubtedly be followed by a corresponding dullness and decline, incurring a direct loss to those who may operate in Wools, and predicated an unfavorable opening of the next season, for both growers and manufacturers. What is wanted is a firm, healthy market for both Wool and Woolsens, and such improvement as there may be in one, to be accompanied by a corresponding rise in the other, by which course the manufacturer can obtain a fair profit on his productions, and the grower a good price for his Wool.—Walter Brown & Co.'s Circular.

NEW YORK, Dec. 11.—Wool is in very fair demand, and prices are well maintained. Sales of 62,000 lbs Spring California at 30¢ 3/4; 115,000 lbs Fall do, 20¢ 3/4; 50 bags scoured, 67¢; and 10,000 lbs do, 70¢ 7/4.

PHILADELPHIA, Dec. 13.—Wool is quiet, and receipts are nominal.

BOSTON, Dec. 10.—The Wool business has been fair for the season. Sales of the week comprise 2,000,000 lbs of all kinds. The tone of the market is quieter, particularly for washed fleece, but this was not unexpected, as the manufacturers are not disposed to purchase largely while taking account of stock. Prices remain the same. Sales of California fleeces have been large, upwards of 900,000 lbs at 25¢ 3/4 for Spring, and 19¢ 3/4 for Fall.

BOSTON, Dec. 14.—In Wool there is a good steady demand, and prices are well sustained and firm. Manufacturers are buying freely, and even more active movements are looked for before the close of the month. California descriptions meet with a ready sale at 25¢ 3/4 for Spring, and 18¢ 3/4 for Fall.

The London Wool Sales

LONDON, Dec. 11.—Sixty-six hundred bales of Wool were sold to-day, chiefly Sydney, Port Phillip and Cape. There was a moderate attendance, with fair spirit, but prices were less firm. To-night closes this series of sales. Fifteen thousand bales have been bought in or withdrawn. Prices of good Wools averaged over, and of faulty under those of the previous series.

BAGS.—Bags are quiet and unchanged.

BARLEY.—The inquiry for Eastern shipment has revived, and sales have been at better prices, though within the range we quoted last week, unless a reported sale of Brewing, at San Jose, at \$1.30, be an exception. We note sales: 1,000 sks choice Brewing, \$1.25; 3,000 sks do, \$1.25; 2,000 sks fair do, \$1.17; 600 sks choice Coast Chevalier, \$1.10; 500 sks fair do, and 800 sks Bay, \$1.

BEANS.—Bayo and Pea Beans have advanced a little. Limas are arriving more freely, and sales have been at a lower range. We note sale of 1,000 sks Limas at \$3.30 @ 3.35 @ ctd.

CORN.—There has been a falling off of interest, and prices have dropped so that Large Yellow was sold at \$1 @ ctd.

DAIRY PRODUCE.—The market is still weaker, and the best rate for fancy brands to-day is 87¢. Ordinary choice

lots go at 35c, and poor at 30¢ 3/4. Cheese is held firm at 14¢ 1/2.

EGGS.—Eggs are also on the down grade, the choicest fresh Californians going at 35c.

FEED.—Corn Meal has advanced to \$26 @ ton, and Hay has lost another 50c @ ton, the best Wheat bringing \$15.50.

FRESH MEAT.—Fresh Meat is abundant and low, the only change being in live Pork, which is now rated at 4¢ 4¢ @ lb.

FRUIT.—The advantage is on the side of Oregon Apples now, which sell as high as \$1.25 for the best. California Oranges are below Tahiti, because the fruit now arriving is very green. There are many Mexican Oranges now in. The first shipment of Oranges from Silva & Son, of Newcastle, Placer county, arrived this week. The fruit was good and sold well.

HONEY.—Strictly choice comb Honey has advanced 1/4¢. Much depends upon the style and condition of the package and Honey. Some lots of comb are hard to sell at 10c. For extracted honey 7¢ seems about the top for ordinary choice lots.

HOPS.—Hops are quiet and unchanged.

OATS.—There is no change, and but little trade in Oats.

ONIONS.—Onions are considerably lower, because of increased supplies.

POTATOES.—The late advance has induced free shipments. Nearly 9,000 sks arrived on Tuesday. There has been a decline on all sorts of 10 to 15¢ per ctd.

PROVISIONS.—There is a very good trade for the season in all cured meats. Extra clear Bacon and Shoulders are, however, 1/2 to 1¢ per lb lower.

POULTRY AND GAME.—Rates are altogether without variation and the trade quiet this week.

VEGETABLES.—The supplies are now mainly restricted to staple roots, etc., and there is little variation in value.

WHEAT.—Rates are within the limits stated last week, but there has a better feeling crept in. The spirit is now quite firm, but there is no special activity. We note sales: 200 sks for Macaroni, \$1.52; 600 sks to a miller, Oakland delivery, \$1.51; 500 tons and 700 sks No. 1, \$1.50. 700 tons and 600 and 400 sks No. 1, \$1.43; 350 sks off grade, \$1.42; 2,500 sks do, \$1.40; 800 sks superfine, \$1.25, and 400 sks off grade, \$1.30 per ctd.

WOOL.—There has been an unusual activity for December, and a vast amount of the low-grade Wools, which have dragged along since shearing, have been to a great extent cleaned up. Sales have been for ordinary Southern and San Joaquin from 11c to 14¢ @ lb. Now there is a better general feeling in the market, but no change in prices.

DOMESTIC PRODUCE.

[WHOLESALE.]

WEDNESDAY M., Dec. 15, 1880.

BEANS & PEAS.		Brazil.	
Bayo, do.	1 05 @ 110	Pecans.	14 @ 15
Butter.	1 45 @ 150	Peanuts.	16 @ 17
Castor.	3 25 @ 350	Filberts.	9 @ 10
Peas.	1 60 @ 165		
Red.	0 00 @ 005	ONIONS.	
Flax.	1 00 @ 105	Red.	2 @ 200
Small White.	40 @ 4150	Silver Skin.	2 75 @ 300
Lima.	3 30 @ 340	POTATOES.	
Field Peas, blk eye.	25 @ 275	Petaluma, ctd.	80 @ 87 1/2
do, green.	1 10 @ 115	Tomatoes.	80 @ 87 1/2
		Humboldt.	— @ 100
		" Kidney.	90 @ 100
		" Peachblow.	90 @ 100
		Jersey Blue.	— @ 75
		Cuifey Cove.	1 00 @ 110
		Early Rose, new.	65 @ 70
		Hill M'n Bay, Chile.	— @ 75
		River, red.	50 @ 55
		Sweet.	— @ —
		POULTRY & GAME.	
		Hen, doz.	5 00 @ 60
		Roosters.	4 50 @ 60
		Ducks.	3 00 @ 400
		Broilers, tame, doz.	5 00 @ 60
		Mallard.	2 75 @ 300
		Spring.	1 75 @ 225
		Teal.	— @ 175
		Wild geese, pair.	1 12 1/2 @ 125
		Wild Gray, doz.	2 00 @ 250
		White do.	1 00 @ 125
		Turkeys.	14 @ 16
		do, Dressed.	15 @ 17
		Salp. Ang.	1 25 @ 150
		dues, Corn.	40 @ 50
		Quail, doz.	75 @ 87 1/2
		Rabbits.	1 00 @ 125
		Hare.	1 75 @ 225
		Venison.	5 @ 7
		PROVISIONS.	
		Cal. Bacon, extra.	12 1/2 @ 127 1/2
		Wide B.	10 1/2 @ 11
		Light.	11 1/2 @ 12
		Lard.	10 @ 11
		Cal. Smoked Beef.	10 @ 10 1/2
		Shoulders.	7 @ 7 1/2
		Hams, Cal.	10 @ 10 1/2
		Dunes.	— @ 15
		Whittaker.	— @ 15
		Royal.	15 @ 15 1/2
		SEEDS.	
		Alfalfa.	14 @ 15
		do, Chile.	4 @ 5
		Canary.	14 @ 15
		Clover, Red.	10 @ 11
		White.	50 @ 55
		Oatmeal.	— @ 20
		Flaxseed.	24 @ 3
		Hemp.	— @ 8
		Perennial.	30 @ —
		Italian Rye Grass.	30 @ —
		Millet, German.	10 @ 12
		do, Common.	7 @ 10
		Mustard, White.	3 @ 4
		Brown.	14 @ 2
		Rape.	3 @ 8
		Ky Blue Grass.	20 @ 25
		2d quality.	15 @ 18
		Sweet V. Grass.	— @ 75
		Orchard.	20 @ 25
		Red Top.	— @ 15
		Hungarian.	8 @ 10
		Lawn.	30 @ 40
		Mequith.	10 @ 12
		Timothy.	11 1/2 @ 12 1/2
		TALLOW.	
		Crude, B.	6 1/2 @ 6 1/4
		Refined.	7 1/2 @ 7 1/4
		WOOL ETC.	
		Oregon, Eastern.	26 @ 30
		do fine, heavy.	21 @ 24
		do Valley.	28 @ 30
		FALL—Lamb's Wool.	
		Southern, burry.	14 @ 15
		Northern, burry.	15 @ 17
		do, free.	13 @ 20
		Fall, ordly.	11 @ 14
		Fall, free, mount'n.	16 @ 21
		Humboldt & Men.	
		do, free, fall.	23 @ 28
		E Oregon (lamb).	23 @ 25
		Valley, do.	28 @ 32

BAGS AND BAGGING.

[JOBBER PRICES.]

WEDNESDAY M., Dec. 15, 1880.	
Eng Standard Wheat, 9 @ 9 1/4	45 inch. 8 1/2 @ 9 1/4
California Manufacture.	40 inch. 8 1/2 @ 9 1/4
Hand Sewed, 22x36. 9 @ 9 1/4	Wool Sacks.
22x40. 12 @ 12 1/2	Hand Sewed, 34 lb. 24 1/2 @ 25 1/2
24x40. 13 @ 13 1/2	4 lb do. 22 1/2 @ 23 1/2
Machine Sewd, 22x36. 9 @ 9 1/4	Machine Sewed. 24 1/2
Flour Sacks, halves. 9 @ 10 1/2	Standard Gunnies. 24 1/2
Quarters. 5 1/2 @ 6 1/2	Seam Bags. 24 1/2 @ 25 1/2
Eighths. 3 1/2 @ 4 1/2	Twine, Detrick's A. 25 1/2
Hesslan, 60 inch. 6 1/2 @ 7 1/2	" A. A. 25 1/2

Commission Merchants.

EUGENE AVY,
SHEEP and WOOL Commission Merchant,
320 Sansome Street, San Francisco.
Advances made on Consignments.

PAGE, MOORE & CO.,
WOOL and GRAIN
Commission Merchants.

NOS. 211 AND 213 CLAY STREET,
SAN FRANCISCO.

SHOEBERT & BEALE,
Commission Merchants,
FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.
ADVANCES MADE ON WOOL AND LIVE STOCK

DALTON & GRAY,
Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,
Bet. Washington and Jackson, SAN FRANCISCO.
CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,
Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POULTRY, GAME, WOOL, WOOL BAGS, HIDES, PELTS, BEANS, TWINE, TALLOW, etc., and CALIFORNIA AND OREGON PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.



Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

(Established in 1863.)

BRYANT & COOK,
Commission Merchants,

— AND —
DEALERS IN GRAIN, FLOUR, ETC.

DAVIS & SUTTON,
No. 75 Warren Street, New York

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Ellwanger & Barry, Rochester, N. Y.; C. W. Reed; Sacramento, Cal.; A. Lusk & Co. San Francisco, Cal.



Is the only machine that received an award on both Horse-power and Thresher and Cleaner, at the Centennial Exhibition; was awarded the two last Gold Medals given by the New York State Agricultural Society on Horse-powers and Threshers; and is the only Thresher selected from the vast number built in the United States, for illustration and description in "Appleton's Cyclopaedia of Applied Mechanics," recently published, thus adopting it as the standard machine of this country. Catalogue sent free. Address, MINARD HARDER, Cobleskill, Scho. Co., N.Y.

HOTEL DE REDWOOD.**100 ACRES OF LAND,**

At the summit of the Santa Cruz Mountains, near the Southern Pacific Railroad, comprising the famous HOTEL DE REDWOOD, one of the most popular resorts in the country, everything in order for boarders and

FOR SALE CHEAP.

One half the land is first quality GRAPE AND ORCHARD LAND, and the rest TIMBER AND PASTURE. Inquire of

M. P. OWEN,
Soquel, Cal.

Santa Cruz Homes.

365 Acres of Timber, Grass, Grain and Fruit Land, 2 Miles from Santa Cruz, at \$30 per acre.

Well watered and pleasantly situated to make three good homes or one good

DAIRY FARM.

It is all fenced, and good buildings on it. I offer at a bargain, to go into other business. G. H. SMITH. Address

M. P. OWEN, Soquel, Cal.

HANNAY'S NURSERY.

SAN JOSE, CAL.

I OFFER FOR SALE THIS SEASON, A LARGE AND WELL ASSORTED STOCK OF

FRUIT, SHADE & ORNAMENTAL TREES.

MY TREES ARE WELL GROWN, AND HEALTHY, AND OF THE

Best Known Varieties.

JOHN HANNAY,

(Successor to Hannay Bros.), San Jose, Cal.



Life Scholarships, \$70.
SEND FOR CIRCULAR.

AMERICAN EXCHANGE HOTEL.

Sansome Street, (Opposite Wells, Fargo & Co's Express), San Francisco.

This Hotel, under the management of CHAS. MONT GOMEY, has been thoroughly renovated, and being in the very center of all the Banks, Insurance Offices and Commission Merchants, it offers special inducements to Merchants from the Interior and Farmers.

Board, with Room, \$1, \$1.25 and \$1.50 per day. Special rates by the week or month.

FREE COACH from BOATS and CARS to HOTEL.

LOS GATOS NURSERIES.

I offer the trade this season a LARGE and GENERAL ASSORTMENT OF

FRUIT TREES AND SMALL FRUITS.

My trees are healthy, stalky and well grown. Prices low down. Address S. NEWHALL, San Jose, Cal.

ANNUAL MEETING.

The Annual Meeting of the Stockholders of the Grangers' Bank of California will be held at the office of the Bank, in the city of San Francisco, State of California, on TUESDAY, the Eleventh (11) day of January, 1881, at one o'clock P. M., for the election of Directors for the ensuing year. FRANK McMULLEN, Sec'y ALBERT MONTPELLIER, Cashier and Manager. San Francisco, Dec. 13, 1880.

THE CINCINNATI WEEKLY TIMES.

THE BANNER WEEKLY OF THE WEST.

An Eight-page paper, only One Dollar a year, and a magnificent engraving "two feet wide and almost three feet long" free, and postage paid to every subscriber. Address

WEEKLY TIMES, Cincinnati, O.

This paper is printed with ink furnished by Chas. Eneu Johnson & Co., 509 South 10th St., Philadelphia & 59 Gold St., N. Y. Agent for Pacific Coast—Joseph H. Dorety, 527 Commercial St., S. F.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiculture, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

50 Varieties French Chromo Satin, Pearl Finished, Etc. cards, name in gold, 10c. Card Mills, Northford, Ct.

Bee-Pavilionist: Prof. M. Vogel, 344, 18th, S. F.

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast

FOR THE

BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

LAUTZ BRO'S & CO.'S SOAPS.

Stearine, Marseilles, Cotton Oil and Acme.

NIAGARA STARCH.

THESE GOODS ARE THE BEST IN THE MARKET. ASK YOUR GROCER FOR THEM AND TAKE NO OTHERS.

D. L. BECK & SONS, Agents Pacific Coast, No. 309 Sacramento Street, S. F.

ROCK'S NURSERIES.**TREES! TREES!**

The attention is called to my large and superior stock of

Fruit and Ornamental Trees,

SHRUBS, ROSES,

Grapevines and Small Fruits,

Of the most desirable varieties for general cultivation. Also many new and rare varieties of

Japanese Plants,

Semi-Tropical Plants,

Greenhouse Plants,

Bedding Plants.

NEW VARIETIES OF

ORANGES AND LEMONS.

Italian Olives, Etc.

Descriptive Catalogue will be mailed to all applicants

JOHN ROCK, San Jose, Cal.

GARDEN SEEDS.**Thos. Meherin,**

Importer, Wholesale and Retail Dealer in

Seeds, Trees & Plants.

Alfalfa, Red and White Clover, Australian Rye Grass, Timothy and Orchard Grass, Kentucky Blue Grass, Hungarian Millet Grass, Red Top, Etc.

Also, a Large and Choice Collection of FRUIT and ORNAMENTAL TREES, Bulbs, Roses, Magnolias, Palms, Etc., at reduced prices.

Budding and Pruning Knives, Green House Syringes, Hedge and Pole Shears.

THOS. MEHERIN, 516 Battery St.

San Francisco, Cal.

Send for Price List.

Ag't. for B. S. Fox's Nursery.

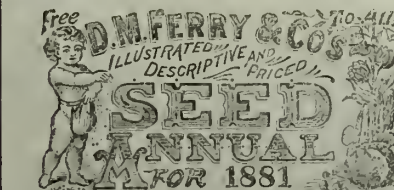
PEBBLE SPECTACLES.**Muller's Optical Depot,**

135 Montgomery St., near Bush.

SPECIALTY FOR 30 YEARS.

WHOLESALE AND RETAIL.

The most complicated cases of defective vision thoroughly diagnosed, free of charge, and all kinds of Lenses made to order at greatly REDUCED PRICES.



Will be mailed free to all applicants, and to customers without ordering it. It contains five colored plates, 600 engravings, about 200 pages, and full descriptions, prices and directions for planting 1500 varieties of Vegetable and Flower Seeds, Fruits, Roses, etc. Invaluable to all. Michigan grown seeds will be found more reliable for planting in the Territories than those grown farther South. We make a specialty of supplying Market Gardeners. Address

D. M. FERRY & CO., Detroit, Mich.

**SAW MACHINE**

Is warranted to saw a 2-foot log in three minutes, and more cord wood or logs of any size in a day than two men can chop or saw the old way. Every Farmer and Lumberman needs one. AGENTS WANTED—Circular and terms Free.

LINFORTH, RICE & CO.,

General Agents for the Pacific Coast,

323 and 325 Market Street, San Francisco.

Zimmerman Fruit and Vegetable DRIER AND BAKER.

Best and only Galvanized Iron Portable First Proof Machine for the purpose. It has no superior. Send for Circulars and read description and testimonials! LINFORTH, RICE & CO., General Agents for Pacific Coast, 323 & 325 Market St., S. F.

RUHL'S PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half-Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address

FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principal houses in San Francisco.

COMBINED Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bins can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

VETERINARY HOMŒOPATHY!

Every Farmer and Stock Raiser should have a Veterinary Homœopathic Manual and Medicine Chest. Send for Veterinary Index (mailed free on application).

BOERICKE & TAFEL,

Homœopathic Pharmacy, 234 Sutter St., S. F.

AUZERAIS HOUSE,

Santa Clara Street, San Jose, Cal.

CHAS. E. PEARSON, Proprietor.

Strictly First-Class and Moderate Charges.

Auzerais House Coach and Carriages in attendance on arrival of Trains.

GRAPE CUTTINGS.

B. Burgundy, Zinfandel, Chardoneau, Mataro, B. Hamburg, B. Malvasia, Johannisberg, Riesling, Berger, Golden Chasselas, Seedless Sultan, Franklin Riesling. Price, \$5 per M. Inquire of

H. W. CRABB,

Oakville, Napa Co., Cal.

SANTA CLARA VALLEY**NURSERIES,**

San Jose, Cal.

I offer for sale the coming season a large and well selected general assortment of NURSERY STOCK, consisting of

Fruit Trees, Small Fruits, Ornamental Trees and Shrubs.

EVERGREENS, GREENHOUSE PLANTS, ROSES, DAHLIAS, PELARGONIUMS, Etc.

—ALSO—

Pear, Apple and Mahaleb Cherry Seedlings.

I desire to call particular attention to my LARGE STOCK of

CHERRY and PEAR TREES,

At reduced rates in Large Quantities.

I have also on hand a Fine lot of Grafted ORANGES, which, being transplanted constantly, are sure to grow. Catalogues free on application.

B. S. FOX, Proprietor,

SAN JOSE, CALIFORNIA.

THOS. MEHERIN, Agent, 516 Battery St., San Francisco.

"NEW"**HYDRAULIC RAM!**

The only Horizontal Ram made. Will do good work on light fall. Send for Circular ISAAC B. MILLINGTON & CO., Chester, Pa.

PEPPER'S NURSERIES,

Established in 1858.

For sale, all kinds of Fruit Trees, Vines and Fruiting Shrubs raised without irrigation. Also, a general assortment of Evergreen Trees and Shrubs, deciduous Flowering Shrubs, Roses, in assortment. Conservatory and Bedding Plants in great variety. Send for Catalogue and List of Prices. Address

W. H. PEPPER,

Petaluma, Sonoma Co., Cal.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of

Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be Unequaled by any other Feeder in use. Call and examine before purchasing elsewhere.

JOS. HANSEL, Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on hand and for Sale at the Lowest Rates, and guaranteed to give satisfaction on. Blacksmithing and General Jobbing done with neatness and dispatch. Also, on hand of my own make, the Latest Improved Harrows and my Patent Buck Board and Breaking Carts. Carriage Painting and Trimming Neatly Done. HUNTER STREET, STOCKTON, Cal. Adjoining the Baptist Church.

MONEY TO LOAN.

In sums of \$2,000 and upwards on Good, Productive Farms at fair rate of interest. Money also advanced on

Wheats. Apply to A. SCHULLER, 209 Sansome St., S. F.

RUSBY & MERY'S IMPROVED FEED MILL, Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain beating. It is used by the leading grain raisers in preference to feed ground with hurs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

GILES H. GRAY.

JAMES M. HAVEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St. - SAN FRANCISCO.

JOHN JENNINGS.

Hooper's South End Grain Warehouses, Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

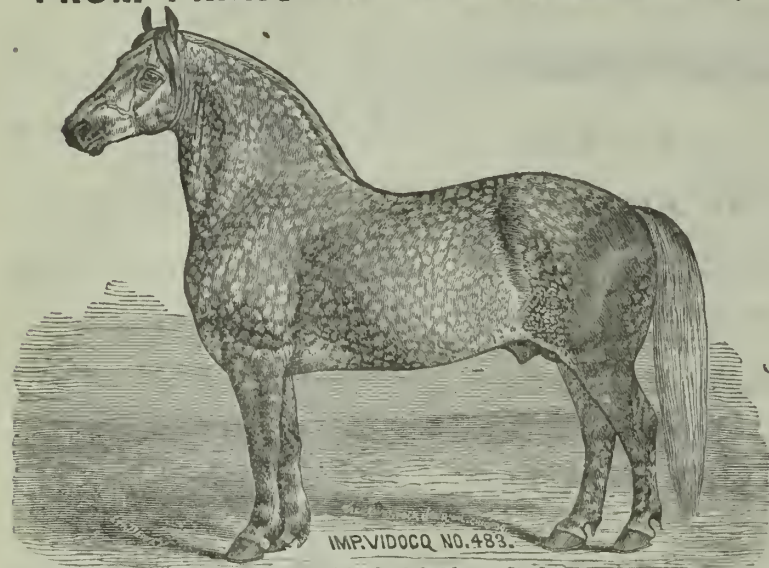
For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

Adams' Patent Pillow Sham Holder

Prices reduced. Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. G. W. WAGGONER, 408 Tenth St., Oakland, Cal., Gen. Ag't for Pacific Coast.

126 PERCHERONS IMPORTED FROM FRANCE WITHIN 12 MONTHS,



At the Head of Oaklawn Stud.

25 MORE ARE ON THE WAY,

BEING

MORE than the TOTAL IMPORTATIONS of ANY OTHER
MAN or FIRM during their entire business career,

FOR THE FARM OF

THE GREAT PERCHERON HORSE BREEDER,

M. W. DUNHAM,

WAYNE, DU PAGE CO., ILLS.

35 Miles West of Chicago, on the Galena Division of the C. & N. W. R. R.

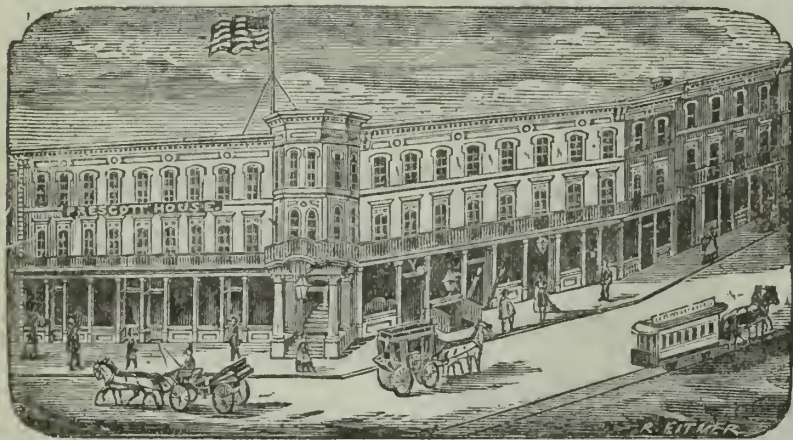
The 78 head which arrived from France August 15th, is by far the largest number ever imported at one time, and, added to the number already on hand, they make the greatest and finest collection of Draft Horses ever owned by one man. Nothing like it in magnitude and completeness can be found elsewhere in the world.

Over 300 of the choicest specimens of the Percheron Race, and among the number nearly all the Prize Winners of the Great Shows of France during that time, have been added to the Oaklawn Stud by importations direct from France, since 1872.

Stock of all ages for sale. Come and see for yourselves. 100 Page Catalogue, with 41 Illustrations of Stallions and Mares, sent free on application.

N.B.—All imported and native pure-bred animals are recorded in the Percheron-Norman Stud Book.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street, San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

SAVE YOUR HORSES!

Safety, Security and Economy.

Haggard & Brown's Wagon Tongue Support.

The undersigned has the agency for this coast. For trade price list or exclusive territory, address,

W. E. LIVERMORE, Los Gatos,
Santa Clara County, Cal.

CRANDALL SPRING SKELETON BUGGY.

LIGHTEST AND EASIEST RUNNING.

Cannot be upset by cramping or sudden turning. Will pass over the roughest roads or car tracks without jolting. Especially adapted for mountain roads. Warranted for two years.

A. MERSEREAU,
No. 1927 Mission St., Manufacturer

FIREMANS FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMANS FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

ALPHEUS BULL, Vice-President.

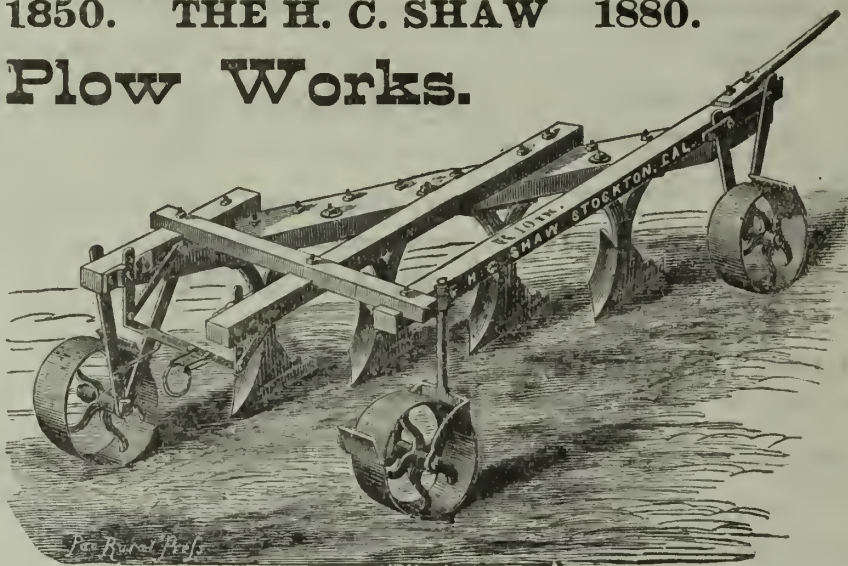
GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cabon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

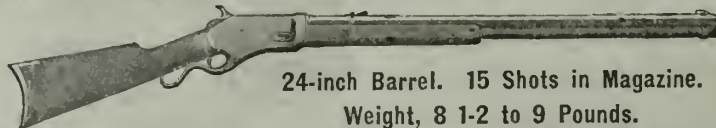
FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. POTATO GUMMIES, Wool, Bean, Ore and Salt and Seamless Cotton Bags. Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco,

In consequence of Spurious Imitations of LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature; thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

50 New Style Cards. Lithographed in bright colors, 10c. 50 Elegant, All New, Chromo & Scroll Cards, no 2 alike 60 Ag'ts. Samvols 10c. Conn. Card Co. Northford, Ct | 50 Name nicely printed, 10c. Card Mills, Northford, Ct

Seeds, Plants, Etc.



My Annual Catalogue of Vegetable and Flower Seed for 1881, rich in engravings from photographs of the originals, will be sent FREE to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Full directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refund the order gratis. The original introducer of the Hubbard Squash, Pinner's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables, I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true, and of the very best strain.

NEW VEGETABLES A SPECIALTY.

JAMES J. H. GREGORY, Marblehead, Mass.

R. J. TRUMBULL & CO.,
Growers, Importers, Wholesale and
Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND ORNAMENTAL TREES, ETC. FANCY WIRE DESIGNS, GARDEN TRELLISES, SYRINGES, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—OUR DESCRIPTIVE ILLUSTRATED CATALOGUE OF SEEDS, TREES, PLANTS, ETC.

R. J. TRUMBULL & CO.,

419 and 421 Sansome Street, S. F.

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

A few dozen plants set now will yield enough for a family's use next Spring.
Large Stocky, Healthy Mountain Grown Plants.

"SHARPLESS,"
THE LARGEST OF ALL.

'Capt. Jack,' 'Cumberland Triumph,' 'Seth Boyden,' 'Miner's Prolific,' Etc., Etc.

SELECTED PLANTS, 50 Cts. Per Dozen.

POSTAGE PAID.

Many other varieties, new and old Give us a trial Address

C. M. SILVA & SON,

Newcastle, Placer County, Cal.

1,000,000

Strawberry, Raspberry and Cranberry
PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 1.50	\$ 5.00
N. J. Scarlet, Sterling, Great American.....	0.60	1.75	6.00
Pres. Lincoln, Triomphe de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.50	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cutbert Early.....	1.60	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Hershtine, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Mammoth Cluster, Vivia Seedling.....	1.00	3.00	20.00
Kittatinny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Blk Hamburg, Blk Prince.....	2.00	8.00	50.00

Cranberry Vines 1 do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address,

H. NYLAND, Bouldin Island, San Joaquin Co.

Vitis Californica.

Fresh seeds of the *Vitis Californica*, collected from selected vigorous and prolific wild vines in Lake county, near Harbin's Springs, furnished by mail in packages of one pound and upwards, on receipt of \$1 per pound; postage stamps, paper currency or coin, to any address in the United States. Address

C. MATTIER,
Middletown, Lako Co., Cal.

Refers by permission to Chas. A. Wetmore, member of the State Viticultural Commission, at whose suggestion the seeds have been carefully collected.

Grape Cuttings Wanted.

In order to be able to fill orders that are coming in for grape cuttings, I desire to know from reliable vine-growers what qualities they can agree to furnish—stating place where grown, varieties guaranteed and named, length of cutting and lowest prices delivered at some railway station for shipment, and time when they will be ready to deliver. No cuttings accepted from diseased vines.

CHAS. A. WETMORE,
Viticultural Colonization Agency
111 Leidesdorff Street, S. F.

CEO. F. SILVESTER,

SEEDS,

IMPORTER, WHOLESALE AND RETAIL DEALER IN

Fruit and Evergreen Trees, Plants, Etc.

ALFALFA, GRASS AND CLOVER SEEDS

In Large Quantities and Offered in Lots to Suit Purchasers.

Hedge Shears, Pruning and Budding Knives, Green House Syringes, Etc.

Seed Warehouse, 317 Washington St., San Francisco.

IMPORTANT TO FARMERS!

WHITE RUSSIAN SEED WHEAT.

NEW VARIETY—SURE CROP—LARGE YIELD.

This new variety of wheat commends itself to the California farmers, for its strong and healthy growth; its great productiveness, and above all, its **NON-RUSTING** qualities. It has been successfully grown in Ventura Co., on the sea coast, where until the introduction of this variety and the "Odessa," all other kinds have invariably failed in consequence of Rust. It is a bald, white chaff wheat, stands well after ripening, and not liable to lodge when green. It has proven itself to be a healthy and sure crop wheat, yielding this year an average of 50 bushels to the acre. The White Russian Wheat was first grown in Wisconsin, where it proved itself to be the best Spring Wheat ever raised in that State. It astonished all who tried it for its great productiveness, and no Wheat ever grown in this country received such unanimous commendation. It was increased from a small quantity received from Russia, and has been known as the White Russian, though it is not exactly white, but much lighter than most varieties of Spring Wheat.

A limited quantity of this Seed Wheat, and of the Celebrated **ODESSA NON-RUSTING** Wheat grown from seed imported from Russia last year for sale by

A. GERBERDING, 214 California Street, San Francisco.

SEEDS.

ALBERT DICKINSON,

Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.

POP CORN.

115, 117 and 119 Kinzie Street,

CHICAGO, ILLINOIS.

SEVIN VINCENT & CO.,

Importers, growers of, wholesale and retail dealers in



Field, Grass, Flower and Tree Seeds.

CLOVER, ALFALFA,

BULBS, FRUIT, ORNAMENTAL TREES, ETC.

We call the attention of farmers and country merchants to our unusually low prices. *Trade price list on application.*

We issue the most complete guide to the Vegetable and Flower Garden ever issued upon this coast. It is handsomely illustrated, and contains full descriptions of Vegetables, Flowers, Grasses, Trees, etc., with full instructions as to their culture; mailed free on application.

SEVIN VINCENT & CO.,

607 Sansome Street, S. F.

J. P. SWEENEY & CO.,

SEEDSMEN,

Nos. 409 and 411 Davis Street, between Washington and Jackson, S. F.

Having on hand the largest stock of Seeds of any house on the Pacific Coast, consisting in part, the following varieties, which we will offer in quantities to suit purchasers at reduced rates:

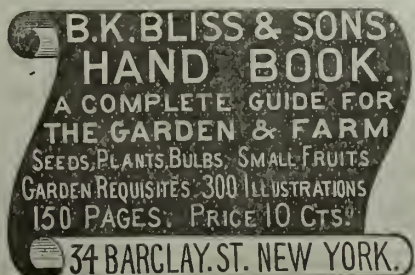
20,000 Pounds Alfalfa Clover Seed.
4,000 Pounds Red Clover Seed.
5,000 Pounds Australian Rye Grass Seed.
4,000 Pounds Extra Clean Kentucky Blue Grass Seed.
4,000 Pounds Red Top Seed.
10,000 Pounds Timothy Grass Seed.
5,000 Pounds Mesquit Grass Seed.
10,000 Pounds Canary Seed.
10,000 Pounds Rape and Hemp Seed.
4,000 Pounds Mangel Wurtzel Beet Seed.
1,000 Pounds Assorted Table Beet Seeds.
1,000 Pounds Assorted Onion Seeds.
1,000 Pounds Assorted Turnip Seeds.

AND A FULL SUPPLY OF

GARDEN, VEGETABLE & FLOWER SEEDS.

Also, a large assortment of California Conifer and Forest Tree Seeds. Fruit Trees in any quantity at Nursery prices.

J. P. SWEENEY & CO.



MUSICAL CHRISTMAS GIFTS!

Most acceptable gifts to players or singers will be the following elegantly bound books.

Any one mailed, post free, for the price here mentioned.

ROBERT FRANZ'S SONG ALBUM.

GEMS OF ENGLISH SONG.

HOME CIRCLE. Three Volumes.

WORLD OF SONG.

PIANO AT HOME. 4-hand collection.

OPERATIC PEARLS.

SHOWER OF PEARLS. Vocal Duets.

GEMS OF STRAUSS.

CREME DE LA CREME. 2 Volumes.

GEMS OF THE DANCE.

CLUSTER OF GEMS.

SUNSHINE OF SONG.

Each of the above in Cloth, \$2.50; Fine Gilt, \$3.00.

STUDENT'S LIFE IN SONG, \$1.50.

CURIOSITIES OF MUSIC, \$1.50.

BEETHOVEN. A Romance by Rau, \$1.50.

RHYMES AND TUNES. Christmas Offering, \$1.50.

SULLIVAN'S VOCAL ALBUM, \$1.50.

FAIRY FINGERS. For Piano, \$1.50.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

Dr. Smith's Caloric Vita Oils.

Improved Means and Methods of Healing. Why not?

Caloric Vita Oils, these wonderful ancient curative remedies restored to the healing art by a retired Chilean physician, through whose advice they are now variously prepared and used in Dr. Smith's Phreno-Medical Institute, 633 California street, San Francisco, as sweating, absorbing, healing and pain-killing remedies, and which are by no means a new experiment, but have proven their wonderful healing virtues in over 25,000 cases in a single European Medical Sanitarium, and are now offered for sale and use, purely on their active healing merits. Accordingly, gentlemen or ladies are offered a free trial of these vita or life-giving oils, who suffer from Asthma, Bronchitis, Lung or Throat Troubles, deep-seated inflammation or painful disease of any kind. Congestion Heart, Liver and Kidneys, Lame Back, Stiff Joints, Contracted Muscles or Tendons, Dropsy or Cold Extremities, Tumors or Glandular Swellings, in short, all forms of disease that result from congestion or impeded circulation. In cleansing the blood of scrofulous drugs or virus poisons, and in the cure of chronic disease, the Institute employs all the Hygienic and Medical appliances of Eastern and European water cures. Since the fall of '58 we have given special attention to diseases of the brain and nervo-vital system, and for the past 22 years have had gentlemen constantly under treatment who have suffered from some form of muscular, nervous or vital debility, and by using an electric medical magnet of great power in connection with the above remedies, we have quickly and permanently restored those who had even failed to get relief by other means. Phrenology is the key to physical as well as mental diseases. Health consultations are free, either verbal or by letter. Barlow J. Smith, M. D., Proprietor, 633 California street, S. F.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to

CLARK'S

Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair. With Nash & Cutts' No. 3 Grain Cleaner, its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address

LEWIS CLARK, Sacramento, Cal.

Wilz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The smallest twig up to branches two inches in diameter cut with ease. State, County or individual rights for sale. Agents wanted. Address

JOHN WILZ,
Santa Cruz, Cal.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - Proprietors.

Office—318 California Street, Room 3.

AMERICAN MACHINE AND MODEL WORKS.

Experimental and Fine Special Machinery, Planing, Gear Cutting, Patterns, Models for Inventors, etc. Printing Press and General Machine Repairing. Punches, Dies, Taps, Reamers, etc., made and repaired

I. A. HEALD, Proprietor.

514 Commercial Street, above Sansome, San Francisco.

A. AITKEN. F. N. FISU.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.



The most precocious of all soft-shell varieties of Walnut, bearing even when three years old; hardy, a late bloomer, very productive. First bearing trees in California, at Felix Gillet's nursery, sixth crop 1880. Trees of that new and valuable variety, raised in Felix Gillet's nurseries, Nevada City, sent to any part of California and the United States by mail, free of charge, in packages of two feet; well packed in damp moss and oiled paper, and guaranteed to arrive in as "fresh" a condition as when leaving the nursery, at the following prices: \$1 per tree for less than half a dozen; \$10 per dozen. Larger trees sent by express or freight. See the catalogue and price list.

Improved Kinds of Chestnuts.

"Marron de Lyon" and "Marron Combale" (introduced in California in 1871 by Felix Gillet). Grafted trees, from 6 to 10 feet, \$12 per dozen.

Medlar (*Monstruosa*); Black Mulberry (*Noir of Spain*); Italian and Spanish Filberts; French Everbearing Raspberry; Wilson's Early Blackberry; 27 varieties of English Gooseberries; 42 varieties of grapes; 100 varieties of Peas, Plums, Peaches, Cherries, Apples, Walnuts and Chestnuts; the finest varieties of French, English and Dutch Strawberries.

SEND FOR DESCRIPTIVE CATALOGUE AND PRICE LIST.

FELIX GILLET,

Nevada City, Cal.

70,000 BLUE GUM TREES,

And Cypress in Boxes for Forest Culture.

Well grown Fruit Trees of the most approved market kinds, raised without irrigation. Also, a small stock of the latest Eastern Fruits, such as Souvenir du Congrès and Japan Pears, Olivet Cheney, Etc. Prices on application. Patronage solicited.

ISAAC COLLINS,

Haywards, Alameda Co., Cal.

Agricultural Books.

Orders for Agricultural and Scientific Books in general will be supplied through this office, at published rates.

MC SHERRY GRAIN DRILLS

With Improved Force Feed.

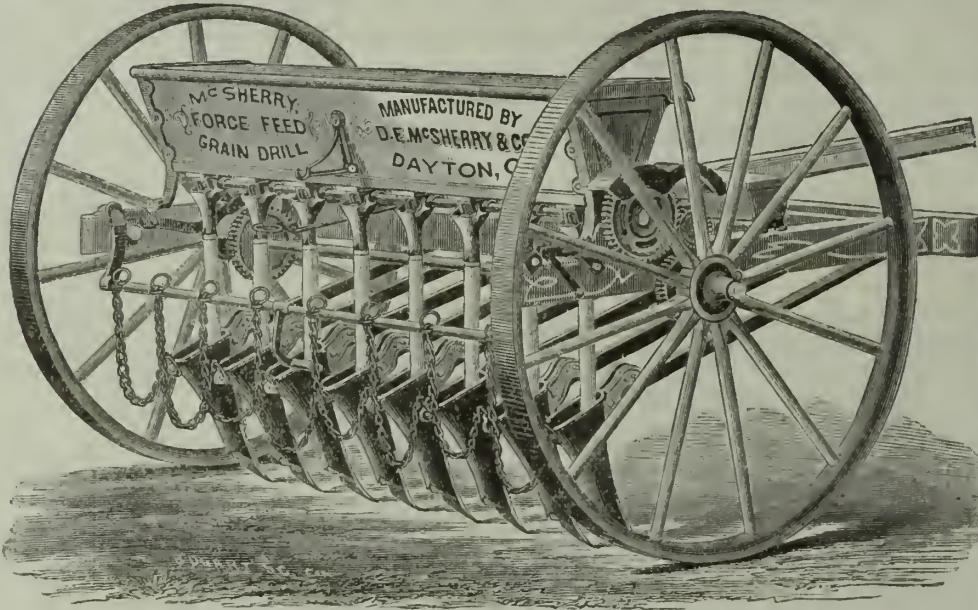
Does Not Break the Grain and Regulated to Sow any Quantity. Will Sow all kinds of Grain Equally well on any Land. Have Patent Lift Bar, Wrought Iron Axles and are Properly Balanced.

COMBINES ALL THE LATE IMPROVEMENTS AND CANNOT BE EXCELLED.

Quantity Sown Regulated by Cog
Wheels Governed by Es-
tablished Rules.

This is the only sure and reliable method possible, for the amount of seed discharged is controlled by the revolutions of the spiral feed wheels which must be uniform.

Much is said about Changing Feed Without Gear Wheels, as though it were a new thing. Really, it is only a return of the old and unreliable way of regulation by changing the size of the discharge openings. The drills made and widely popular 15 or 20 years ago, were all regulated in this way, by means of a dial and indicator plate. But, popular as they were, they all gave way to the superiority of "the Force Feeds," changing quantities by the reliable method of Cog-Wheels.



The great and fatal difficulty was the impossibility of making the whole series of openings exactly alike, or to make the dial and gauge-plate infallibly correct, so that it could be depended on and the Drill be found always to sow just what the dial indicated. It is well known that the very slightest difference in size of feeder or discharge opening, makes a very decided difference in quantity of seed per acre. Lapse of time has not altered the case, nor removed the difficulties or objections. They still remain against that whole principle of regulation, when, as now, it is again brought forward. We insist, such regulation is all guess work; there is and can be no certainty about it.

With cog wheels the case is different; because the openings remain always the same, and the cog-wheels being correct once, it is utterly impossible for them to vary the next time they are used. Therefore it is the only correct method. The change of wheels is so very easily made that the item of trouble is insignificant.

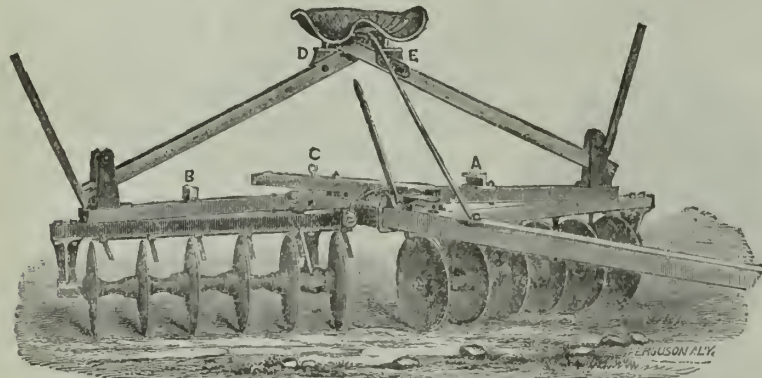
Hoes changed from Zig Zag to Straight Rows by New Lock Lever Attachment without removing or loosening anything. Sows all the seed out of the hopper, straws and obstructions being carried out by the spiral feed wheels. The "McSherry" are most substantially built, none but the very best materials being used in their construction. The best workmanship and finest finish.

PRICE LIST OF THE MC SHERRY GRAIN DRILL—9 Hoe, 7 inches apart, \$105; 10 Hoe, 6 or 7 inches apart, \$110; 11 Hoe, 6 or 7 inches apart, \$115; 12 Hoe, 6 inches apart, \$125; 13 Hoe, 6 or 7 inches apart, \$130; 15 Hoe 6 or 7 inches apart, \$150; 16 Hoe, 6 or 7 inches apart, \$165; 17 Hoe, 6 or 7 inches apart, \$175.

FRANK BROTHERS, Nos. 319 and 321 Market St., San Francisco, Cal.

THE RANDALL PULVERIZING HARROW.

ROTARY VERTICAL PLATE WHEEL HARROW.



The Most Convenient, Effective, Durable and Reliable Harrow Made.

A Cultivator equalled by no other. Unrivalled for its power, incomparable rapidity and effectiveness for surface tillage of all tenacious and tough soils. Is often a substitute for the plow, cutting from six to twelve feet in breadth. It is deservedly conceded to be the MOST POPULAR and PROFITABLE FARM IMPLEMENT IN USE.

Its Double Gang arrangement, makes all the wheels or discs equally effective when in motion. Its combination of mutually acting vertical plate-wheel gangs is attached to a horizontal frame, and the harrow is guided when in motion by a pole in such a way as to secure a complete and effective forward and horizontal action of both gangs as well as the lateral or sidewise lifting and crushing action of all the plate wheels. The flexible pole secures a steady and uniform action, saving it from jumps and side bounds.

Its concave plate wheels are best quality of STEEL and are self-sharpening by use. Each steel wheel or disc makes a groove for its passage through the soil, by clearing, crushing and lifting from the groove all the soil, and rolling it in a furrow one side.

All rootlets are cut off or torn from the groove and exposed to air and sun, or are buried below the surface. Instead of a dead draft by impact against heavy and inert soil, it cuts like a knife and splits it like a wedge. It loosens, crumbles and lightens the soil, but does not harden it. It rolls and covers seed grain deeply and uniformly beneath the surface, and ensures germination and growth by preparing a perfect seed-bed.

Descriptive Price List of the Different Sizes of Randall Harrow.

No. 7,	width of cut, 6 feet,	Number of Discs, 12,	Size of Discs, 16 inches,	Weight, 335 pounds,	Price, \$ 60 00
No. 8,	do do 8 feet,	do do 16,	do do 16 inches,	do 383 pounds,	Price, 75 00
No. 9,	do do 10 feet,	do do 20,	do do 16 inches,	do 525 pounds,	Price, 110 00
No. 10,	do do 12 feet,	do do 24,	do do 16 inches,	do 600 pounds,	Price, 120 00

GALE'S CHILLED IRON PLOWS.

Gale's Chilled Iron Plow Metal

Presents itself as the important feature, being harder than any other plow metal, and so fine in fiber that it will receive a polish almost equal to a mirror. Its fiber does not run parallel with the surface of the casting, as with cast iron and steel, but its direction is through the thickness of the mold board, thus bringing the friction of the soil on the end of the fiber or grain. This feature avoids all reasonable possibility of imperfections being hidden below the surface.

Simplicity of construction is apparent to even a casual observer, the wood work of our Plows being free from mortises, tenons and other features that render replacing broken parts extremely difficult. A glance at our Plow will be more convincing than any arguments we can offer.

Adjustable handles is a feature of great value to plowmen. The SCOURING QUALITIES of Plows depend on, First, Hardness and uniformity of their metal; Second, Fineness of the metallic grain or fiber; Third, Smoothness of surface exposed to friction of soil, and Fourth, Correct outlines.

THE GALE'S CHILLED PLOW

Possesses the above merits, to an unequalled degree. Its metal is positively the hardest and finest grained of any metal used in Plows, and is perfectly uniform throughout its entire body, and owing to the existence of the qualities before mentioned, will scour and do good work, where General Purpose Plows fail completely.

Prices of the Gale Chilled Plow.

The No. 15 is a Right-hand Wood Beam Plow, and is for three horses. The Plow was made especially for heavy work, and in splendid shape turns a furrow 8 inches in depth, and 17 inches wide. Weight, 145 pounds. Price, \$17 50
The No. 17 is a Right-hand Wood Beam, one horse plow, turns a furrow five inches deep and 12 inches wide. This Plow is commended to Nurserymen and for small farm and garden purposes. Weight, 70 pounds. Price, \$14 50
The No. 18 is a Right-hand Wood Beam Plow, and is for two or three horses. It has never disappointed its many admirers. It turns a furrow 7 inches deep by 15 inches wide. We feel safe in asserting that no Plow in the United States has had so popular and extensive a run, and is as favorably known as a "General Purpose Plow." Weight, 130 pounds. Price, \$15 50



The No. 22 is a Right-hand Wood Beam 2 or 3 horse plow. It is one size larger than the No. 18, is double braced, and is the choice Plow for loose and gravelly soil. Weight, 125 pounds. Price, \$16 50

Gale's Rod Beam Chilled Plow.

"A 2" is a light Two-horse Right-hand Plow, turns a furrow 6 1/2 inches deep by 14 inches wide. Weight 120 Pounds. Price, \$18 00
"A 4" is a Two or three horse Right hand Plow, and will cut a furrow 8 inches deep by 17 inches in width. Weight, 130 pounds. Price, \$20 00

Our Moline Sulky Plows are Giving Perfect Satisfaction.

BAKER & HAMILTON, San Francisco, Cal.

PACIFIC RURAL PRESS

Volume XX.]

SAN FRANCISCO, SATURDAY, DECEMBER 25, 1880.

Number 26

Christmas.

We give our leading page, this week, and much space on other pages, to the children. The Christmas season, apart from its religious significance, finds its truest value in the innocent and yet intense joy which it awakens in the hearts of our little ones. Then it is, if ever, childish enthusiasm and anticipation are stirred to their depths, and then it is, in the fullness of the treasures which are all its own, that many a child gets its first idea of the embarrassment of wealth. Many a little curly head has drooped, and many bright eyes have shut tight in slumber from weariness in the effort to fully comprehend the value to the little heart of the gifts bestowed. And yet, how little it needs to awaken this feeling of joyous possession. Sometimes a little home-made toy will fill a little life with sunshine, and in this sunshine all the home circle can grow warm, and age grow young again. Who, then, will be careless about the children's Christmas, or who will selfishly deny the little time or money which it requires to bring those precious smiles upon the tiny faces. No, even though poverty press hard upon the life, let there be something done, be it ever so little, to give the children each a taste of Christmas gladness.

But we did not intend to preach a Christmas sermon to parents. Rather would we ask our young readers to witness the happiness which is portrayed in our engraving, and to see how the artist has caught a little Christmas gathering of children like themselves, and fixed it upon paper for their enjoyment. There are the little ones arranged around the table, all with eyes intent upon the cutting of the cake. We half suspect that the little girl's birthday happened to come upon this Christmas eve, for we have a sister who came to our house the night before Christmas,



many years ago. Therefore it is given to the little miss to sit in the big chair and cut the lovely cake. This she is doing with the aid of her kind mamma, while father and grandfather stand by enjoying the children's pleasure. It is an important moment to the little lady, and she is evidently resolved to draw the knife true to the line. If it should slip, how that little brother at her right hand would laugh, or if the knife should cut into the ornament in the center, how that critical elder sister, just beyond, would chide her. But we need not look out for mishaps. Doubtless the cake will be successfully divided, the little people will speedily show their appreciation of it, and then turn their enquiring eyes upon the other good things with which the table is laden.

We hope all the children of the Rural families will have as grand, good time as the children in the picture. They may not all have parties to themselves this Christmas, but they will all be amply provided for, if they are given places at the more substantial Christmas dinners with their elder relatives, and if they are good children they will add much to the joy of the occasion by their presence. And while our little ones have abundance of the good things which Christmas brings, let them not forget the poor children of their neighborhoods, who have perhaps nothing to make them glad. Little hearts, as well as great ones, should be generous and thoughtful of others, and if you can give of your nice things to those who have none, you will be happier in the knowledge that you have done something to make others happy.

THE House Committee on Public Lands has refused, by a vote of 4 to 2, to make a favorable report on the Senate bill "To Equalize Homesteads." The objections to the bill were that the benefits, if any, would inure to land speculators and not bona fide settlers under homestead entry.

MERRYMAKING IN THE HOME-THE CHILDREN'S CHRISTMAS PARTY.

CORRESPONDENCE.

We admit, unendorsed, opinions of correspondents.—Edu

A Trip Down the Coast.—No 3.

San Diego and Vicinity.

EDITORS PRESS:—San Diego carried off the prize at the last Los Angeles Horticultural fair for oranges and other semi-tropical fruits. "But where are they grown?" asks the recent arrival at San Diego, as he glances over the broad, uncultivated mesa that stretches, apparently limitless, in every direction from the city except oceanward, where, on the opposite side of the bay, the long, low line of San Diego peninsula partially interrupts the view of the Pacific. The streets run into the bay at one end, into the mesa at the other. There are no cultivated fields, orchards and gardens close to the town as at Santa Barbara; no broad vega filled with fertile farms and laughing vineyards as at Los Angeles. All is brown and sere, cactus and sumach and sage divide the ground between them, and the greenest of these (in November) is cactus. But San Diego county is large, and there are farms in it which can be found by riding or driving far enough. Indeed, some are not far away, but they nestle in valleys invisible at a general glance.

East of San Diego,

Or rather southeast, lie in the order named Cholla, Spring, Paradise and Sweet-water valleys. All these are the beds of streams which either did exist, or do exist during some period of the year. I visited Cholla and Paradise valleys, Cholla, pronounced by Californians as if spelled *Choya*, is simply Spanish for a kind of cactus which abounds in that valley. Portions of the long, narrow strip that lies between the banks formed by the surrounding mesa are highly cultivated, and some pleasant residences occur at intervals. The soil, though tolerably rich, is mixed with stones and might be called gravelly, so that it is considered inferior on the whole to Paradise valley, where an alluvial deposit of considerable depth ensures good crops wherever water is furnished. There are 27 wind-mills in Paradise valley, all of the vertical pattern. The horizontal or turbine wind-mill either has not been introduced, or does not find favor. Most of

Paradise Valley is Richly Cultured,

And ground within and around it is held at a high price—from \$100 to \$300 per acre. At Mr. Ailesworth's, I was shown a terraced hillside covered with vines, and was assured that though they had not been irrigated or cultivated for the last two seasons, they had borne freely. But these vines were on the southern slope of the valley, thus having a northern aspect and gaining all the moisture possible. No care need be taken at San Diego to ensure a sufficiency of sun. The principal orange crop is in January, but oranges, lemons and limes ripen all the time. I am assured that in some cases oranges have been left upon the trees until the year following that in which they ripened, and have then been found to be passably good oranges, though somewhat inferior to new ones. The guava succeeds well, and its pleasant acid fruit is now ripe. Olives, bananas, palms, figs joined to more ordinary strawberries, tomatoes, etc., complete the principal features of this garden in the midst of the wilderness, forced by the aid of water from a soil which needs but moisture to be fertile. The wells in the valleys cannot be called artesian. The water-bearing stratum in Paradise valley is reached at about 40 ft. The particulars of one well are as follows. A four-foot hole was dug to a little more than 40 ft. in depth, when the water was reached. Thence it was continued downward some 17 ft. more, gradually widening until at the bottom it was eight ft. wide, thus forming a sort of subterranean reservoir with 17 ft. of water. The digging of this well, the curb, bank and its woodwork, pump and wind-mill cost some \$500. Another well on the slope of the hill cost rather less. Add to this the cost of the ground at the lowest price named above, the fencing, cost of trees and planting, and it is evident that it takes some capital to commence the raising of semi-tropical fruits. Then it must be remembered that an average orchard needs six years to produce, and eight to come into full bearing. Meantime the orchardist must grow something else for a living. By huddling on yearling stocks, fruit may be obtained in the second year, but I am told that the ultimate results of thus prematurely forcing production are not favorable. "We think this the next thing to paradise," remarked a young lady acquaintance, but I observed that she dressed like other daughters of Eve; also that the frost had touched the fig leaves so that some of them were no longer fitted for aprons. The same invisible hand had nipped the bananas and driving at 10 A. M. was so cold that an overcoat was needed. November is always the coldest month of the year in southern California, but this year it is something extra, corresponding to the cold snap that is now passing through the whole country. At eight o'clock on

A Semi-Tropical Morning,

In this semi-tropical climate every inmate of the hotel was warming his hands over a semi-

tropical stove; my friend, Von Blank, wore a handkerchief round his semi-tropical throat, my English acquaintance Chichester, was decidedly husky, and when I requested the young lady at the post-office to forward my letters to Los Angeles, she whispered "yeth thir," in a moist sort of manner. On the whole, this raising of semi-tropical fruits seems an uncertain kind of business; you put a fortune in the ground and wait; if the season is good and there is a market, you may get a living out, but how when the frost comes? How when the heated sorocco from the Colorado desert blows over the land, baking the fruit upon the trees? How when the supply exceeds the local demand, and only such fruits as can be dried or preserved at a profit can be utilized? Figs, I was told, do not pay to dry. The market of San Francisco can be supplied with figs from nearer at hand, it does not pay to freight them from San Diego. Olives, however, are in demand for oil and for pickles beyond the supply. It is the vine that will be the salvation of San Diego county. Hill-sides and mesas, unfitted for oranges and bananas, will grow the grape luxuriantly, and this season grapes were sold in San Diego at \$20 per ton. Near Paradise valley are some ranches on the

Highlands of the Mesa.

By dint of great expenditure and careful cultivation they are said to be tolerably profitable, but it is noticeable that, although almost every one at San Diego will tell you that mesa land is good (some will say it is the best), scarcely anyone is cultivating the mesa, while solitary deserted cabins, broken fences, and a forlorn gum-tree or two remain here and there to show where the attempt has been made. All huddle in the sheltered valleys—they say the frosts take the valleys first, and that winds sometimes sweep through them, but the experience of my own skin tells me that the banks are a wind-guard, and, until trees can be grown, they are the only wind-guard in the comparatively low districts near the sea.

This shelter, the better soil, and the greater proximity of water, as well as the greater certainty of finding it, will always make the valleys worth more than the mesa.

Though low compared with the distant mountains, with San Miguel, that lifts its head high above the rest of the Cajon range that bounds the view eastward, or with the apparently flat-topped table mountains that loom to the south in Lower California; the mesa is tolerably high land, and is not level, as any one will find who botanizes in the barrancos, or stumbles into the dry bed of a stream in the effort to reach a friend's house by walking across lots. Back of the town it rises into quite a hill, and here, say the prophets, and the wise men, and the counsellors (of whom there are no lack), will be the best part of the city.

Back Among the Hills,

Are large ranches, where agriculture in great measure takes the place of fruit growing. In the Cajon valley thousands of acres are sown with grain, interspersed with orchards. Here there is a lake of brackish water. This valley is more than 20 miles away, but is spoken of by the San Dieguenos as close to. In the same way they speak of Campo, and of the Hot Springs (which are said to be really running springs), and of Julian, some 40 miles away. The county is so large, you know, and as the people all keep a buggy or spring-wagon, and apparently spend half their time in driving, 20 miles is a mere bagatelle. I ought to have gone to the Hot Springs—it would have been so curious to see running water in San Diego county. San Diego river runs sometimes. It has evidently, somehow, silted up the northern end of the bay with mud-flats, and evidences of its wild fury can be traced at old San Diego, where the stream washed away its banks close up to the best garden of that place.

Old San Diego is some few miles from the new town, and the San Diego river-bed stretches beyond the former place. When there is water in it the Indians wash their clothes there—presumably at other seasons said clothes remain unwashed. In the mountains the San Diego river exists, and water can be obtained in the valley, as in the valleys before mentioned, by digging. Like "sullen Mole," it "runneth underneath." The San Diego water works are in this valley, about two miles above the old town. The water is obtained from wells.

W. N. L.

The Legislature and the Agricultural Interests.

EDITORS PRESS:—The meeting of the farmers of Alameda and Contra Costa counties and their representatives, held at Livermore, as announced in your paper, was a decided success. State Senator S. G. Nye and Assemblymen Valentine Alviso, L. B. Edwards and W. W. Camron, of Alameda county, and J. P. Jones, of Contra Costa, were present, and evinced not only great interest, but hearty concurrence, in the object of the meeting.

The meeting was organized by the election of J. W. Clark, Chairman, and Wm. P. Bartlett, of the Livermore Herald, Secretary. A goodly number of well-to-do farmers and land owners, men who have given these subjects much consideration, were present, and expressed their needs in a plain, straightforward and convincing manner.

The Squirrel Question

Was first considered and a bill, prepared by

F. R. Fassett, was read by him and afterward discussed by the meeting. The bill provides for the appointment of Squirrel Inspectors, at the discretion of the Board of Supervisors; prescribes under what conditions they may enter upon lands for the purpose of poisoning squirrels; the manner of giving notice to the owner, claimant or occupant, for filing his claim, etc. By section 11, of the bill, it provides that:

"When the account of any inspector against any owner, claimant or occupant of land, as provided for in sections 7 and 9 of this act, shall not be paid as provided for in section 10 of this act, the Board of Supervisors, at the time of levying other county taxes, shall add to the tax of such owner, claimant or occupant of land the amount of such account, which shall be collected as other county taxes and paid into the county treasury, to the credit of the Squirrel Nuisance Abatement Fund, which is herein provided."

The bill also provides for the poisoning of squirrels upon unoccupied public lands, the expense to be defrayed by a general tax. This bill was unanimously adopted by the farmers present as one which, in its main features, would suit the people of this section. It was referred to a committee consisting of F. R. Fassett, J. G. Young and Adam Fatb, for proposed amendments and presentation to the next legislature.

Road Law.

The discussion of needed changes in the road law occupied the balance of the time of the meeting. A committee of seven citizens was appointed to draft a bill in accordance with the expressed views of the several speakers and of the assemblage, for presentation by the Alameda and Contra Costa delegations to the next legislature.

After tendering a vote of thanks to the representatives for their presence and interest in behalf of the farming community, the meeting adjourned. It is certain that the delegations which these two counties send to Sacramento this winter will do their utmost to secure for the agricultural districts of our State immunity from this squirrel pest, which is now one of the greatest drawbacks with which our farmers have to contend. Sec.

Livermore, Dec. 13, 1880.

Notes on the Road from Martinez to Merced.

EDITORS PRESS:—After leaving Martinez, and passing along a pleasant coast or bay-line, and some nice scenery, lots of grain lying on the wharf awaiting shipment—we come to rolling land which gives some good farms and some neat, comfortable places, and the district has promise of better business prospects as coal mining becomes more developed, because of the dreadful destruction of our forests now going on. After passing Cornwall and Antioch, and some big sand-hills, we come to some fine creek land, some of which would be improved by a mixture from those sand-hills, thus rendering the heavy lighter and more easily worked, with less liability of cracking and clogging.

Brentwood is a newly-started town, with promises of lively prospects in future, as a good farming country lies around. Coming along here you see good comfortable homes and a few good, well started orchards, en route to Byron station, with the noble oak trees flourishing here and there, a contrast to the country we afterwards enter. At Tracy Junction we find a place almost destitute of trees or gardens, or even attempts at such. The railroad company have in some places put out trees which have done well, but this place seems to have been generally forgotten. Bantas is another apparently forgotten place, although it is seemingly fine land around. Some of the places, partly owing to the renting of lands to parties who only care to take for one or two years all they can and make no permanent improvements, has a disastrous effect upon the appearance of the country. Those renting lands, for their own interest, ought to insist on the care and culture of trees which would ultimately enhance the value of their property considerably, and give a go-ahead appearance to the surroundings. Trees would also improve the atmosphere around the dwellings, give a cooler temperature and a more inviting appearance. There are ponds of green stagnant water which could be utilized by the growth of trees instead of being left to breed malaria and mosquitoes. After passing those green stagnant ponds we come to the long trestle work and bridge of the great San Joaquin river which, ere long, I trust, will be turned to better account than now. It is sluggish and half idle, when it should carry more vessels; yield water for greater irrigation and be stocked with valuable food fishes.

Around Lathrop I expected to see more progress. There is much that is bare but the locality is gradually improving and growing. Leaving Lathrop we come into a rich producing country. The roads are so sandy that they are covered with straw, but the land gives good grain crops. This land yields, one year with another, excellent grain crops, especially the river bottoms of the Stanislaus and Tuolumne, but in many places agriculture is general, but some escape, being proof against malaria.

From this region through Modesto and Merced cities there is excellent cheap lands and most favorable prospects. It is a fine field for manufacturing developments. Fine fruit is produced and the land is especially grape vine land. Oranges do well. There are good openings here for those of small means. M. J. O'BYRNE, Merced, Cal.

HORTICULTURE.

Iron as an Insecticide.

EDITORS PRESS:—During the last session of the State Horticultural Society, held in San Francisco, November 26th, mention was made by Mr. Cooke, of Sacramento (he who made the truly worthy display of destructive insects at the last State fair at Sacramento) of iron for the purpose of preventing the inroads of the phylloxera, as well as for the purpose of destroying that dreaded pest in those vineyards infected with it. He has tried it as yet only on a small scale, but with great satisfaction, and intends to test it fully soon on a larger scale. What I wish to say in this connection is this: Desiring to attend the meeting of the State Viticultural Commission, which was held in Sonoma on the 23d day of July last, I took the advice of the *RURAL* and went there the day previous. Arriving there about midday found Dr. J. S. Hyde, of Fountain Grove, near Santa Rosa. He being there on the same errand, it was not difficult to form his acquaintance, which was found worthy of cultivation.

Time being at our disposal, Dr. Hyde proposed that we take his conveyance and visit the infected Buena Vista vineyard, which we did. In traversing it we found near the foot of the mountain two small knolls, the earth of which was of a reddish color. That of itself would not have attracted our attention, but the grape-vines on these small elevations of red earth were apparently healthy, as evidenced by the strong growth of wood and fine large bunches of grapes, while other vines of same variety with same care in every respect, except they were in a soil of another color (gray) and only seven ft. from those on the red, had only small tufts of leaves on their tops to show they did still live. Now arose the question, why is this thus? The answer it would seem could be given by a wayfaring man, though a fool. Thus, whatever causes the difference of color in the soil exerts its influence for good or bad as the result may be. Now does it not look like a plain proposition that the earth had been colored by the iron. We do know that there are immense tracts of land in California called the red lands, and do not know that it has ever been disputed that they owe their color to the oxide of iron therein. Taking for granted, then, that iron does give it its tint, is it not reasonable to suppose that to the iron contained in the soil the vines were indebted for their fine appearance and good bunches of grapes.

The circumstances were related to members of the commission, and to several others without any encouragement. And having almost given up all hope of having found out anything to be of benefit, and having no phylloxera of my own to try the remedy on, and not desiring to import any into my vineyard for the purpose, the idea might have fallen by the wayside and lost, as so many valuable thoughts have been before, had I not told to Mr. Cooke what I had seen. He thought it worthy of a test, which he gave it, and will still test until its utility will be proved a fact or otherwise.

In continuation I will give a little support outside of the Buena Vista vineyard, to the doctrine here espoused. For many years I had heard that iron nails driven into trees would drive borers out. I placed no confidence in the idea, but it followed me till the nails were driven. The result is, those trees that bad borers and received nails have borers no more. I also find this in a small work called "American Fruit Culturist," by John J. Thomas, published in 1863:

"Iron is found only in minute quantities in the wood and bark of trees; yet the speedy restoration from pale and sickly to deep green and luxuriant foliage, by its application to the roots in some instances, proves that however small its proportion may be, its presence is essential."

May I not, in conclusion, say this: Should iron prove to be an insecticide of sufficient power to destroy or drive the phylloxera from the vineyard, what is there more plentiful and that can be applied so cheaply? The mountains of California teem with iron ore. The ornishing of it could be done at little cost there. Those ores which now are valueless, will benefit the State.

A. T. HATCH.

Cordelia, Cal.

Fruiting the Præparturiens Walnut.

EDITORS PRESS:—This year I have only an average crop on my old præparturiens walnut trees; and, by the way, do not let any of your readers think for a moment that the præparturiens is a dwarf tree; 14-year-old trees on my place have reached already from 20 to 25 ft. in height, and that with hardly any irrigating whatever. Next year I expect to have a heavy crop of walnuts. A five-year-old tree budded on black walnut, had 18 nuts on, besides one that dropped off before becoming ripe; and a little bit of a tree, 3 ft. high, and as big as the forefinger, had one nut on. Really, it did look ridiculous to see such a small tree with a nut on, while my neighbor's twenty-two-year old English walnuts never bore any yet; and I was glad to have some of the *RURAL PRESS* subscribers calling on me this summer and seeing with their own eyes these young trees with nuts on. FELIX GILLET.

Nevada City, Cal.

The War Against Orchard Pests.

EDITORS PRESS:—What, with the woody aphids, the codling moth, the phylloxera and the scale pests, are the halcyon days of California horticulture drawing to a close? It is evident that the immunity in which our fruit growers have so long basked unguarded, can be maintained only by the utmost vigilance and, at points of menace, by united and uncompromising warfare.

Here in the southern counties we are as yet exempt from many of the evils which grievously afflict our more northern neighbors. Possibly the disposition to fight them at long range may keep them at bay for a season, but it is almost too much to hope that any section will be blessed with so general a degree of wisdom and restraint as to prevent their ultimate introduction. Knowledge of the danger in itself affords much protection, while information of successful methods of treatment will greatly aid in restricting the damage which may result from the appearance of such diseases.

Thus far the scale insect on our orange and olive trees has proved about our only troublesome visitor; and the question of means for its removal has exercised the inventive genius of our orchardists. A method of treatment adopted by Mr. James Currier, of National ranch, promises excellent results. The formula of preparation used is as follows:

To five gallons water add one and one-fourth lbs. whale oil soap and one-half pint solution blue vitriol made as strong as water will dissolve. Thoroughly incorporate and apply by a spray, or other means, just before evening. Owing to the nature of the insect, the months of July and December are regarded the best periods for application. Where a large number of trees are to be treated, the purposes of economy may be served by home manufacture of soap, for which the following rule is given: Take two quarts of whale oil, one-lb. can concentrated ley, two gallons water, and boil together three hours, or until the oil disappears from the surface. Remove from fire and add eight gallons water. Of this preparation use two and one-half pints to five gallons of water, in connection with blue vitriol as above.

Propagating the Olive.

A new method of propagating the olive by layering is found very successful and advantageous. Sprouts from the base of the tree may be utilized for this purpose; also a low growing limb may be bent down and a large number of plants started from its smaller branches. These are bent downward to the bottom of an excavation a few inches deep in the soil, and there fastened by a wooden peg, while their ends are brought to an upright position. The excavation is then filled and the ground kept well watered until the layers have rooted, when they may be detached from the main limb. Before burying the shoot, a notch or slit should be cut on the under side, at the point of greatest depression, to facilitate bending, and also the striking of roots.

The activity and interest in railroad matters at San Diego has also stimulated our people to unprecedented preparations for planting orchards and vineyards, whose future returns must be a grand agent in extending the horticultural fame of southern California. The gap between Santa Ana and San Diego will be closed within a few months, while work on the Southern California railroad is now to begin, and be prosecuted with utmost vigor. The dawn of the brighter future, so long prophesied, is evidently upon us.

O. S. CHAPIN.
Poway, Cal., Dec. 10, 1880.

THE STOCK YARD.

Nevada Cattle Interest.

Our wide awake exchange, the *Reno Gazette*, has been making some valuable investigations into the stock growing of the State. The results of which we quote as follows: Cattle raising, now one of the principal industries in Nevada, commenced east of the Sierras in 1858 or '59. At that time the first band of cattle was driven into the Honey Lake valley from Texas. In 1859 Alvaro Evans and Robert Ross settled in Long valley and went into the business of cattle-raising. The date of the first wintering of cattle on the Humboldt was 1859-60. Peter Lassen, the first settler in Honey Lake valley, owned a few cattle. He was killed at Block Rock in 1869 by Indians. From small beginnings, the number of cattle ranging in Nevada has increased enormously. E. W. Crutcher estimates the total number at 200,000. Charles Lux, L. W. Lee and Smith Hill make a higher estimate, placing the total at 250,000. The first cattle brought to Nevada were of the wild Texan order. The first Durham bull brought to the Pacific coast was owned by Smith Hill. The common stock were graded a little by bulls left by emigrants on their way to California. Within the last few years cattle men have taken much pains to improve their cattle. Many fine Durham and Devon bulls have been imported. It is estimated that the stock now ranging in the State are about half thoroughbred. As a result of this crossing with thoroughbred stock, the average weight of the cattle has been increased fully 10%. The largest

drive of cattle ever seen in Nevada was that from Dr. Glenn's ranch on the Humboldt, in 1879. There were 12,000 head in the drove. They were driven through Utah and Wyoming to market in the Eastern States. Almost all the cattle now fed and marketed in Nevada are raised on ranges within the State. The yearly importation from Oregon is about 10,000 head.

The cost of driving cattle varies much, depending greatly on the chances for feed. When grazing is to be had it will cost about a dollar a head to drive 2,500 cattle 300 miles—say from Oregon to Reno, which is the longest drive in this neighborhood. One vaquero is required for every 50 head. The rate of travel will vary from 12 to 20 miles per day, according to circumstances. Two horses are required for each man, as riding is severe. Pack animals are taken along where wagons cannot be driven. The drove is fed in the middle of the day and the halt is made at night where there is abundance of grass or hay, and water. The vaqueros watch the animals all night, taking turns at picket duty. The pay of the vaqueros is usually about \$35 per month, and extra men in busy times are paid \$1.75 per day.

A large herd is much more profitable to the raiser than a small one. The expense of looking after and caring for 1,000 head is nearly as great as for 4,000 or 5,000 head. A herd of 5,000 will be made up about as follows: It will contain, say, 15 bulls, of an average value of \$50; 1,200 cows, average value \$10; 400 3-year-old steers, average value \$20; 1,500 2-year-olds, average value \$10; and 1,900 yearlings of an average value of \$6 or \$7.

Spaying is coming much in vogue. Those stockmen who have tried it find it gives favorable results. Castration is universal. The calves are castrated at the age of two or three months. The average weight of a beef is 1,600 lbs. A thousand head of cattle will require a range of about 6,000 acres. The business is profitable, leading cattle men estimating the average profit at 33% per annum on the capital invested. The average loss from disease is estimated at 4%; from storms 10%; and from wild beasts 1%. The principal disease is what is called the big-jaw.

The facts and figures above given were obtained by a *Gazette* representative from a number of men of long experience in the cattle business and well known as large dealers and shippers. The substance of them has been embodied in a report sent from this office to that department of the census bureau which is engaged in the collection of live stock statistics.

Stock Raising in Tehama County.

EDITORS PRESS:—The progressive, liberal, agriculturists of California, are alive to the importance of progression in the art and science of husbandry. Our peculiar climate, and the conditions of the labor market, with vastness of the territory owned by a few individuals, have made wheat the principal paying product, which has so rapidly developed the agricultural worth of our fair State, that smaller farmers in the past have been carried away by their enthusiasm for that staple, and have neglected other and more profitable products. The last few seasons have had the desirable effect of opening their eyes to the fact that wheat is not profitable except when raised in vast quantities. So they are now studying the advisability of varying their industries.

Tehama county farmers are among the liberal ones, and in many instances have practically tested new sources of revenue by fodder, fruit, cattle, hog and stock raising. H. C. Wilson, who has a wide reputation as a pioneer stock and cattle owner, remarked to the writer a short time ago, that he felt poor when not in possession of cattle, though his vast landed possessions in California and Oregon would make a reasonable principality in Europe. He has of late taken pride in introducing new and improved breeds of cattle among his herds. In 1875 or '76 he purchased a fine bull of the Devon breed, from L. H. D. Lange, this bull, the "Prince of Tehama county," with two Devon cows "Beauty," and "Nellie," were purchased by L. H. D. Lange, of R. C. Rose, of Lakeville, in 1872 or '73, and in 1875, they with their progeny were exhibited by their owner at the State fair. From these thoroughbred Devons, quite a fine herd has been raised among the several stockmen of this county. E. J. Lewis purchased a bull and some heifers; H. C. Wilson got the "Prince of Tehama county," and W. E. Hazen, of Battle creek, got "Col. Lewis," a very handsome animal. H. C. Wilson did not brand his purchase, so one day the "Prince of Tehama county" turned up missing. Two or three weeks ago a fine animal of the Devon breed was forwarded from the ranch of John Parrott, Butte county, to Henry, who is highly pleased with the magnificent animal.

Mr. Wilson is probably the most extensive cattle and stock owner in northern California, as well as a very extensive farmer. His home is on Thomas creek, in this county, where some of the richest land in the county is owned by him. His mountain ranges are colossal and numerous; in Oregon he has vast ranges, and he is successfully amassing a fortune. E. J. Lewis has always had a small herd of fine meat cattle, his ranch which is well timbered, being admirably adapted to the keeping of fine cattle. He now has a few head of choice Devons for sale.

W. E. Hazen, who farms 320 acres of arable land at the forks of Battle creek, is a stock and cattle raiser of long standing. His herd has been gradually increased and improved. He exchanged a fine Devon bull with Judge E. J. Lewis a couple of weeks ago. The "Prince of Tehama county, Jr." was led by him through this city, on his way to the range and was admired by good judges of cattle. He is a three-year-old, of a deep red color, long round barrel, shapely legs, immense neck, well-formed head, with short horns, docile in temper, and weighed about 1,600 to 1,700 lbs.

Mr. Hazen has a splendid cattle range; well watered, shaded with fine timber, extensive and prolific of feed, it is probably one of the best cattle ranges in Tehama county. Wheel Hazen is a thorough cattle fancier, loves his profession and takes pride in his high-graded cattle. His stock now is about 250 head, among which a fine herd of young Devon heifers is conspicuous. He is of the opinion that ere long the raising of Devons, Short-horns, and other fine breeds of cattle will be more generally entered into by our foothill farmers.

T. M. Underhill, who has 360 acres on the south fork of Cottonwood, has a splendid stock ranch. He goes in more for the raising of draft horses. He has eight fine brood mares, which have been bred to a Norman horse belonging to Loomis Ward, of Tehama. These will bring a fine stock of working colts, which will fetch a good profit to Mr. Underhill. His farm is also well adapted to hog raising; he brought in a prime lot of fat hogs on Saturday last to our butcher, A. J. Loomis, the price paid being four cents per lb. Mast was very plentiful on his range this fall, so that the porkers were very fat and will no doubt cut up well. The farm is beautifully situated, and is only six miles from the Cottonwood station on the C. & O. R. R.

Schroder Bros., large operators in cattle, have for years been handling beef cattle. They have a splendid range in Eastern Oregon, situated in a pretty valley twelve miles long and eight wide, with a swamp in the center. This is their summer range and is known as Silver Lake; they winter on the great desert; their range is ample for the proper care of 6,000 head; their stock now amounts to 1,500 to 2,000 head, mostly young spayed heifers and steers. Their mode of operation is to travel through southern and eastern Oregon in the winter and purchase calves, yearlings and two-year-olds, which are driven on the range, where they are altered, spayed and branded, and left to feed on the luxuriant feed until fit for market; then pick out the ripe, salable steers and heifers, drive to the valley and sell. It is a paying business and now the boys have it in good working order, they will soon realize handsomely on their venture. This fall they brought down 425 head of fine beefs, which they disposed of to Evans & Henry, of Napa, at \$20 per head. Of course their range is not in this county, but they are citizens of our city, and Tehama county derives an appreciable benefit from their enterprise.

FELIX.

Red Bluff, Dec. 12, 1880.

POULTRY YARD.

California Experience with Artificial Incubation.

Is there any industry within the reach of the masses that pay equally as well as poultry raising when carried on in a practical, business-like manner, with a proper understanding of its requirements and under favorable circumstances? Is there anything on the farm that will give as great proportionate returns as a well-kept flock of fowls? There are indications appearing that artificial means, from beginning to end, seem to favor the greatest success, combining speed, safety, economy and self-control. There has been submitted to us a mass of California experience to prove that the artificial methods of hatching, rearing, scientifically feeding and fattening are far superior to nature's slower uncertain process.

Artificial Hatching.

There are now many incubators on this coast, some of them idle, having proven failures; at least in the hands of their owners. Not unfrequently we hear of some one starting up a second-hand, rejected incubator of one make or another, and doing wonders with it. This is not remarkable, for the second party was just adapted to handle the machine, while the first owner was not. Such machines require only to be placed in proper hands, and they give good satisfaction. At the same time they are not the incubator for general use in uneducated hands. There is the greatest difference imaginable between the several styles of incubators now offered for sale. We refer only to the so-called "self-regulating" patterns, as a non-regulator, excepting it be on the very largest scale, is very impracticable, as it will require constant watching day and night. Some incubators, very good machines otherwise, have faults that are almost sure to prove fatal to success, and yet we have known certain persons to attain higher success with such machines than others gained with machines which, under ordinary circumstances, would have completely outstripped the former in their work. Where we have been able to fol-

low up these cases, we have always found that the parties had first to master the principles involved in the construction of their machines; and on discovering their faults, correct them. Such machines will not answer the requirements of the ordinary poultry raiser. The success gained by inferior machines in good hands keeps them in the market to compete with the more reliable ones. We must leave it to the interested parties to investigate for themselves the real merits of the various machines.

As to the success of artificial incubation there have been published testimonials from most parts of this State, and allowing there is a successful self-regulating incubator in the market, let us examine the results reported. Can as many chicks be hatched from a certain number of eggs placed in the incubator as if placed under hens? The experience of the writers of the testimonials we have before us, answers in the affirmative, and claims a much larger proportion. Instead of trying to prove why, which would be easy or hard enough on paper, as you choose to make it, we will cite what trustworthy poultry growers say they are doing with their incubators. At Sonoma, an incubator, capacity 300 eggs, hatched three broods of chicks as follows: First hatch, 240 chicks; second hatch, 280 chicks, and third hatch, 240 again; no account being taken of the unfertile eggs. An Oakland machine brings out, 80% of the fertile eggs; then 85%, and later still hatches 90%. San Jose reports 34 unfertile eggs taken out and leaves 266 fertile eggs in the incubator of which 256 hatch. At Santa Ana, Los Angeles county, a first batch of 258 fertile eggs produce 240 little chirpers; the same machine next time hatching 251 chickens. Stockton reports 284 chicks from 297 eggs. Napa City, "a much larger percentage than ever hatched by same parties' hens." Sancelotti rejoices over a 200 brood of December orphans, while from the Santa Cruz mountains just came the following truly wonderful record: "First setting, hatched 97%; second setting of ducks, and third of hens' eggs, hatched every fertile egg both times, and all are doing well at this writing." We close the testimony here, not for want of witnesses, but of room. The reader can compare this experience with his own experience, and decide as to the merits of artificial incubation. Making due allowances for breakage of eggs, hens leaving or dying on the nest, etc., 50% of the fertile eggs may be considered a fair average of the hatching under hens on this coast.

Another question is, are the chicks hatched in these incubators as strong and vigorous as those hatched under hens? This point is met by the following statements of experience—Sonoma: "My incubator's hatched flock of chicks now number over 1,000 as strong and healthy as one could wish to see. I have succeeded well in raising them so far, having lost but one dozen from the whole number." Santa Ana: "My chicks are all doing finely; my flock certainly outdoes any hatched by hens; the first ones being full-fledged and miniature hens already." Oakland: "Our incubator-hatched chicks are fully as strong as those hatched by our hens; and properly cared for can be raised as easily artificially as naturally." Napa: "Our chicks are strong and take to their artificial mother as readily as to hens." Dixon: "Will use our incubator to do our hatching as long as we raise poultry." Here, again we must close our testimony for want of room. Does not every reader's experience with fractious hens during wet, stormy or cold weather, produce a longing for an incubator that can be tended in warm, comfortable quarters to do the hatching, and an artificial mother that will accommodate the whole flock of shivering fledglings, and is content to hover them constantly without wanting to stand up to scratch.

To other important questions propounded, it seems to be assured that there are incubators that are easy to manage; that are self-governing and reliably so, and that are quite inexpensive to operate, for those who use them write as follows—Oakland: "The care of our incubator is no more than that of setting hens, and the expense of running it does not begin to be as great as the loss of time and physical condition amounts to with our hens." Napa: "We find our incubator easy to manage. We watched it very closely at first, but finding it perfectly self-regulating, we now really pay but little attention to it." San Jose: "My first hatch, considering that I knew nothing about operating the incubator, is astonishing;" and still another finds his "simple, yet reliable and very easy to manage."

We will not, at this writing, go into details as to the course each of above parties pursue after their chicks are hatched; that may be our subject at some future time. We have merely cited experience to prove that there are incubators to be had which are all that can be desired of them, and that as such they are invaluable to all who would raise poultry on anything like a large scale.

GUTTA-PERCHA CEMENT.—This highly recommended cement is made by melting together, in an iron pan, two parts of common pitch and one of gutta-percha, stirring them well together until thoroughly incorporated, and then pouring the liquid into cold water. When cold, it is black, solid and elastic; but it softens with heat, and at 100° Fahr. is a thin fluid. It may be used as a soft paste, or in the liquid state, and answers an excellent purpose in cementing metal, glass, porcelain, ivory, etc. It may be used instead of putty in glazing windows.

PATRONS OF HUSBANDRY.

Meeting of the National Grange.

Third Day.

Among other new business introduced were several petitions asking for the admission of young people at a younger age than 16, which resulted in the Committee on Constitution and By-Laws submitting a proposed amendment to the Constitution of the National Grange, fixing the age at 14 years, which, upon the call of the yeas and nays, was adopted with only three negative votes. This now goes to the States for ratification by the State Granges, and will probably meet with no opposition, so unanimous has been the wish that this change should be made.

Resolutions were referred asking that Congress be petitioned to grant the use of the ground upon which stands the building in which our Order had its first organization, to be used to erect a permanent headquarters for our Order, with offices and a place for holding the sessions of the National Grange. The committee to whom the subject was referred reported favorably, and recommended that \$15,000 be appropriated toward the erection of a building. Several present offered handsome donations toward the erection of the building, three offers being for \$100 each; one of which was from a visiting sister from Mississippi.

Bro. Armstrong, of New York, presented the report of the Committee on Transportation and Commercial Relations, to which we alluded two weeks ago. The report was unanimously adopted.

On Monday evening an election was held for a member of the Executive Committee, resulting in the re-election of Bro. Henley James, of Indiana. Which was followed by the reading of a paper on the "Adulteration of Food," by Bro. Angell, of Boston, who at the Richmond session two years ago addressed the Grange upon the subject of cruelty to animals. His paper was a lengthy one, but full of valuable information and statistics upon this important question. He is in favor of asking Congressional aid in detecting adulterations, punishing the offenders and thus protect the people from this rapidly growing evil.

The proposed amendment to the Constitution permitting fourth degree members to be elected as delegates to the State Grange that is asked by the members in some States came up, and after a most thorough discussion was finally voted down by a vote of 13 yeas to 35 nays; a number of the large States who have the delegate system voted no.

The Committee on Good of the Order to whom had been referred resolutions asking changes in the regalia, reported adversely thereto. It is worthy of notice that a resolution came from some of the Patrons of Georgia asking for the full restoration of the old and original regalia.

The recent death of Bro. J. S. Williams, W. Master of the Arkansas State Grange, was announced, and memorial remarks were made by Bros. Samuel Adams, Eshbaugh and others.

Bro. Lipscomb, of Committee upon Resolutions, reported upon a resolution referred to them that Masters of State Granges shall report in writing to National Grange at each session the condition of the Order in their several States, which was adopted.

The same Committee reported a plan for the issue of a monthly paper or circular by the Executive Committee, which, after a thorough discussion, was recommitted. The National Grange provided for this same thing at the National Grange at Chicago, a paper to be issued quarterly, but it was abandoned before the year was out. As suggested at the Chicago session, the Grange papers of the country will willingly publish anything that the officers or Executive Committee of National Grange may wish to present to our membership, thus saving expense. It was quite generally conceded that the very best plan was for every one to try to extend the circulation of Grange literature until no Patron's family should be without its paper.

Excellent reports were presented from the Committee on Co-operation, Dormant Granges, Agriculture, Finance, etc. A number of copies of these were ordered to be printed at once and sent out in time for the session of the various State Granges that are to meet in a few days. The *Grange Bulletin* promises to print all these reports and we shall present the salient points in our future allusions to the meeting of the National Grange.

ANNUAL MEETING OF THE GRANGER'S BANK.
The first annual meeting of this institution since the change of the by-laws, moving the date from October to January, will be held in this city January 11th, as announced in our advertising columns. The past year has been a busy one for Mr. Montpelier and his associates, and the statements which will be made at the annual meeting will doubtless be of unusual interest. There should be a good attendance of stockholders.

Elections.

TEMESCAL GRANGE met at the residence of A. T. Dewey, Oakland, last Saturday evening. Mrs. Nellie Crouch was elected L. A. S.; Mrs. J. V. Webster, organist; J. V. Webster, Trustee, completing the list of officers for 1881. It was voted to invite I. C. Steele, P. M. S. G., to install the officers on the second Tuesday evening in January. Brother and Sister Webster are expected to read an interesting MSS Grange paper on that occasion. All Patrons are invited.

HEALDSBURG GRANGE, No. 18.—Election Dec. 11th: W. N. Gladden, M.; J. L. McClish, O.; Wm. Allen, L.; Lester Stevens, Sec'y; Thos. Barnes, T.; A. L. Warner, C.; R. E. Lewis, S.; Chas. Jones, A. S.; A. Bouton, G. K.; Mrs. Mary Price, Ceres; Mrs. J. McClish, Pomona; Mrs. W. T. Allen, Flora; Mrs. Charles Alexander, L. A. S.

WALNUT CREEK GRANGE.—Election Dec. 4th. John Larkey, M.; W. Renwick, O.; N. Jones, L.; J. W. Jones, S.; A. Hodger, A. S.; C. S. Whitcomb, C.; J. Baker, T.; W. K. Daily, Sec'y; A. Bartola, G. K.; Mrs. J. Larkey, Ceres; Mrs. C. S. Whitcomb, Pomona; Mrs. W. Renwick, Flora; Mrs. S. Hodge, L. A. S.

SANTA ROSA GRANGE.—Election Dec. 4th. Theodore S. Stanley, M.; Geo. W. Davis, O.; Edward W. Davis, L.; Lewis J. Hawkins, S.; W. Wood, A. S.; Ella Adams, C.; S. T. Coulter, Sec'y; Julius Ort, T.; J. Salida, G. K.; Rachel M. Coulter, Ceres; Annie E. Wood, Pomona; Clara Ort, Flora; E. Mills, L. A. S.; N. J. Coulter, organist.

SACRAMENTO GRANGE.—C. A. Hull, M.; Miss Hattie Sprague, Sec'y; A. F. Raymond, O.; H. W. Johnson, G. K.; Mrs. A. E. Holland, L.; Mrs. D. D. Hull, Ceres; Myron Smith, S.; Miss Ida R. Flint, Pomona; C. H. Flint, A. S.; Miss Nellie Rich, Flora; George Cone, C.; Mrs. N. H. Raymond, L. A. S.; Moses Sprague, T.; Mrs. C. D. Tibbets, organist.

PESADERO GRANGE.—Election Dec. 11th. I. C. Steele, M.; Alex. Moore, O.; Wm. Richardson, L.; George Steele, S.; E. C. Burch, A. S.; Mrs. Anna Weeks, C.; B. V. Weeks, T.; E. Leighton, Sec'y; Samuel Fritch, G. K.; Miss Mary Baldwin, Ceres; Miss Eltie Burch, Pomona; Miss Mary Hayward, Flora; Mrs. Josephine Harsha, L. A. S. Installation Jan. 8th.

PLYMOUTH GRANGE, Amador Co.—Election Dec. 18. S. C. Wheeler, M.; J. Sallee, O.; R. M. Ford, L.; E. S. Potter, S.; Le Count Gregg, A. S.; Mrs. D. Worley, C.; John Sharp, T.; Mrs. M. E. Wheeler, Sec'y; B. Jelmini, G. K.; Orpha E. Wheeler, Ceres; Charlotte Gregg, Pomona; Sara E. Sallee, Flora. Mrs. S. J. Sallee, L. A. S.

LODI GRANGE, No. 92, Lodi, Cal.—J. D. Huffman, M.; A. W. Gove, O.; C. T. Elliott, L.; E. Sabin, S.; R. Pixley, A. S.; Mrs. A. W. Post, C.; J. M. Fowler, T.; Mrs. A. W. Gove, Sec'y; J. Hutchins, G. K.; Mrs. E. Sabin, L. A. S.; Mrs. J. D. Huffman, Ceres; Mrs. C. P. Allison, Pomona; Mrs. C. T. Elliott, Flora. Installation the third Wednesday in January.

Healdsburg Grange.

EDITORS PRESS:—After our election, Dec. 11th, all gathered around the table to partake of a sumptuous feast, prepared by the sisters. Our Grange is brightening up, the clouds of adversity seem to be clearing away, and the ushering in of a new year is bringing with it a new life and activity to our more sluggish brothers and sisters.

The newly-elected officers will be installed at our next regular meeting, Dec. 25th, on which day we accept of a Christmas gift, to our Grange, of new officers, prepared for the coming battle with firm resolves to make the coming year one of the most prosperous ever experienced by our Order. On that day a class of seven will also take the first degree, and we invite all our neighboring Brother and Sister Grangers to be with us and join in our festivity.

The Grangers' Business Association, of this place, is in a flourishing condition, seeming to be the business center of our town, doing more than all the other houses combined. Our county has been blessed with a bountiful rain, and the farmers are all united in the hope that we are dawning upon better times.

J. M. ALEXANDER, Sec'y.
Healdsburg, Dec. 17, 1880.

PLYMOUTH GRANGE.—Bro. S. C. Wheeler, W. M. of Plymouth Grange in Amador county writes: "Plymouth Grange still lives. It was organized in October, 1874, and now has about 40 members." Bro. Wheeler also writes: "Good agricultural lands surround the town of Plymouth producing good crops of grain, hay vegetables and fruit. Fifty thousand bushels of wheat would be produced annually if a good flouring mill could be erected here. Sixty tons of grapes were made into wine this season by the Italian and Austrian inhabitants."

A serious fire with heavy loss of life occurred in Buffalo last week. The walls of the factory crumbled and fell, and probably buried 20 to 30 employees. The doors to the different rooms were hung to awing in. Each had a heavy spring closing it, thereby retarding the egress of the occupants. The building was without fire escapes of any kind. The terrified workmen jumped from the windows, and many escaped with broken bones and bruised bodies.

AGRICULTURAL NOTES.

CALIFORNIA.

CONTRA COSTA.

EDITORS PRESS:—We are having the most continuous soaking rains that we have had for 10 years in the San Joaquin valley.—G. W. T. C., Point of Timher.

LAKE.

AGRICULTURAL SOCIETY.—The first annual meeting of the stockholders of the Lake Co. Agricultural Society was held in the Odd Fellows' hall, at Lower Lake on Monday last. The President, L. H. Grunwell, being sick and confined to his bed, and no vice-president in attendance, the meeting was called to order by the Secretary, D. L. Miller; and on motion, R. K. Nichols was elected President pro tem. The Secretary's report showed total receipts of \$2,000; expenditures, \$1,500. The election of Directors being next in order, the following were duly elected: For the first district (Lower Lake), H. H. Wilson, L. H. Grunwell and Harry Bond. For the second district (Kelsey), Thos. Morlain, J. H. Renfro and William Harris. For the third district (Lakeport), Peter Burnett, L. G. Simmons and J. T. McClintock. Directors at large, R. K. Nichols, R. D. Merritt. After the adjournment of the stockholders' meeting the Board of Directors held a meeting for the election of officers for the ensuing year. J. H. Renfro was called to the Chair and Miller acted as Secretary. After several ballots L. H. Grunwell was re-elected President, and H. H. Wilson as first, and J. H. Renfro as second Vice-President. A vote was then had for Treasurer, and resulted in the election of R. K. Nichols. D. L. Miller was re-elected Secretary.

DRIED GRAPES.—*Index:* R. E. McGinnis, whose ranch is on Mill creek near Crafton, has dried and sold from 3 acres of Mission grapes, 6½ tons of dried grapes, netting him over \$500. If any one in the county can show a better yield than this, let us hear from him.

LOS ANGELES.

WHEAT.—*Heralt*, Dec. 18: The late rains damaged a good deal of hay in the stack and a right smart sprinkling of grain, also. One of our farmers has lost the crop of 600 acres. While he was waiting for the threshers to come along the rain put in an appearance. The fact is that there has been a woeful lack of machinery in this county this year, so large have been the crops. The farmers of the San Fernando valley have made considerable headway in seeding their lands to wheat. The Messrs. Lankershim & Van Nuys have already sowed 8,000 acres in this staple, and that firm alone proposes to seed at last 40,000 acres. Los Angeles county has at last demonstrated herself to be a first-class wheat section and the splendid crop of the present will be discounted the coming year if the season ends as it has begun.

MENDOCINO.

FEEDING SHEEP.—*Ukiah Press*, Dec. 7: Until of late no stock farmer has considered it worth while to attempt the feeding of sheep in the winter, except in some isolated instances of humane breeders of thoroughbred flocks. Some winters since we tided over a hard cold spell with barley feeding to excellent advantage, and here and there a man tried feeding hay, with poor success. George Gibson fed 200 sheep, and claimed to have lost a larger percentage of them than of those left to care for themselves on the range. Old sheep raised on the range do not feed to advantage with hay. Grain they will eat greedily, and come up for it if fed in a dry place. All sheep are particular about a feeding place, and will not go into a hot, close shed or muddy place, which aversion is one of the greatest difficulties in the way of sheltering and feeding sheep in the winter in California. Snow and frost are adjuncts of cleanliness, as rain and warmth are the cause of muddiness, which sheep abominate. The man who attempts to keep sheep without some winter feed and shelter for old weak ones and late lambs, loses half his profits. On the other hand, he who attempts to shelter and feed in a muddy, bleak location, loses his feed and trouble. All in all, we consider barley or oats the best sheep feed that can be provided for winter use. A teaspoonful per head per day will carry through any sheep that has teeth, and it is easier to feed than hay or roots. Provide open sheds on rocky sheltered knolls, with a trough running lengthwise through the center, with guards to keep the sheep from jumping over; feed your sheep regularly, and they will meet you on time, and come up in the spring fat with a better fleece than those not so fed. In Anderson, S. W. Knowles is feeding his lambs with oats at night and hay in the morning, without shelter. He has an old-fashioned cross-rack, made of eight-ft. stakes, and a little manger below it to catch what the sheep drop of the hay and seed when they pull it out. Some few he is feeding small potatoes, cut. Twice a week he hauls out a wagon load of apples and scatters on the ground for them to chew over. T. C. B. Finney is feeding ground barley to his lambs, and McSpadden is hauling out corn fodder. We presume many others are doing the same, but these are all we have yet noticed. We would like the experience and suggestions of other breeders on the subject of sheep feeding, to lay before our readers. We believe grain is more valuable for feed than for market when only 90 cents per cental is offered for it sacked.

PLACER.

HILLSIDE SAFETY.—Robert Williamson in *Sacramento Bee*: As the unusually heavy frosts of the past few weeks have done so much damage and having appeared to be so general, it may be of interest to your readers to learn that at least some localities have escaped its ravages, and among the lucky ones is a belt of country along the western slope of the Sierras known as the foothills, at an altitude of from 600 to 1,000 ft. above the sea level. The very safest altitude is from 700 to 1,000 ft. on the hills and side hills. I will cite my own place as an example. In November, 1878, I bought a rare piece of land on the line of the Central Pacific railroad, between the towns of Penryn and Newcastle, and at once commenced to improve it. I planted in the spring of 1879 about 700 orange, lemon and lime trees, besides other orchard and nursery trees. Last winter, although a very severe one, did not kill any of my tropical fruit trees that were planted on the hill and hillside, except the lime and a few of the lemon trees that were already sickly, and a few orange and Chinese lemon roots. I also had a lot of nursery trees planted down in a flat where the ground was quite damp. These, though not killed, were badly damaged by frost. This season I planted all my tropical trees on the hill and hillside. Not one of them was hurt by the frost, not even the little seedling oranges and lemons, ranging from one inch to one foot high and standing in open ground without protection. These trees stand on ground from 850 to 900 ft. above the sea level. Four miles further down the mountains, at an altitude of 400 ft., the frost has killed orange and even blue gum trees four to ten ft. high, or at least killed all foliage. I have been engaged in the nursery and fruit business most of my life; have traveled over the larger portion of California and Oregon in the interest of the fruit trade, and of course have tried to observe closely, and all things considered I believe the belt of country above mentioned is the very best that I have ever seen for profitable fruit growing in a general way, or even for specialties. It can be grown to perfection all kinds of fruits in general cultivation on this coast. I will write you, giving further particulars, at some other time.

SANTA BARBARA.

RUSSET APPLE.—*Independent*, Dec. 11: Mr. W. A. Franklin brought to our office a basket of the finest Golden Russet apples we have seen in the State. He also wore on his head a good, substantial-looking hat, which his wife, aged 60 year, made in six hours from a date palm growing in their garden. He has raised some of the heaviest barley in the county this year, and 3½ tons of corn to the acre. If any one doubts the capacity of the soil in this county, he should visit Mr. Franklin's place on the Mesa, and near the ocean. He says the highest land brings the best flavored fruit.

ALKALI DISEASE AND TREATMENT.—*Guadalupe Telegraph*: We are indebted to our popular liveryman, J. W. Hudson, for the following particulars of a disease which has caused the farmers of this valley to lose many valuable animals: The name of the disease is inflammation of the bladder, and it is caused by the drinking of alkali water. The symptoms are, first, uneasiness and restless pawing of the animal; then swelling and induration of the loins and rumps, followed by great distress and death—the animal sometimes living for two or three days, and sometimes not as many hours afterward. The following is a pretty sure remedy if administered in time: Give one ounce of sweet spirits of nitre in a quart of beer every hour till relieved; and at the same time cover the loins with a green sheep skin, fleshy side down. Application of cloths wrung in hot water should also be made to the back and loins.

SAN BERNARDINO.

CARP.—*Times*: Some while ago Dr. N. Smith, of Arrowhead springs, put some trout into his bathing pond, the water of which is quite warm (to draw it mild), and they all died. Mr. Pettit, our enterprising carp man, proposed to risk some of his German carp in the same pond, as an experiment. June last four carp, from three to five inches in length, were consigned to the pond, since which time nothing had been seen of them until a few days ago, and they were supposed to be dead. On draining his pond last week, Dr. Smith was astonished to find the carp "alive and kicking," the smallest one having attained the following growth: 23 inches in length, 14 inches in circumference, and weighing 6½ lbs.

SANTA CRUZ.

VINES ON BEN LOMOND.—*Courier*, Dec. 11: Although when our representative made a tour among the vineyards of the county, the grapes on Ben Lomond had been mostly gathered, the viticulturists of that region claim that their elevation gives them a more sure protection against frost than that enjoyed by the Vine Hill growers. Mr. Thomas Burns is a pioneer in grape cultivation on Ben Lomond, and has a vineyard of 7 acres, 12 years of age. From this tract he sold last year over 40 tons of grapes, and has sufficient confidence in viticulture to be already preparing to set out five acres more this season. There are about 30 acres of vines in that section. There is more open land suitable for planting vineyards in this section than in any other part of the county, and the elevation, (over 2,000 ft.), is certainly very favorable to certain varieties. If the season is favorable there will be a large amount of vinea planted on the mountains this year.

SAN LUIS OBISPO.

PACKING BUTTER.—*Tribune*: Mr. O. B. Logan, one of the leading dairymen of Cayucos, is well satisfied with the result of his season's work. He packs his butter in large barrels and consigns it to his merchants in San Francisco, where it is held in readiness to take advantage of winter prices. He made a sale the other day amounting to over \$1,000 at the good prices now ruling. Mr. Logan formerly followed the business in Marin county.

SAN JOAQUIN.

WOOL-SHIPMENT BY RAIL.—*Herald*: The following is one of the complaints which L. U. Shippee intended to lay before the railroad commission, but the commission would not hear it because Mr. Shippee would not give the name of some one who had spoken disrespectfully of the commission. In May last a carload of wool was shipped from Merced to this city. It contained 50 bales. The freight bill was presented to the consignee in this city in due time, showing the weight of the wool to be 20,000 lbs. and the freight due \$67. The next day the railroad company's collector presented another bill showing the weight of the wool to be 22,100 lbs. and the freight on it to be \$74.03, leaving a balance of \$7.03 still due. This sum was also paid, but protests to the extortion were made in each case. This wool was loaded on a car at Merced by a man who worked about the depot, and he weighed every bale and forwarded the weights. The wool was stored in this city and sold in San Francisco, and the weights at the warehouse and at San Francisco were substantially the same, showing the actual weight of the wool to be 11,392 lbs. The rates on wool per 100 lbs. from Merced to Stockton were at that time 36½ cents. If this wool had been shipped hale at a time in different cars on different days, according to its actual weight, as it would have been, thus transported, the freight on it would have been \$41.86. In this case the railroad company would have loaded and unloaded it, and the shipper would have saved \$37.57 by the operation. This in detail is one of the complaints that the railroad commissioners refused to listen to while they were in Stockton. Another item in the complaint is the fact that the railroad company charge \$67 per car for live stock from Los Angeles to San Francisco, while they charge \$74.03 for a carload of wool from Merced to Stockton, about one-ninth of the distance.

SONOMA.

JAPANESE PERSIMMONS.—*Flag*, Dec. 16: Two years ago Japanese persimmon trees were introduced all over the country, and from various sections news of varying success in their culture is received. We have mentioned that Jacob Heald exhibited a specimen of the fruit at a meeting of Healdsburg Grange. On Saturday last he brought it to our office; a fine specimen, conical, two inches in diameter, of a rich orange hue. We cut it open; it was seedless and the meat resembled that of a very ripe yellow plum; the smell, that of a pumpkin. Nevertheless, the taste was rich, sweet and delicious, being a cross between a sugar plum and a banana. We took it on the street and had it sampled by certain stalwart Missourians and Virginians, each one pronouncing it very much larger and fully as delicious as those at home. Mr. Heald planted two kinds two years ago, and both attempted to bear this year, one only maturing a sample or so of the fruit. In Cloverdale, at Mr. Ragsdale's, one tree is in bearing, but the fruit is not yet ripe. Also on Saturday last Mrs. Dr. J. H. Ulrich, of Geyserville, sent us a sample of this fruit, not so large as that described above, but fully ripe and just as beautiful. It was at once placed on exhibition at the drug store of Messrs. Riley & Fox, and attracted much attention; it can even yet be seen there. Tree and fruit withstand the frost even after the leaves have all fallen. It presents itself as a commendable introduction.

THE LIVER FLUKES AGAIN.—*Enterprise*: We spoke last week of Young Bros. & Cagwin, in Alexander valley, losing a large number of sheep from some mysterious cause. Out of a band of about 1,350 they lost fully 600. The sheep were fat and seemingly perfectly healthy, but an examination of the dead sheep's livers revealed the presence of numerous small leeches; in others the leech was not discovered. As we stated, these leeches were taken into the stomach with the water from a spring where the sheep drank, although it looked clear and pure; however, the leeches are plentiful in the small pools in the marsh around the spring. Two months ago the spring and marsh were fenced off, but the sheep continue to die, although in less numbers. A band quite as large, pastured at another place near by, have not been so afflicted. The loss to the Messrs. Young Bros. & Cagwin has been a heavy one, and they are much concerned to determine the true cause. Last spring Ira Proctor had a large percentage of his sheep die; the band had been pasturing in a meadow. Dr. Allen made a post mortem examination of one of the carcasses and found the liver full of leeches. He says he is satisfied that all of Young Bros. & Cagwin's sheep on the lowland pasture, have become infested by the leech, which has been the cause of death, and will ultimately kill off the entire band; he furthermore says that thousands of the leeches can be found in livers, even where a supposed close examination failed to reveal the presence of even one. The doctor recommends that the pasture in question be abandoned for sheep raising, or else thoroughly drained, in a particular manner, which may destroy the leech.

The Holy Child.

[Written for the RURAL PRESS by JEANNE C. CARR.]

Of all the festivals of the year, or indeed of the civilized world, not one is so filled with sacred and pleasing associations as Christmas; and, although our Puritan forefathers set their stern faces against it and condemned it as savoring of popery, their attempt to create a substitute for it only gave us one more turkey, and one more day of unalloyed gladness. But I think we ought all to get something more out of Christmas than feasts and full stockings, that each succeeding anniversary should find us broader minded and richer hearted for the gifts which have descended to us through eighteen Christian centuries.

I remember, as if it were but yesterday, the hour when the Book which I had been taught to revere above all other books, became alive and real to my mind, when its characters were humanized and made dear to my childish comprehension. There was a brighter fire-glow in the great "house-place" than ever English yule log gave, for was not the back log of hard maple, and the fore-stick of hickory, and fat pine logs between? And where, save in New England, was such chiming of merry sleigh-bells in the clear and frosty winter air? To us they heralded the return of a missionary relative from Palestine, one whose home had been for many a year upon the Mount of Cedars, and who had brought his eight Syrian-born children to America to be educated. It seemed strange and delightful to hear a living man speak of Bethlehem and Nazareth, of going down to Jericho, of waiting at Damascus for the caravan. It would not have been more wonderful if St. Paul had sat there recounting his escapes by land and sea. Ever afterwards sacred geography and history, all that illustrates the land of miracles, itself a miracle in its political position among the nations of the earth, became a most fascinating study to me. And now that facilities for travel are so multiplied that the sacred places of Bible story are almost within reach, I look over with increasing interest the excellent maps, photographs, and numerous letters of friends who have followed the footsteps of our Lord, wishing that I also might gather those scarlet anemones which the peasants call "blood-drops of Christ,"

"The multitudinous gem,
Which reddens deep the meadows all
From Dan to Bethlehem."

It seems particularly appropriate that as the hour approaches for all the Christian world to rejoice over an event so remote yet so present in its consequences, that we should try to realize the conditions into which the Holy Child was born.

Whether one accepts the Scripture narrative or not, modern civilization has wrought the story of the babe and his mother into the warp and woof of its fabric, these two are in all history, all literature.

The native country of the Holy Child is very much like California in its physical features, and in the range of its natural productions; and we know how indelible are the impressions which nature makes upon human character.

The outlook from Bethlehem is like many inland views in our Coast Range; the climate was the same, and the people lived mostly in the open air. As with us, the rainy season brought with it incomparable fertility and freshness. Galilee of old was like the Sonoma and Napa valleys, and the denudation of timber is as certain to bring ruin and desolation in their train on the Pacific, as it has upon the shores of the Mediterranean. Man is his own evil providence when he sordidly violates the laws of nature.

For 18 centuries the land flowing with milk and honey, whose farms were covered with vines and fig trees, whose gardens produced lemons, oranges, pomegranates in abundance, the home of the fruitful olive, has stood an awful monument, not of the wrath of Jehovah, but of the greed and cupidity of its ancient owners.

It has been my privilege to know some of the most careful explorers of Palestine, and on a Christmas day I once received with a package of plants from the Holy Land, a letter with the following invitation:

"Walk with me on Christmas morning from Jerusalem, six Roman miles, and look over with me the scenery of the Advent." And this was what we saw in our delightful journey, one in the flesh, another with the eye of affection and sympathy:

As we dropped down into the Valley of Gihon, just outside the walls of the City of David, we came upon the very place where David found the camp of the Philistines, as related in the Book of Samuel; and very soon paused before the simple tomb which the Saracens built over the grave of Rachel. There we opened the Bible and read from Gen. 35, 18-20, well pleased to know that Jewish, Christian and Moslem authorities are agreed as to the verity of this tradition.

About a mile from Bethlehem is a little plain where, under a grove of olive trees, stands the bare and neglected chapel known as that of the Angel of the Shepherds. It was here that the flocks were pastured, whose watchful guardians beheld the radiance "that never was on sea or shore," when the "glory of the Lord" was manifested in the midnight sky, and to their unaccustomed ears came the thrilling music which has sounded through centuries—"Peace on earth, and good will to men."

How wonderful the story of that resplendent manifestation of the Heavenly Host singing "Glory to God in the Highest!"

That this event happened in March instead of December, has been proven to the satisfaction of scholars by Dr. Birch, of the British Museum, who was able to authenticate several Roman dates, one of which was the taking of that particular census, the occasion which had brought the parents of Jesus from their home in the city of Nazareth. This census, ordered by the Emperor Augustus, required the people to report themselves to the census officers in the towns or villages where they were born, and not where they resided. Thus it chanced that on the opposite hill, Jehel-Funedis, in the palace of Herod the Tetrarch, there was feasting on the festival of some heathen God; while sweet Mary's son was cradled among the beasts, in just such a rude khan or caravansaray as one may find to-day on the sea of Galilee. In these resorts, on a rude stone floor, raised a little above the surface of the earth the cattle are tethered for the night, and within are arched recesses for the accommodation of travelers.

While Herod's palace, surrounded by the mansions and terraced gardens of the courtiers, is a mass of crumbling ruins, pilgrim feet are still searching for every relic of the Child of the Manger; nor was Solomon, or Caesar half as important to the civil interests of mankind, as that helpless infant, from the date of whose birth all modern times are counted.

Justin Martyr, who went to Palestine 40, some say 60 years after the crucifixion, and lived among the people who knew Jesus, says our Lord was born in a cave. We see that the hill of Bethlehem abounds in limestone caves, and there is nothing improbable in the story, as the Orientals utilize everything which lessens the labor of preparing a habitation. The finest painting in existence of the nativity of Christ, "La Nativité," of Corregio, recognizes the truth of the legend—"And lo! the cave was filled with lights more beautiful than lamps or candles, and brighter than the light of the sun, bright harnessed angels hovered there."

One of the books rejected by the compilers of King James' Bible, viz., the Protovangelium, or Gospel of St. James, relates how at the awful moment of the Nativity the pole of heaven stood motionless, the scattered sheep all stood looking up, and a mysterious voice said to Mary, "this is the son of God!" An ox and an ass came out and knelt before the manger, says the legend.

The simple and touching story of the Virgin Mother has inspired the noblest poetry and the highest efforts of creative art; it appeals to the innate, almost universal sentiment of reverence for maternity. If we climb the Alps, it is to find at every turn of the road the little shrine containing an image of the mother and child. In the South Sea islands the shrine of the Madonna hides under the palm trees. In the great galleries of Florence and Rome, and in the peasants' hut, in Puritan parlors, in prisons and hospitals, that sweet story of old is repeated and beautified through every perfection of the painter's and engraver's art.

The spot of the Nativity is marked by the oldest piece of Christian architecture in the world, viz., the ancient church or basilica built by the mother of Constantine. Long double rows of Corinthian pillars support the roof, whose beams were cut on Lebanon from those precious cedars, whose ceiling once blazed with gold and precious stones. In a crypt or chapel under the nave, a silver star marks the exact locality of the Advent.

The rude wooden cradle was carried to Rome and deposited in the magnificent church of St. Mary Maggiore.

The pilgrimage of the aged empress to the holy places, her successful identification of the sites of the Passion, the Nativity and the Ascension is one of the romances of history. There is little change of names or local conditions in the Bible lands, and the preponderance of testimony is in favor of the traditions. The persistence of Jewish family interest would have prevented a mistake concerning the tomb of Mary, which the empress found undisturbed. One of the reasons why Palestine was rent with the wars of the Crusades, by the contest of Christian and Mohammedan powers for the Holy Sepulchre, was that Helena left so little doubt of the genuineness of her verifications that the belief in them was universal. From the Apostles and their primitive followers, from Jewish and Roman and Saracen alike, the interest in these localities has descended, undiminished, until in our day, an illustrious Jewish family, holding the purse strings of Europe, is devoting a vast fortune to the restoration and renovation of the Holy Land.

That tiny spot upon the map of the world has been watered with blood, has been worn like a signet ring upon the hand of many an imperial master; Cleopatra once owned it, and now the descendants of Hagar possess it. Twelve hundred years after Christ the great Saracen, Saladin, kept his Christmas day in the ruins of the Mosque of Omar, itself built upon the ruins of Solomon's Temple.

Measured by these great changes in the nations, one can see how slow and yet how sure the onward movement of the race has been.

If Peter the Hermit were to preach a crusade upon our streets, we should send him to the insane asylum. If we found a band of dirty anchorites hiding in caves, they would be washed, combed and supported in our almshouses. As the Holy Child grew into a holy and helpful manhood, so the world calling itself Christian has found a nobler work than fighting for the

empty cradle or the empty tomb of a living Christ; and that it is the life in us, rather than the creed, that makes us other than heathen, if such we are.

Let us keep our Christmas festival remembering that we owe to the Holy Child whatever is best in ourselves; that those not accounted among His disciples have said of Him: "His worship will grow young without ceasing, His legend will call forth tears without end, His sufferings will melt the noblest hearts; all ages will proclaim that among the sons of men there is none born greater than He to whom the universal conscience has decreed the title of the 'Son of God.'"

Pasadena, Dec. 20, 1880.

News in Brief.

TROOPS are being landed in Ireland. THE Basuto war is rapidly spreading. THE Kurds have returned to Turkish territory.

SCARLET FEVER and diphtheria are raging in New York.

THE steam dredger *Samson* is at work in Petaluma creek.

THREE slight shocks of earthquake at Los Angeles Sunday.

OF 150 cases of diphtheria in Brooklyn last week, 50 were fatal.

ACCORDING to the census returns, the population of Oregon is 174,767.

THE Queen has knighted Edward Bains, editor of the *Leeds Mercury*.

ENGLAND is likely to have another war on her hands in the Transvaal.

IT is proposed to divide Dakota, and make a State of the southern portion.

THE Little River mills, Mendocino county, have shut down for the winter.

EMILE DE GIRARDIN, the great French journalist has retired from public life.

THE peaks of the St. Helena mountains were white with snow last Friday morning.

A SANGUINARY fight has taken place between the Armenians and the Turkish troops.

IT is again rumored that the Czar of Russia is about to abdicate in favor of the Czarevitch.

THE Second Chamber of Holland has voted a grant of 7,000 guilders for an Arctic expedition next year.

THERE is a good deal of disaffection in British Columbia, against the Dominion. Secession is talked of.

COMMODORE THOMAS S. PHELPS has been ordered to the command of the Mare Island Navy Yard.

A DISASTROUS fire has occurred at Rangoon, British India. The damage is estimated at 19 lacs of rupees.

THE New York *Herald* says: Gen. McDowell is a close personal friend of Garfield, and may be Secretary of War.

THE Boers of the Transvaal, South Africa, have thrown off the English yoke and re-established the Republic.

THE Russian Government has ordered 12 torpedo cutters, at a cost of £10,000, for the Russian fleet in Chinese waters.

Two infernal machines were received last week by Hayward Bros., of Alameda. They fortunately did not explode.

A MANIFESTO against the Canada Pacific syndicate contract has been issued by the Opposition in the Dominion Parliament.

IT is proposed to make the anniversary of the discovery of America a national holiday, as far as possible, by act of Congress.

PRIVATE intelligence from Gen. Skobeloff shows, in spite of all contrary assertions, that the Tekke campaign has already begun.

GOV. WILTZ of Louisiana has ordered the planters to take care of their own levees, as the State is unable to make the necessary repairs.

THE January interest from the Treasury Department will cause 70,000 checks to be issued. The payments will be \$15,731,000, but, added to other bond liabilities, it will equal \$24,000,000.

M. S. BEACH, while recently plowing in his field in the northern part of Marysville, turned up with the sod an old gold watch that had apparently been buried there many years.

THE New York Board of Health has prohibited public funerals in the case of persons dying of cholera, yellow fever, small-pox, scarlet fever or diphtheria. Such a prohibition should be universal.

THE Chief of the Bureau of Statistics reports the total value of exports of domestic breadstuffs for the 11 months ending November 30, 1880, to be \$256,762,380. For the same period in 1879 it was \$230,791,604.

AT San Diego grading has commenced on the first 18 miles from San Diego on the California Southern road. The ground is in fine condition, being softened by late rains. Seven large gangs of men are at work.

THE clergy of all the Roman Catholic and several of the Protestant churches of Montreal, Sunday, denounced Sara Bernhardt in strong terms, warning their people against patronizing her performances this week.

IT is officially announced that the allotment of Panama canal shares will be as follows: Applications for from one to five shares will be accepted in toto; subscribers for from 6 to 20 shares will receive 6%, and those from 20 upwards will receive 25% of their demands. Installments of 100 francs per share must be paid before the 20th inst.



Welcome, Christmas.

Once more the merry Christmas time—the joyous time is near,
When happy hearts are warmed anew with hope and honest cheer;
What though the frost be cold and keen, or winds may wail around,
If in the hearts around the hearth the light of love is found.

Let scarlet berries blush on walls, and Christmas faggots roast—
While scattered friends unite about the festive board once more—
The youth with light and lissome form, the maid in girlish grace,
The middle-aged with thoughtful brow, the grandsire's furrowed face.

While through the frosty air is heard, in ringing tones and clear,
The Christmas carols, old, yet new to every listening ear,
And over all, the silver sounds, that echo through the dells—
And hear a greeting to the world of merry Christmas bells.

When age once more lives o'er the scenes of many a Christmas past,
And from the heart of toiling ones the curse of care is cast;
When thousands bask in blessings bright—no time for toil and tears—
A resting place for human hearts through all the circling years.

For hope was born on such a morn near Bethlehem's sacred ground,
And there the silver threads of life for hopeless millions found;
What wonder that gathering years have graven its image deep;
And memory's angels over it their fondest vigils keep.

Then let your Christmas altars burn, and keep its record clear,
And welcome it with love renewed with every circling year;
Let love lights glow, despite the snow, or frosty winter's vine,
While pulses beat, and welcomes greet the happy Christmas time.

Ring out, oh, merry Christmas bells! and let your pulses bound,
Till Christmas carols fill the air and reach the world around.
The years have times to sob and sigh, to sorrow and be sad,
Be yours the voice bids all rejoice, be satisfied and glad.

Then welcome, Christmas! ancient friend, with heavenly hope and cheer,
The saint whose blessing crowns with light the slowly dying year;
Right glad are we that though our lives away are fading last,
Thy happy face shall come again, and cheer us to the last.

I. Edgar Jones.

Santa Claus' Visit and What Came of it.

(Written for the RURAL PRESS by G. W. T. C.)

It was a very nice little family which gathered around the blazing fire on the hearth that Christmas Eve. The winter had set in earnestly and the little folks were eagerly discussing the probability of Santa Claus being out on such a night as this. Pictures in plenty had they seen with the old Saint out in a snow storm driving around over house-tops; but this was California, and the rain was just pouring down at a rate that threatened to wash everybody into the tulle. Snow makes toys look nice, but what would become of them out in such a rain as this? Father nor mother had ever seen him come in such a rain. Away back on the banks of the Hudson, where they were children, it never had rained Christmas, so their experience was poor encouragement; but with the characteristic faith and hope of childhood it was decided, after a warm debate, which at times made more uproar than the storm outside, that Santa Claus would come if he were sent for. Papa said there was a little messenger named "Mercury," perched upon the chimney-tops of every house where there were good children, ready to take any message to Santa Claus. Of course this little band voted themselves good children, though 'tis true that two voted very quietly on this subject, as they remembered what a trial they had been to their mother all day. Slips of light paper were had and each wrote upon it what they wanted for Christmas. This little family was composed of two girls, one aged eight years and the other six; a boy of 10 and a baby-boy of two and a half years, who was a great chatterbox. This little boy was named Budget, and as he could not write his papa asked him what he wanted. "Me want Muggins," he said. Now Muggins was an old horse the children used to ride about on, and he had been sent to a ranch a good many miles away. So this name of Muggins, signed Budget his X mark, was written on a slip of paper and placed above the fire and away it went up the chimney faster than the smoke.

The younger girl was Chippy, called Chip for short. She was a daring sort of a young one, and would go farther in this direction of a good spanking to have her own way than any of the family. She was called this social feature of the family as she was fond of having company, and as her mother said she was "everlastingly" wanting to bring home some schoolmates to share her bed or to go with them to share theirs. She wrote for a wax doll, a new "huttercup" hat and a lot of candy; signed her name in good shape and sent it up this chimney. The boy had been baptized with the Christian name of Alex, but his propensity for rooting around into everything on the ranch had won him the name of Gopher. Gopher wanted a gun and sent his message up the chimney. The elder girl was named Daisy, but why, nobody could guess as she had more the look of a dahlia than a daisy, she was a stirring little body and often tried to divide authority with the mother over the rest by taking Budget in hand when times were getting too squally for one to hold the helm of the household. She had no great faith in Santa Claus, but very neatly she made out a list of books she never expected to see and sent it up after the others. The rain still poured down; the wind sang all sorts of tunes around the house. The dust-man came in and began to throw dust into the bright eyes and coax them off to slumberland, and by and by only father and mother were left beside the fire.

Great is faith—who should be looking over the gate next morning waiting to be let in but "old Muggins," he had got out the pasture and had traveled all night in the rain to get back to his old home. Looking out of their bedroom window this was the first visible answer to their messages of the night before, such a scampering down stairs to the sitting-room was never seen in that house before. There stood a large rocking horse labeled Muggins. As the baby's faith was greatest he was served twofold, a doll was sitting up in a buttercup hat, and leaning against the fire-place with its lap full of candy. A gun was on the opposite side, but to the great disgust of Gopher it proved to be a candy gun; he said it was a cheat, but he would carry it around to practice with as it couldn't hurt anybody.

There was plenty of laughter and fun in this house long before breakfast—some fairy says that to laugh before breakfast is to cry before supper, and I am sorry to say that this happened to our happy family. Poor mamma, she was the first victim. Budget soon got so he could make his rocking horse gallop like everything, and back and forward he went in great glee. His mother was so proud to see him ride so bravely that unfortunately she got too close to the rocker and it caught her little toe with a corn on it and gave it an awful pinch. Her pride was all gone in a moment and she could hardly limp to a chair. She didn't swear as a man would likely, but only kept on exclaiming "Oh, my! Oh, my!" till the pain got easier and she could limp around the room. Budget said, "me so sorry, mamma," but stuck to his horse. Of course mamma must go and get a kiss of forgiveness as Budget didn't mean to. That horse seemed to know when she was by, for just as she was giving the kiss it took a notion that it was time to start up again, threw up its head and knocked poor mamma half way across the room. This was too much even for maternal affection, and she did not come back but retired to her bed-room for the day.

The children now had the field to themselves. Gopher had been snapping his gun around the premises, and now entering the room spied Chippy's large wax doll. "Set up your doll, Chip, and let me take a pop at it."

"No, sir, you don't take no pops at my dolly! You might hurt it."

"Who ever heard of a candy gun hurting anything! says Gopher, aiming at the various articles around the room.

"Papa says lots of people have been killed with empty guns and pistols, and your candy gun might go off."

"Why, you must be green! I'll give you five cents for a pop at it."

Now, the greatest temptation you could lay before Chip was a five-cent piece. The longer she looked at it the bigger it seemed; and she was only in fun about being afraid of a candy gun, so she got the money and held up her beautiful wax doll at arm's length. Gopher wanted to have his nickel's worth, so he took a long aim and pretended to load his gun extra careful, cried "bang!" and sure enough that gun did go off, and knocked poor Chippy's doll into a half-dozen of pieces. When too late, it was found that the gun was loaded heavy with caramels and a big charge of powder sugar. Budget was so scared he fell off his horse and skinned his nose. But what shall we say of poor Chip? For hours she was inconsolable; declared she might have known the plaguey thing would go off, and she didn't want the five cents, no how! Gopher ran out and hid the gun in the wash-house, and did not come into the house again till the supper bell rang.

After supper a council was held to see what could be done. As security for the future, it was voted to eat up the gun, and it was accordingly divided up. The fragments of poor dolly were brought upon the table and an effort made to put her together again; but there had been too many caramels in the gun, and it had to be given up. It was a mournful little band that crept up-stairs that night to bed, and it was sometime, indeed, before the mother got over her share of that Christmas.

Point of Timber, Cal.

Ideals in Life.

(Written for RURAL PRESS by Mrs. N. W. WINTON.)

Some one has truthfully said that "the world has come to its most effective working period." The roughness of pioneer life is over; the working material in the physical, mental and moral world is definitely at our hand. Our thinking, and the results of this thinking, will be only valuable to us as we perceive this and evolve from this mass of crude material what we want for our work.

This artist, as his first glances at a glorious sunset, is thrilled by its power in his soul. The next thought is the inadequacy of his material, and the poverty of his nature, to reproduce this living, glowing tint before him so that they, too, shall thrill not only his own soul, but those of this world about him. He searches the hidden alchemy of color, and brings the tender touch of a loving hand to manipulate it; and somewhere in range of his artistic gaze lies the fair vision to which ever and anon he compares his handiwork.

So in all our daily work, we need an ideal of each task to which we may bring our incomplete undertaking. Very sorrowfully we shall look at the difference at best, but we shall grow toward it at each repetition, until some where and some time we shall see a perfected work. We are all working at our life plans, as tapestry weavers accomplish their wonderful results, from the wrong side, and its confused and mingled shades give no idea of ultimate results; but courage and perseverance have no grander mission than to form a moral suspension bridge over the rocks and pitfalls of life; and they come quits as often in this guise of innocent daily duties as in the supreme moments of our history.

To no one does more of this work come than to woman. In her best estate, this life of earnest employment, mental and physical (for these should never be disjoined), is her best opportunity for growth. One of the saddest commentaries on our false methods of life, is the remark so often heard, "She is in the prime of life, but she looks and feels 60; she is breaking down rapidly." Something is wrong. Either the unfortunate of whom this is said has drawn too rapidly upon her life-cable, by a false idea of life and its duties, or her life-cable has rusted from disuse, and now every movement shows friction most painfully. In the former case there is a lack of breadth in that vision of life to which we bring our daily work for comparison. Our ideal is at fault—ideals often are. We have placed in its foreground too many unimportant accessories, and forgotten its grand perspective reaching and broadening out into the limitless distances of eternity. Here lies woman's Scylla and Charybdis. If in the exercise of her highest conscientiousness, she is stranded on the hither shore, it is with her earnest intent to see every duty and perform it with painful exactness; an error leaning strongly to virtue's side, but an error still.

A true artist will tell us, when in our inexperience we criticize the apparent lack of finish in his foreground, that to see the painting truly we must stand at a distance, and, having regard for proper light, look at the entire effect, and if our sense of harmony is at one with his, we shall see the whole story of his endeavor, and lose our desire to dissect it into individual parts, and so lose the power of its grand completeness. So in these painfully anxious lives, could they but see, in their ideal plan of existence, the end from the beginning—then the greater duties would come before the less. There would be, in a true woman's daily work, fewer frills and more thoughts; fewer unwholesome dainties for her table, but more dainty table accessories. That her household may be daily trained into a love of beauty, and of purity, and taught to keep the lower elements of their nature subject to the higher. There will be less a round of profitless gossip, and more opportunity for reading, and the culture that comes from the best reading. There will grow less and less an unwholesome rivalry in display and expenditure, and more and more a love of the exceeding excellence of high attainment in every department of her being. The greater will overshadow the less. She will see more clearly the perspective of her life-work; how infinitely it reaches onward and onward into the distance of eternity; and imperceptibly will dwindle away all her petty ambitions. Life will grow grander because of these infinities, and she will cling to the greater and leave the less.

Of the class who rust out for lack of intent, these are happily in the minority; but it is a sad outlook—wasted time, talent, opportunity, a life all foreground and no unfathomable distance gaining daily in completeness and distinctness. No garnerings in the treasure-house of her soul of honest endeavor to help upward any human life struggling for a foothold on the rock of integrity, and so up into a higher life; only a false beacon to such a shivering soul, helping downward, but never upward. All this may be done with no really evil intent; but to amuse an idle hour, to occupy an empty mind—an empty soul. Language brings us nothing stronger, in sorrowful meaning, than the power for evil of these conditions of life. And woman takes upon herself a responsibility at which angels would shrink, when she fails to fill, to the uttermost, her life with the best and noblest interests. If only these lines serve to arouse one latent will into earnest endeavor to make the most of every opportunity—waiting patiently for higher ones, if the way seems bedged about, and so coming into growth for good—

they will have served their purpose; and work of every kind, worthily done, not as an irksome duty, will grow into the warp and woof of a royal womanhood.

Santa Barbara, Cal.

Christmas and its Celebration.

(Written for the RURAL PRESS by Mrs. Angle E. Marjesson.)

The birth of our divine Savior is fraught with significance. Although to many, Christmas is merely a feast and gala day, those of more reflective minds will take occasion to review their lives since the last anniversary, and, resolve to imitate Him more fully, who condescended to put on humanity; being tempted in all points as we are, yet without sin. To inspire in us confidence to approach this Father through Christ our great High Priest, whose advent had been long foretold by the prophets. And our minds are also carried back to the eventful evening when those pious shepherds were watching their flocks in the fields; as they gazed with terrified astonishment upon the splendor and radiance which shone around them, their attention was arrested by the voice of the heavenly messenger, the angel of the Lord, addressing them: "Fear not, for behold I bring you good tidings of great joy, which shall be to all people, for unto you is born, this day, a Savior, which is Christ the Lord." And, no sooner was this news proclaimed, than the celestial choir was heard sounding forth the praises of our Father for His manifold goodness to sinful men. He so loved the world that He gave His only begotten Son as a ransom. He was our first Christmas gift; while He was presented with gifts of gold, frankincense and myrrh, by the Magi or Eastern philosophers.

As there are many who do not understand why twelve days are observed, or why Christmas continues till the 4th of January, we will mention a few ancient customs: This day, called the twelfth day, being in that number after Christmas and Epiphany (from the Greek signifying appearance) is a festival of the church, in commemoration of the manifestation of Christ to the Gentiles; more expressly to the three Magi, or Wise Men of the East, who came, led by a star, to worship Him immediately after His birth.

This Epiphany appears to have been observed as a separate feast in the year 513. Pope Julius I. is, however, reputed to have taught the church to distinguish the feasts of the Nativity and Epiphany, as early as about the middle of the fourth century. The primitive Christians celebrated the feast of the Nativity for 12 days, observing the first and last with great solemnity, and both of these days were denominated Epiphany. The first was the greater Epiphany from our Lord having on that day become incarnate, or having made His appearance in "the flesh." The latter was the lesser Epiphany, from the threefold manifestations of His Godhead—the first, by the appearance of the blazing star which conducted Melchior, Jasper, and Balthasar, the three Magi, or wise men, commonly styled the three Kings of Cologne, out of the East, to worship the Messiah, and to offer him presents of "gold, frankincense and myrrh"—Melchior, the gold, in testimony of his royalty as the promised King of the Jews; Jasper, the frankincense, in token of his divinity; and Balthasar the myrrh, in allusion to the sorrows which, in the humiliating condition of man, our Redeemer vouchsafed to take upon himself. The second, the descent of the Holy Ghost in the form of the dove, at the Baptism; and the third, of the first miracle of our Lord turning water into wine at the marriage in Cana. All of which manifestations of the Divine nature happened on the same day, though not in the same year. To render due honor to memory of the ancient Magi, who are supposed to have been kings, the monarchs of some countries, either personally or through their chamberlains, offer annually at the altar on this day, gold, frankincense and myrrh.

In the Middle Ages, the worship of this Magi was celebrated by a little drama called the "Feast of the Star." Three priests, clothed as kings, with their servants carrying offerings, met from different directions before the altar. The middle one, who came from the East, pointed with his staff to a star. A dialogue then ensued; and after kissing each other they began to sing "Let Us Go and Inquire," after which those present began a responsory—"Let the Magi Come." A procession then commenced; and as soon as it began to enter the nave, a crown with a star resembling a cross, was lighted up and pointed out to the Magi with "Behold the star in the East!" This being concluded, two priests standing at each side of the altar answered meekly: "We are those whom you seek;" and drawing a curtain showed them a child whom, falling down they worshipped. Then the servants made the offerings of gold, frankincense and myrrh, which were divided among the priests. The Magi, meanwhile, continued praying until they dropped to sleep, when a boy, clothed like an angel, addressed them with "All things which the prophets said are fulfilled." The services concluded with chanting services, etc. At Saissins a rope was let down from the roof of the church, to which was annexed an iron circle having seven tapers, intended to represent Lucifer, or the morning star. But this was not confined to the "Feast of the Star." At Milan, in 1336, the festival of the Three Kings was celebrated in a manner that brings forcibly before us the tendency of the Middle Ages to fix attention on the historical or external of Christianity.

803 Mission street.

Young Folks' Column.

School Sketches.—No. 6.

Merry Christmas.

(Written for Our Young Folks by LAURA J. DARIN.)

Yes, indeed; a Merry Christmas to you all, boys and girls, big folks and babies. You really ought to be merry, for there has been such a buzzing of saws and hurring of planes, such flashing of needles and clipping of thread, such flourishing of paint and pencils, such whispering and planning, during the last four or five weeks that it seems as though almost every one in this blessed little world must be helping Santa Claus to get ready for Christmas; and you can easily imagine that you hear the tinkle tinkle, of sweet-sounding bells on the necks of his sturdy reindeer team.

Bless you, little children! where in the whole year will you find such another day as Christmas. Are you not glad to be a child now and enjoy Christmas trees and stockings full of presents?

Why, when I was a little girl, we did not know about hanging up stockings or giving presents at all; we just said, "I wish you a Merry Christmas" to every one we met, and the one who said it first was the best fellow. So we used to tip-toe down stairs in our stocking feet, open the door ever so softly and then bounce in suddenly, shouting, "Wish you Merry Christmas!"

Or we would hide behind doors, or under beds, or in any shady corner. We would plan to go to school early so as to hide under the desks where we could pop out our heads like a "Jack-in-the-box," and wish our mates Merry Christmas; for school kept through all the holidays, only we did not call them holidays then. What poor, benighted little things we were. I rather pity myself when I think of it.

New Year's day was very much like Christmas. We just said, "Wish you Happy New Year" to each other, and that was all, until I was nearly 12 years old. Then we heard about hanging up stockings; but it was done on New Year's eve instead of Christmas.

You see the good news got twisted a little before it reached us up among the Vermont hills; but we thought it delightful news all the same, and hung up our longest stockings with as much pleasant anticipation as you do now.

It was before this that we had the winter without snow, at least there was no snow when school commenced, as I told you in my last letter, and there was no snow at Christmas, though it came in January until it lay in great drifts over the tops of the fences.

But Christmas morning we went hurrying along to school over the rough frozen ground, fearing we would not get there in time to be first in wishing our school-mates Merry Christmas, for we had to walk a mile.

"Everybody'll be there ready to pounce out at us and say it first," said Carrie.

"Let 'em get there before we do if they want to; I can wish every one of 'em Merry Christmas first, just as easy," said brother Will.

"O, William, how can you?"

"I don't believe you can."

"They'll see you comin' down the hill," we all protested.

"No, they won't," said he, nodding his head at us triumphantly.

"Tell me how you'll work it," entreated Horace.

"You'll see when the time comes," said Will.

"But I want to get it on 'em too," urged Horace.

No; he would not tell, but walked on as full of self-satisfaction as his striped frock could hold, till just before we came in sight of the school-house, he climbed the fence and ran up the hill toward the woods that extended along in front of the school-house.

"Going up there won't do no good," Horace shouted after him. "They'll see you come down, anyway."

"Well, don't you tell 'em where I am," said William, as he disappeared among the trees.

Of course, we were more than usually merry and noisy that morning, but pretty quick the master rapped on the windows with his ferule, and in a few minutes we were all snug and still in our seats.

We had forgotten all about William, but it was not long before the door opened and he walked in. He took off his cap and mittens, and stopped by the big box-stove to warm his hands. Then he looked up at the teacher soberly, and said:

"May I speak?"

Permission being given, William faced about, and with a slight gesture toward the whole school, spoke aloud:

"I wish you all a Merry Christmas."

The scholars stared and then giggled, and ducked their heads behind their books, peeped out at the master and then at William, to see what would happen next.

William went to his seat, took up his book and began to study gravely, as though nothing more could happen.

The master's face reddened, he twirled his watch-key and tapped with his ferule. Clearing his throat, he said:

"Don't let this occur again, William!"

"No; I won't never do so any more this winter," replied William, while something almost like a chuckle sounded in his voice.

"First class may read," called the master.

The scholars giggled more than ever as they marched out, toed the mark, and made their bows. Order was soon restored, but at recess they did wish there was snow on the ground, so that they could give William a good pelting. However, they seemed to agree that it was a pretty good joke on the teacher if he did get ahead of them, as they called it.

The Heliotroper's Christmas.

(For the RURAL PRESS by E. F. W.)

"Oh! yes, I shall be off of here before Christmas, though I may have to stay until the middle of December."

"Dare say you will experience some snow storms before then," I said.

"Yes, there may be bad weather, but nothing to compare to some winter days I have spent in the service on the top of a more northerly mountain than this. Soon as I get my pipe going, I'll tell you about it."

We sat around the fire-place—the speaker and I—in a dilapidated building which one day bore the distinguished name of "observatory," but was now alluded to as "the old shanty." It stood on the summit of Mt. D., and at the time I was there, a cold wind whistled around the corners and blew the water against the canvas windows in a manner most drear. It did not rain in large, steady drops, but drizzled, a dull, incessant drizzle, while a dense fog prevailed. It was night. My companion was a little old man—a heliotroper stationed here by the U. S. Coast Survey, who, like the old seaman of one of Lord Byron's poems was,

—"Dusky as a Spaniard
Sunburnt with travel."

He had built up a warm, bright fire in the tumbled-down chimney place, and we sat beside it; he upon a bench, I upon a rude stool. I was storm bound, and most gladly, I assure you, accepted the hospitality which the friendly heliotroper kindly offered me. But to the story. I give it to my little readers as near as I can from memory, as my communicative friend told it me by the bright fire that stormy night on Mt. D.

"I have been in the Government service for many years," he said, stretching his stocking feet to the blaze. "About three years ago, I was engaged in traveling from one mountain to another, stopping a short time on each to give a few signals, and then off again. A week before Christmas, I had reached the summit of a high mountain in one of the northern counties. It had been snowing very hard. A few days before Christmas it cleared up. I got a signal from the main camp to quit the mountain. That very night I took sick; you can well imagine, sir, what I suffered in thoughts. The physical pain was not great, but the dread of sheer possibilities suggested was awful. I was 40 miles from the nearest town, the mountain covered with snow, and no shelter for myself or horse. The latter's food was giving out, and the poor beast was eating the leaves of some hardy bushes that grew above the snow. One thing I had been fortunate in was having a goodly supply of fire wood, which I had gathered here and there from out the snow during my leisure moments. The next day was the day before Christmas. The forenoon I spent rolled up in my blankets by the fire. I was quite sick, and had a great longing for some hot soups. If I could only get some fresh meat! The more I thought of it, the more I longed for it. This set me to scheming; could I not make a trap some way? I had a rope and plenty of sticks. With a great effort I aroused myself, got up and walked around a while. This seemed to do me good; I felt somewhat better. I had no arms but a small revolver, and with this I attempted to shoot some quail; but try as I would, I was always unsuccessful. Returning to the fire, I set to work with the rope and fire wood. In a little while I had a trap fashioned like the log cabins of early times, fastening the stick at the corners with pieces of rope. Then whittling out a figure 4, I thus had a pretty good trap. Carrying it back into the brush and baiting with a piece of frozen bread, I left it in hopes that I might at least trap a quail or rabbit for a Christmas breakfast."

That night—Christmas eve—was the most miserable, I think, of all my existence. I ate what little I could of the provisions I had. There was one loaf of bread, some salt and a bit of cheese. I also had a coffee-pot and frying-pan with me. Not very much to go on; and sick, too. A great deal depended on the trap, and if it failed me, then what? I tell you, sir, it was an unpleasant outlook. My poor, half-starved horse stood shivering in the snow, looking mournfully at me. His look was so unspeakably pitiful I could not endure it. I'd starve myself, first, than see that poor, innocent brute suffer while I had anything to give him. I offered him half of my loaf of bread, and he devoured it greedily. By melting some snow in the frying-pan I made some water to drink, the poor fellow having had nothing to quench his thirst but the little snow he was forced to eat. Building up a rousing fire, I rolled up in my great blankets again and went to sleep. I woke up about midnight and replenished the fire. It was snowing again quite hard.

The next morning I awoke feeling much better. The snow lay very deep upon the ground, and was still falling. My faithful horse stood

a little way off, looking earnestly at me, the picture of disconsolation. His hack was covered with snow; white flakes clung to his mane and foretop, and his breath had formed little icicles on the hair around his mouth. I gave the poor fellow the remaining half loaf of bread, and then set out for my trap. It was half covered with snow, and, yes it was sprung! More than that, it contained a fine cottontail rabbit. Imagine my delight! Now I could have a dish fit for a king; something to strengthen me for the trip before me, for I had concluded to try and get down out of there that day, if possible. I am not what you might call a religious man—men who lead the life I do are not often such—yet I knelt down there in the snow, by the side of my rude trap and frightened rabbit, and thanked God. Skinning my game I broiled some on the coals. With the rest and a little melted snow I made some very palatable soup, crumming in a bit of cheese and seasoning with the salt. It is remarkable how very good a dish thus rudely prepared will taste to a half famished victim of an unfortunate circumstance. I indeed relished that dish of rabbit soup, and it did me a world of good. I felt like another being.

Finishing my repast, I started. My little possessions I left there, my horse being too weak to carry them. I thought if I could get him down through the deep snow over that rugged trail I would be doing well. It was not without some reluctance that I left the warm fire, but it was a matter of necessity with me. I felt that I must or die. My poor beast was so stiff with the cold that he walked with difficulty. The descent was steep, and the trail so covered over with snow, that I often lost my footing, and it was with great difficulty that I kept in the trail at all. The horse followed, stumbling his way along. I wondered that he did not fall. Suddenly the poor brute made a false step and lost his footing, fell heavily and rolled several yards below me. He made an attempt to get up, but fell back again and laid quiet. I picked my way to him as best I could, and found he had broken one of his fore-legs. I could not get the poor fellow out, and it would not do to leave him there to ake out his painful existence, so naught remained but to shoot him, which I reluctantly did.

It was near night when I reached a farmhouse somewhere at the foot of the mountain. The whole day had been spent in getting down out of that dreadful place. Often I felt like lying down in the snow and giving all up, so tired, hungry and disheartened was I. But I pulled through it, sir, thank Providence; and I tell you, that little farmhouse, the warm, bright fire and the steaming supper which the farmer's kind wife set before me, was a sight to delight the heart of any poor unfortunate.

When spending a happy Christmas now, with my wife and little ones at home, my thoughts go back with a shudder to that Christmas on the mountain.

Danville, Cal.

GOOD HEALTH.

PHYSICAL EDUCATION.—Absolute health is only attained when the body is equally developed in all its organs and members. The man with muscles of steel and a diseased heart cannot be said to be in good health, and diseases of stomach, heart and nervous system are often—it may even be said usually—produced by that system of development known as training. At a recent rowing match in Philadelphia, two plucky lads in contesting boats fainted as soon as the race was over. Their condition, which was apparently good, was actually abnormal, and their systems gave way because the strain which their muscles met was too great for their vital functions. Recently a similar but more serious calamity occurred at Sag Harbor. A Brooklyn lad who had taken part in a pedestrian contest, when removed from the track, fell down dead. He had prepared himself for walking and running, and depleted his vital organs to build up his limbs. When the strain came the impoverished and most important part gave way. The severe muscular exercise of college athletes has carried off many fine young men by consumption, heart disease and other disorders, directly traceable to the absurd overwork required of their bodies. There is a limit of human endurance. That limit is reached when the body is impaired in one quarter to benefit special organs. The severity of the test by which athlete prizes are won seems designed rather to award the laurels to him who is the least healthy, because more unevenly developed, than to the really best man.—*Brooklyn Eagle*.

A NEW WAY TO TREAT DIPHTHERIA.—Quite a discovery in the treatment of diphtheria has been made recently. A young man whose arm had been amputated, was attacked with diphtheria before healing took place; and instead of the matter incident to that disease being deposited in the throat, the greater portion appeared on the wounded arm, and the diphtheria was very light and easily managed. Dr. Davis profited by this, and in his next case of diphtheria blistered his patient's chest, and on this blistered part the chief deposits appeared. This was also an easy case of the disease. The theory is that diphtheria usually appears in the throat because of the thinness of the lining of the throat. Hence, when the blister breaks the skin upon the outer part of the body, the disease appears there.

DOMESTIC ECONOMY.

Concerning Beds and Bedding.

Mary Wager-Fisher gives the *Rural New Yorker* an article on the above subject, from which we quote as follows: A very expensive feature of the house furnishing is the bedding, and a nice bed, and a good one, should be well taken care of and protected from dust. A great many people who claim to possess "common sense" still continue to have their bed-room floors covered with a carpet which is uiled down and not taken up and shaken more than twice a year. It follows that whenever the carpet is swept, more or less dust is put into motion and settles in due proportion upon the bed. If, prior to the sweeping, the bed be covered with a large duster this difficulty will be avoided.

For a bed of large size it requires ten yards of calico to make a duster—four widths, two and a-half yards in length. Very nice calico, well starched, can be had for from seven to eight cents a yard. For ten cents a yard beautiful chintzes can be had, in bright rich colors. For a three-quarter bed three widths of the calico are enough, but the length must be two and a-half yards. If all the bed-rooms in the house are swept on the same day, at least two dusters are required for "sweep-day" purposes, while a duster each for all beds not in constant use is needed. To keep a spare bed "made up" is a great piece of extravagance. The bed linen and bed spread become gradually soiled, and when the bed is to be occupied it needs to be made up afresh in order to be in proper condition. The best house-keepers keep all their bedding pillow-cases, sheets, covers, etc., folded when not in use, and the bedding carefully protected with a chintz cover, which lends a bright and tidy appearance to the room. Some have a case made of blue-and-white checked cotton for protecting the mattress from soil. A pair of sheets the size of the top of the mattress, with a thin layer of cotton between, and quilted on a machine, is very nice for a sandwich between the sheet and mattress. It is easily worked, adds to the comfort of the bed, and protects the mattress. Whatever will keep bedding clean is desirable, for it is undeniably laborious work to clean bedding.

Long sheets which turn down a full yard over the bed covers protect them very much from becoming soiled. For warm, heavy blankets in constant use, and which can only be cleaned without injury at considerable expense, a shield of white muslin can be very effectively used. If the blanket be two and a half yards wide, that much in length of muslin will be required, with a little allowance at each end for a hem. Fold the muslin straight through the center the long way, so that one-half will go on one side of the top end of the blanket and one-half on the other side. With a needle and thread fasten the muslin to the blanket across the top with hasting stitches, and again at the bottom of the muslin. The muslin shield can be removed and washed as often as one likes.

Bed-ticking stained with blood from nose-bleeding, wounds or other causes, may be cleaned by applying starch, well moistened with water, to the spot. Renew the wet starch until the stain is extracted, the wet starch absorbing it.

A cheap and very comfortable bed, with an under-bed of straw, hay or husk can be made by putting on the top a light cotton "mattress," which can be made at home. For the two sides of the "mattress" bed-ticking is best, and they should be somewhat longer and wider than the top of the bed, as in tying the size is somewhat reduced. Put two or three times as much cotton between the "sides" as is put between those of a "comfortable," and tie quite closely; finish by turning in the two edges and sewing them overhand, or stitch on machine.

Beds of straw or husk look infinitely better and are far more comfortable when the ticks are made like those of a mattress, with a straight, upright piece sewed in all around. The corners should be clipped off, so that the tick will be round at the "corners," as it fits the bedstead better.

BEEF TEA.—Mr. Wilkinson of St. Mary's hospital, London, advises the following improved method of preparing beef tea: The meat is cut in small pieces and placed, in the evening, in an earthenware vessel, with sufficient cool water to cover the meat; in this it is allowed to remain all night. In the morning the meat is taken out, placed in other water, and boiled for several hours. The meat of the previous day is then passed through a mincing machine, and put into the cold liquor in which the meat was steeped the previous night, and upon this the boiling liquor from the day's beef tea is poured, and the whole well stirred, and it then forms the complete beef tea. The characteristics of good beef tea are that all the nutritious elements of the beef should be made available, and by the process carried out as above this is effectually done, the albumen, fibrous, and gelatine being all retained and taken by the patient.

BAKER'S GRAHAM BREAD.—EDITORS PRESS: Will some one please give a recipe for making graham bread, like baker's bread?—E. E. L., Elliot, Cal.



DEWEY & CO., Publishers.

A. T. DEWEY.

W. B. EWER.

Office, 202 Sansome St., N. E. Corner Pine. St.

ANNUAL SUBSCRIPTIONS, \$4; six months, \$2; three months, \$1.25. When paid fully one year in advance, one dollar will be deducted. No new names will be taken without cash in advance. Remittances by registered letters or P. O. orders at our risk.

ADVERTISING RATES. 1 week. 1 month. 3 mos. 12 mos.

Per line.....	25	80	\$2.00	\$5.00
Half inch (1 square).....	\$1.00	\$3.00	7.50	24.00
One inch.....	2.00	5.00	14.00	40.00

Large advertisements at favorable rates. Special or reading notices, legal advertisements, notices appearing in extraordinary type or in particular parts of the paper at special rates. Four insertions are rated in a month.

The Scientific Press Patent Agency.

DEWEY & CO., Patent Solicitors.

A. T. DEWEY.

W. B. EWER.

G. H. STRONG

SAN FRANCISCO:

Saturday, December 25, 1880.

TABLE OF CONTENTS.

EDITORIALS.—Christmas, 409. The Week; The Abomination at our Doors; A Tree to Hold Shifting Sands, 416. The Dried Beet Problem, 416-421. Good Roads; Yosemite in Winter; The Garden in Winter; Our Coast Ship-Building Interests, 417. Rainfall and Temperature in California, 418-20. University Lands Still Available, 421.

ILLUSTRATIONS.—Merrymaking in the Home—The Children's Christmas Party, 409. The Route to the Summit of Vernal Falls, Yosemite Valley, 417.

CORRESPONDENCE.—A Trip Down the Coast—No. 2; The Legislature and the Agricultural Interests; Notes on the Road from Martinez to Merced, 410. The Holy Child, 413.

HORTICULTURE.—Iron as an Insecticide; Fruiting the Preparatensis Walnut, 410. The War Against Orchard Pests, 411.

THE STOCK YARD.—Nevada. Cattle Interest; Stock Raising in Tehama County, 411.

POULTRY YARD.—California Experience with Artificial Incubation, 411.

PATRONS OF HUSBANDRY.—Meeting of the National Grange; Annual Meeting of the Grangers' Bank; Elections; Healdsburg Grange; Plymouth Grange, 412.

AGRICULTURAL NOTES from the various counties of California, 412-13.

NEWS IN BRIEF, on page 413 and other pages.

HOME CIRCLE.—Welcome, Christmas (Poetry); Santa Claus' Visit and What Came of It; Ideals in Life, Christmas and Its Celebration, 414.

YOUNG FOLKS' COLUMN.—School Sketches. No. 6; The Heliotrope's Christmas, 415.

GOOD HEALTH.—Physical Education; A New Way to Treat Coughs, 416.

DOMESTIC ECONOMY.—Concerning Beds and Bedding; Beef Tea; Baker's Graham Bread, 415.

MISCELLANEOUS.—The Aurora Borealis; A New Speaking Machine; Protection Against Moisture, 422. Population in California, 424.

Business Announcements.

Horse Medicine—H. H. Moore & Sons, Stockton, Cal.
Grape Cuttings—Eisen Vineyard, Fresno, Cal.
Bee-Pavilionist—Prof. M. Vogel, S. F.
Fruit Trees—Milton Thomas, Los Angeles, Cal.
Commission Merchants—Geo. T. Coffin & Co., S. F.
Phylloxera-Proof Grapevines—L. Coates, Yountville, Cal.
Nursery—James Hannay, East San Jose, Cal.
Agricultural Grant—J. Ham Harris, S. F., Cal.

The Week.

The rain is still the prevailing topic, and the nervous ones are fearing that nature has again assumed her frequent prodigality, and instead of simply filling the cup is running it all over. But there is little cause to worry. The rain is warm; it is coming with gentle manner, and it is a time of the year when temporary excess may be well calmly allowed to dispose of itself. The present abundant supply of moisture may be accepted as the surety of a most fruitful year. In most parts of the State, the soil is already wet from top to bottom, and this means millions to producers. Evidently our State is embarked upon another grand year—a year which gives signs of an evenly distributed prosperity, and this should be the occasion for general rejoicing. There will be nothing to chill the holiday ardor this year; there is no work which may not be postponed, except the usual routine work on farms; and while out of doors all is dripping and for the moment dismal, the indoor joys may be pursued to their full without apprehension and anxiety. Therefore we believe the Christmas of 1880 will be the merriest ever known in California. Thus we wish it to every reader of the RURAL PRESS.

We give our readers an extra allowance of reading matter this week which may be acceptable to the present leisure time. A leading feature of our supplement is the most complete table of California rainfall and temperature ever published, which we take from advance sheets of the *Mining and Scientific Press*. This journal is giving its patrons an enlarged edition this week and we borrow the feature of most interest to agriculturists. The table should be studied and kept for further reference.

The close of the year brings us to the end of another volume of the RURAL PRESS, and the index for the last six months may be found on our last page. And now we go forward, longing to take with us every old subscriber and thousands of new ones into Vol. XXI, which shall be better than any of its fore-runners.

The Abomination at our Doors.

It is currently reported that there are now being large quantities of oleomargarine brought into this city from the Eastern factories, and the counterfeit is now being sold as butter to unsuspecting people. The late scarcity and consequent high price of butter has afforded the avaricious dealers just the opportunity they desire to reap large gains from the sale of this cheap and dangerous material at a high price. Such success has been attained by the makers in giving this compound of tallow, sour milk and coloring matter such a semblance to butter that those who are unused to the finest product of the churn are deceived, and consequently imposed upon. It is easy to see that thus filling the demand for a common grade of butter with oleomargarine, the market for the legitimate product will be seriously interfered with, and the rewards of honest producers much reduced. Thus our dairy interest is assailed, and unless something is done to warn the consumer of the fraud practiced upon him, much money, which should go to building up our true dairy enterprises, will be turned aside into the pockets of the tallow churners.

It is a shame that this foul stuff should be brought into so fine a dairy State as California. It is an outrage that innocent eaters should be subjected to the menace to their health which this pernicious material is shown to embody. But it will do very little good to merely declaim against the evil; the greed of dealers is proof against exhortations. It is a sad reflection that it is quite probable that commission houses which have reached wealth by the money made out of the true products which have been consigned to them, should now turn against the producers who have made them rich, and sell in competition with their patrons' product this Eastern abomination. We do not know that such is the case in this city, for we have not yet ascertained who is handling the false butter; but experience in New York has shown that such dealers were not slow to play the traitor to the true interest by dabbling in the false, which yielded them great profits.

It is plain that something must be done about this new evil or our butter makers will experience a much greater depression of values than they have had hitherto, and that they could not stand without failure. There seems but one thing to do, and that we learn from Eastern experiences. It is not practicable to prohibit the manufacture and sale of the material, but it is practicable to order that it be sold under its own name and not as butter. This much by law will do a great deal to repress the evil, for, if every package is indelibly branded and if every retail dealer is forced to put a label upon every piece he sells, no matter how small, then no one will buy oleomargarine without knowing what he is purchasing. With this much assured it devolves upon the public press to inform their readers just what oleomargarine is, and this exposure of its nature and composition will go far to repress its sale.

We are not sure whether the general law against adulteration of foods, etc., in this State, would adequately meet the case of oleomargarine or not. Probably it would not, for other States have had general anti-adulteration acts, and yet have adopted special acts to meet this special form of evil. No time should be lost in protecting our butter interest in this regard. The Legislature will soon meet, and the relief should be had at once. In order that all our readers may see the nature of the act adopted in New York State, we append a full copy of it as follows:

An Act for the protection of dairymen, and to prevent deception in sales of butter.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every person who shall manufacture for sale, or who shall offer or expose for sale, any article or substance in semblance of butter not the legitimate product of the dairy, and not made exclusively of milk or cream, but into which the oil or fat of animals not produced from milk, enters as a component part, or into which melted butter, or any oil thereof, has been introduced to take the place of cream, shall distinctly and durably stamp, brand, or mark upon every tub, firkin, box or package of such article or substance the word "Oleo-Margarin," and in case of retail sale of such article or substance in parcels, the seller shall, in all cases, deliver therewith to the purchaser, a written or printed label bearing the plainly written or printed word "Margarin." And every sale of such article or substance not so stamped, branded, marked, or labeled, is declared to be unlawful, and no action shall be maintained in any of the courts of this State to recover upon any contract for the sale of any such article or substance not so stamped, branded, marked, or labeled.

SEC. 2. Every person who shall knowingly sell, or offer to sell, or have in his or her possession with intent to sell, contrary to the provisions of this Act, any of the said article or substance required by the first section of this Act to be stamped, marked, or labeled as therein stated, not so stamped, marked, or labeled, or in case of retail sale without delivery of a label required by Sec. 1 of this Act, shall, for each such offense forfeit and pay a fine of one hundred dollars, to be recovered with costs in any of the courts of this State, having cognizance thereof, in an action to be prosecuted by the district attorney, in the name of the people, and the one-half of such recovery shall be paid to the informer, and the residue shall be applied to the support of the poor in the county where such recovery is had.

SEC. 3. Every person who shall knowingly sell, or offer or expose for sale, or who shall cause or procure to be sold or offered or exposed for sale, any article or substance required by Sec. 1 of this Act to be stamped, branded, stamped, or labeled, not so stamped, branded, stamped, or labeled, shall be guilty of a misdemeanor, and on trial for such misdemeanor proof of the sale or offer or exposure alleged, shall be presumptive evidence of knowledge of the character of the article so sold or offered, and that the same was not marked, branded, stamped, or labeled as required by this Act.

In what manner best to enforce this matter upon the attention of legislators does not clearly appear. In all the dairy States of the East

they have dairymen associations, which easily secure the relief by the force of their organization. Their committees bring the evil and the evidence before the Legislature committees, and acts are quickly put through. In this State the dairymen have no organization. One was attempted a few years ago, but no interest was awakened and it died. Now, as there is no central organization to work through, it is probable that meetings of butter producers in the different counties, the proceedings of which could be transmitted to the local representatives, would awaken them to the action needed of them. It is certain that if the evil is allowed to creep in quietly and without arousing the opposition of those whose industry is menaced, it is all that the oleomargarine dealers could ask. There must be agitation of the subject to warn the people and to secure a remedy. There is no time to lose. It is said that about 10,000 lbs. of the counterfeit was brought into this city during 10 days. It is easy to see what will follow if this nefarious traffic is allowed to go unchecked.

A Tree to Hold Shifting Sands.

The alanthus tree is known to most people, doubtless, as an unfragrant bloomer, and as a general bonanza of litter in a dooryard. It is, as a rule, looked upon as a very undesirable tree, and has fallen into sad disrepute in most localities east and west. It seems, however, that in its place the alanthus may be of inestimable service. Prof. F. H. Storer, of the Bussey Institution, has written to the *Rural New Yorker* to give the tree credit for its just worth in several regards. The one which impresses us most at the present time is its value in fixing shifting sands, and in this capacity it should certainly be tried, if it has not already in anchoring the dune material upon our Pacific coast. Prof. Storer shows that upon the sands the very characteristics we hate in our dooryards become of great value. Every autumn it drops an enormous proportion of litter upon the land, and the character of this litter is peculiarly well suited for covering the soil and improving it, since the great foot-stalks of the leaves are so large and heavy that they are comparatively little acted upon by the wind. These stalks not only remain themselves beneath the trees but they bind and overlie many leaves and keep them in place. Any one familiar with the tree will see at a glance that the droppings from the alanthus must tend to remain where they have fallen to a much greater extent than the leaves of most other trees. That is to say, a large proportion of the alanthus litter comes to rest just where it is wanted when we are striving to bind a sandy plain by its means. The brittleness of the young wood and branches of the tree may perhaps be no disadvantage, as regards the service now in question, for the branches broken and torn off by the wind would be but added to the other accumulations of vegetable matter beneath the trees.

We are not aware whether the alanthus has been tried upon our immediate sea coast or not. If any reader can give information of it in such situation, we would like to have it. It certainly grows in situations abroad which are trying to other trees. Prof. Storer instances the writings of Marsh. In describing the improvement of certain sand plains near Odessa (see his "Man and Nature," page 515, and his "Earth as Modified by Human Action," page 608), he says: "The tree best suited to this locality and, as there is good reason to suppose to sand plains in general, is the *Ailanthus glandulosa*. The remarkable success which has crowned the experiments with the alanthus at Odessa, will, no doubt, stimulate to similar trials elsewhere, and it seems not improbable that the arundo and the maritime pine, which have fixed so many thousand acres of drifting sands in western Europe, will be, partially at least, superseded by the tamarisk and alanthus." "Sixteen years ago," says an Odessa landholder, "I attempted to fix the land of the steppes, which covers the rock ground to the depth of a foot, and forms movable hillocks with every change of wind. I tried acacias and pines in vain; neither would grow in such a soil. At length I planted the alanthus, which succeeded completely in binding the sand." "This result encouraged the proprietor to extend his plantations over both dunes and sand steppes, and in the course of 16 years this rapidly growing tree had formed real forests."

CALIFORNIA SEEDLING PEARS.—The latest testimonial to the value of fruits originated in this State is a note in the *Philadelphia Gardener's Monthly* for December, concerning the seedling pears of B. S. Fox, of San Jose. The editor writes: "A box from Mr. Fox, containing some of his seedlings, not only confirms their excellence, but shows how easy it is to ship them East when proper packing is understood, as not one had the slightest bruise. It was said by them of old times that California pears were pretty but not good. One of these pears, which proved to be the 'B. S. Fox,' was equal in flavor to anything of the kind we have ever tasted. Delicious, in the fullest sense of the word, is just what these were." It occurs to us that it must be getting time for Mr. Fox to divide the good things which he has been storing up in his seedling pears for the last few years. Thus far we believe he has sold no trees of his new varieties; but it must be nearly time for the public to have a chance at them.

The Dried Beet Problem.

Outline of Prof. Hilgard's Investigations.

This year's experience with the sun drying of beets before extracting the sugar has been attended with a degree of failure and a measure of disappointment. In the southern counties where it was expected to use the sun to drive off the great excess of water and thus obtain a material much easier and cheaper to use in sugar making than the fresh beet, there were high hopes of speedy success which have not been realized. In all other parts of the State where sugar production is under way or is being discussed, the success or failure at the South is also a matter of general interest. Recognizing these facts and knowing that the problem of drying beets had been subjected to investigation at the College of Agriculture, we obtained permission to look over the matter arranged to form a part of Prof. Hilgard's report of the year's work in his laboratory, which will soon be published by the State. Thus we obtain data and deductions which will be read with interest.

Prof. Hilgard alludes first to the general subject of drying beets for sugar making with reference to the year's experience in Los Angeles county. Of the latter he says:

The cold, foggy summer was most unpropitious for the purpose; and the operations having been, unfortunately, undertaken on too large a scale without adequate previous experience, some disappointment and pecuniary loss has resulted.

Prof. Hilgard then enters upon the general subject of beet sugar production and gives in a popular style information of general interest. He says: It is well known that the value of the beet for sugar manufacture depends not only upon the absolute sugar-percentage, but very essentially upon the amount and character of other substances that may be associated with it in the juice, or extract. I have in previous reports treated the subject of the ash ingredients of California grown beets somewhat elaborately; the general result being, that while there are soils and places where sugar beets suitable for sugar manufacture cannot be grown, yet on the whole the beets grown in suitable locations in California are of unusually high grade, both as to sugar-percentage and "purity-co-efficient;" the latter term being applied to the number expressing the percentage of sugar contained in the solid contents of the juice, taken as 100 in every case. Thus, a juice containing only 8% of sugar may be worked with profit, provided its purity-co-efficient be sufficiently high: e. g., 85% of the total solid matter in it; while even with 14% of sugar, it may be rendered undesirable if the purity-co-efficient fall much below 70%, or the ash ingredients be too abundant or alkaline.

The drying of beets for the purpose of preservation during the entire year, cheapness of transportation, etc., has long been proposed, and to some extent carried into practice. But the great expense of drying by fire heat, necessary in the countries where beet sugar has chiefly been made thus far, has rendered the process unprofitable, notwithstanding the advantage of a higher purity-co-efficient of the extract, resulting from the fact that in that drying process, a portion of the impurities of the fresh juice are rendered insoluble, and thus remain behind in the leached pulp of fire-dried beets.

The hot and dry summer climate of California, which adapts it to raisin-making, seems to offer exceptional conditions, not thus far realized anywhere else, for the economical production of dried beets. Small scale experiments made in this direction last year, and recorded in my last report, seemed to confirm fully the practicability of establishing the beet sugar industry on that basis; and notwithstanding the partial failures recorded as from this year's experience, I am still of the opinion that it only requires a little more experience in the management of the drying process to render the dried-beet crop quite as certain and safe as to quality and quantity, as any other now grown. At the same time the failure of the apparatus successfully used for the manufacture of sugar from fire-dried beets, to accomplish the same object in the case of the sun-dried article, places the latter simply on a level with the fresh beet, so far as the purity-co-efficient is concerned; always provided, that the drying process has been properly conducted, under reasonably favorable atmospheric conditions.

That this is really so, is proved by the assays made of dried beets furnished by Mr. Gennert and Mr. R. Nadeau, of Los Angeles (the latter one of those parties most heavily interested in the enterprise), which are given below. In order to understand the bearing of the data given, it is necessary to refer briefly to the method of assay pursued in the case of dried beets. This is not as easy a matter as that of fresh roots, in which case the juice can be pressed, and its quality ascertained in a very short time. In that of dried beets, the substance has to be extracted with water; and according to the quantity and temperature of the latter, the results, especially as to the purity-co-efficient, may vary materially. In the practice of the manufacturer a certain percentage of sugar is always left behind in the residues, there being a point beyond which it will not pay to continue the extraction. But in an assay this is inadmissible, it being required to know the absolute sugar percentage, the extraction must be com-

[CONTINUED ON PAGE 421.]

Good Roads.

Good roads have long been regarded as an indication of civilization and progress in any community possessing them. All through history the deeds of the roadmakers have been recorded, and yet even in this enlightened day there is often shameful neglect of the highways, or the community is imposed upon by poor work upon them. Laws concerning the building and maintenance of roadways are yet far from perfect, and the subject of a general road law, which shall be effective and operative, will doubtless claim the attention of our Legislature this winter. The farmers' and legislators' meeting held recently at Livermore, and of which a report is given in another column, took action to secure the framing of a wise law, and we shall doubtless have an opportunity soon to lay its provisions before our readers. This agitation of the subject is timely and will, we trust, accomplish much good. There is, however, one thing which must be always held in mind, that it is not a good law which makes a good road, but it is the zealous execution of the law. We are forcibly reminded of this fact by a letter in the Ukiah City Press, in which the writer expresses unfeigned satisfaction at the past year's experience in public road making, and enunciates a general truth which cannot be too strongly emphasized, and that is that good making must be done with as much honesty and zeal as men exercise in their own private enterprises. The writer says:

At the election last fall a year ago, our people threw aside all party prejudices and elected hard headed, practical men as Supervisors. We are beginning to reap our reward in every part of our public business; and in none more so than our roads. True, the sums appropriated have been small; but in the state of our treasury they could not be otherwise. But the work has been put in the hands of reliable men—sometimes members of the board; otherwise reliable citizens. The money has been spent to the best advantage, and, as Tweed remarked, "where it would do the most good." Instead of employing bummers, hard workers have been hired; and instead of working from 8 to 4, the same quantity of work has been exacted as a private party would expect. In short, road working has been reduced to business methods.

Therein lies the secret, have a good law and then "reduce road-making to business methods." Then we shall have good roads. There is plenty of intelligence abroad in the community as how the work should be done and the value of different materials and methods. It remains to do the work as well as the people know how to do it, and our roads will be the pride of the State.

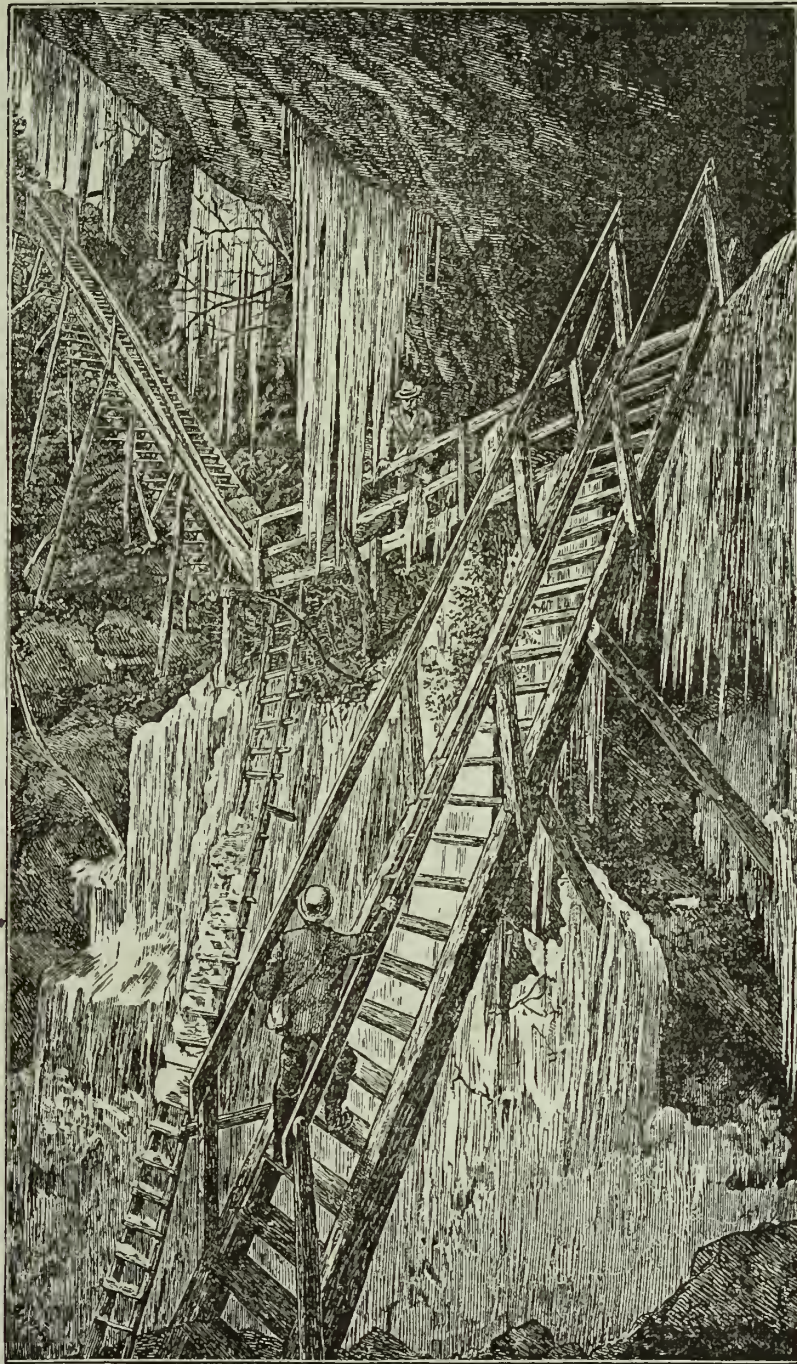
THE ROSE AS A WEED.—It is hard to look upon the queen of flowers or any of her ancestors as a weed, and yet when a rose gets out of place, according to the definition, the rose is a weed. We read in an exchange that the sweetbriar is one of the vegetable pests of Tasmania. It was looked upon as a desirable shrub for hedging round a garden some years ago, and was much sought after. Many a landowner has since bitterly regretted its cultivation; for, being greedily eaten by cows, its seeds are spread in every direction, and produce large clumps of wild roses, which, though beautiful to the eye of the visitor, stink in the nostrils of a tiller of the soil. In New South Wales and Queensland the "burrs" are the great bane of squatters, as they produce thorny seed pods, which get firmly bedded into the fleeces of the sheep and materially impair their value. The prickly pear, like the sweetbriar, was at first prized as a flower; but from the garden it spread to the paddocks, and thence to the open country, until it overran thousands of acres, and, like the Para grass in Trinidad, proved a curse instead of a blessing. The owners of estates are most anxious for legislation, inasmuch as at present it is within the power of a lazy free-selector to pick out the eye-piece of a squatter's run, and, by allowing vegetable pests, such as the above-mentioned, to flourish unchecked, to ruin the surrounding property.

FOR COMMISSIONER OF AGRICULTURE.—The *Rural New Yorker* has an article urging the continuance of Gen. Le Duc in the commissionership of agriculture at Washington. He should certainly continue commissioner, unless he be made "Secretary of Agriculture," or whatever the new Cabinet position shall be called when the law makers are wise enough to arrange for it. Commissioner Le Duc has secured the approval and interest of the farming class as no one of his predecessors secured it. No man connected with the general Government during the present administration has done more tireless, persistent and valuable work for the real interests of the country than has he. Of course he should be continued in the place.

TEACHER MEETING.—The annual session of the State Teachers' Association will be held in San Francisco on the 28th, 29th and 30th inst., at Lincoln hall, Fifth street, near Market, commencing at 10 o'clock. Certificates entitling teachers and school officers to reduced return rates, may be obtained of local agents of the Central and Southern Pacific railroads and their branches.—CHARLES H. HAM, Secretary.

Yosemite in Winter.

One of the most remarkable canyons connected with the Yosemite valley is that leading up to the foot of the Vernal falls. There are two ways of reaching the head of these falls—the one by an easy ascent along the ridge to the right of the canyon, and the other, very difficult, by following through the canyon itself, the walls of which, at one point, completely overhang the trail. On arriving at the foot of the falls, the visitor is met by a perpendicular wall of rock, up which not even a cat could climb without artificial aid. To enable him to reach the summit, a series of rough ladders has been erected, as shown in the engraving. Even by such aid, the ascent is not only difficult, but dangerous. It was here that Campi, the well known restaurant keeper of this city, lost his



THE ROUTE TO THE SUMMIT OF VERNAL FALLS, YOSEMITE VALLEY.

life, a few years ago, by a misstep, which precipitated him some 60 ft. upon the rocks near the foot of the narrow and rickety ladder seen upon the left, near the bottom of the engraving. That ladder is not used now; the more substantial one near by, with railings upon both sides, having been substituted. The view here given was taken in winter, as will be noticed by the icy covering by which the rocks are mostly concealed, and the immense icicles hanging down over the short gallery connecting the two ladder-ways. The engraving is from a photograph by George Fiske, who has his headquarters at Townsend's candy factory, Palace hotel, Market St.

BONE MEAL ON WATERMELONS.—J. R. Olsen, of Olsen's Landing, Sacramento river, reports that he used one ton of bone meal last year on his watermelons, and the result was a hastening of the crop, and a longer period of verdure in the vines. He will apply bone meal again this year.

TAHOE PHOTOGRAPHS.—We have received from R. E. Wood, landscape photographer, Tahoe, Placer Co., Cal., several specimens of his work in photographing the scenery around the famous lake. The views are well taken and will add much to our collection.

The Garden in Winter.

I have been very hard at work in my garden the past 10 days doing work that should have been done four weeks ago, but the dry, cold spell made it impossible. I hope to be able by Christmas to have my grounds in winter trim. If there is anything I dislike it is to have the grounds rough and shabby all winter, so I try and give them a neat appearance. I think the garden should be kept as clean and looking as well in winter as summer; of course, however, we cannot have the flowers.

We make the foregoing extract from a personal letter to the editor for the purpose of emphasizing the valuable point it contains. It is a fact that there may be found many things worth the doing, even during the "closed season" in the garden. Our correspondent writes from the sides of the Sierras, consequently he experiences a truer winter than we of the lower levels, and has more temptation to let the garden shift for itself. Still his resolution is a good one, and he will be repaid by the contemplation of a neat enclosure and clean soil which

Our Coast Ship-Building Interests.

We are provided on this coast with as fine ship-building timber as there is in the world. And it is not only fine but it is abundant and easily accessible. Still our ship-building interests, like those of the nation at large, are by no means what they should be. Our work has been confined principally to coasters, and vessels for the inland and Mexican trade. They have been mainly fore-and-aft vessels, though some square-riggers have also been built. These have not been in the proportion we could have hoped; but what we have built have proven able, fast and strong. Sailing vessels are slowly but gradually disappearing from the seas. Big steamers of four, five, six or eight thousand tons are doing all the work. They carry the same proportion of freight with less men, make quick and sure passages, load and discharge rapidly, turn out their cargoes in good order, and the consequence is that wherever they are put on, the sailing vessel is forced to leave. It is only on the very long-voyage routes that the sailing vessel has any chance of competing; or, in fact, has any chance of doing anything at all. On this coast, as elsewhere, these conditions are felt. At all the numerous coast ports on the California, Oregon and Washington line, and up to British Columbia, where formerly sailing vessels did the trade, the steamers now call. Fine steamers, carrying both freight and passengers, make trips as regularly as clock-work, carrying off material as fast as produced, and force the sailers to discontinue. Our coasting fleet has therefore decreased in numbers. All there is left of them is the lumber and coal trade. There is now talk of steam colliers, which will take even that work from the few employed in it, since more steamers will no doubt follow the one now being fitted up.

Our bay fleet of schooners, formerly numbering into hundreds, and carrying grain down to deep-water vessels, have nearly all disappeared. The railroads have driven them away. Steam-tugs, towing barges which carry a dozen or two schooner loads, do what water work there is. Half a dozen men, with a tug and barges, look out for what, under the schooner system, called for about a hundred men; since the wheat towed by one tug would load twenty or more schooners. A few schooners still run to small landings on the bay shore and up the sloughs, but there is not now one where there was formerly ten. With our coasting and bay trade done by steam the sailing vessels had, of course, to go to the wall. All the new vessels built have been for the inland or Mexican trade, or for lumber-carrying.

The lumber droghers built on the coast are first-class vessels. They are given plenty of shear, and are made to carry enormous deck-loads, some of them carrying two-thirds of the load on deck, only one-third being in the hold. They are loaded down to the deck, the rail and ends only being out of water. Still very few accidents occur from this apparent overloading.

A question for our serious consideration is how can we foster our ship-building interests on this coast? How can we advance them? The annual report of the Register of the Treasury states that the total tonnage of the country exhibits a decrease of 101,566 tons. The enrolled tonnage has increased 37,751 tons, while the registered tonnage has decreased 138,723 tons. Referring to ship-building, the Register shows that during the past year the amount of building has been less by 35,620 tons than the preceding year. These figures, of course, refer to the condition of the industry in the nation at large.

The new sailing vessels are all iron ones; the new steamers are all iron ones. They have even begun to build, in New York, several iron passenger steamers for inland waters. The new steamers recently brought to this coast, for coasting trade, by the two companies in that business, are iron. It is plainly forecast that the days of wooden ships are numbered. Steam whaling vessels are found to be superior to the old style of vessels, and several are being built to take the place of old barks. The steamers will drive the sailers from that trade. The iron vessels are found to be better in the long run, all things being considered, than the wooden. Therefore the wooden vessel must disappear.

Our coast ship-building interests, like those of the nation, are languishing, and we can really see, under existing circumstances, no way of building them up beyond their present extent, unless we start in to build iron ships, or, at least, composite ones. It is evident that to compete with other nations on the high seas, the Americans must build iron ships. On the Eastern coast they build a few iron steamers; we say few, as compared with European shipyards. On the Pacific coast we build none, as yet, but we hope to see the day when this industry will be inaugurated among us. Still, it must be confessed if it does not pay to build iron sailing vessels in the East, with cheap iron and coal, it is useless for us to attempt it at present here. We should like to hear from some one having experience in iron shipbuilding, so as to ventilate the subject more fully.—*Scientific Press.*

OREGON USURY LAW.—We notice that the Oregon Legislature has just passed a law that the rate of interest on all loans or overdue balances shall be 8%, if no rate is specified. If the rate is specified in the obligation it may be as high as 10% per annum and no more. We do not, however, discover that there is any penalty for charging higher than the legal rate.

THE CENSUS AND FARMING LANDS.—The Washington special census reports, now nearly ready, show the increased value of farm lands, cleared and timbered, for 1880, as follows: California 32.10%; Oregon, 26.10%. For the whole country the average is 8%. The Pacific States are supposed to be down to 3% increase on account of the agitation of the Chinese question, but the reports indicate that signs of reaction are beginning to appear.

THE NATIONAL BOARD OF TRADE has adopted a resolution favoring Government management of the telegraph service, by a two-third vote; also commending the statistical efforts of the United States Consuls.

Rainfall and Temperature in California.

The "climate of California" is a subject upon which all good citizens of the State consider themselves perfectly qualified to speak with

authority; and it seems a point of honor to speak of it always with praise. Yet if residents of different parts of the State enter into a discussion of details they never fail to disagree. It is the old story of the Knights of the

Shield. From different points of view different aspects are presented.

And this should impress us with the fact that the subject is not as well understood as it might be, and that there are widely varying

conditions at different points. Climate is "the condition of a place in relation to the various phenomena of the atmosphere, as temperature, moisture, etc., especially as they affect animal life or man." In view of this definition it is

DATE.	San Fran.		Niles.		Liverm'r.		Stockton.		Sacra'nto.		Auburn.		Cisco.		Truckee.		Marysv'll.		Modesto.		Red Bluff.		Fairfield.		Merced.		Petaluma.		Tulare.		S.Mateo.		
	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	
1870-JULY					71.90		74.18					80.84		08.16		68.35		1.30															
" AUGUST					71.48		70.25					77.40		04.83																			
" SEPTEMBER					67.51		68.62					69.73		55.82																			
" OCTOBER					64.50		63.64					61.68		47.03		1.33																	
" NOVEMBER					50.11		55.73					53.79		39.26		3.11																	
" DECEMBER					2.04		49.10		1.06		46.70	.92	42.40		.98		46.50		.46		24.00		4.88		20.40		.68						
1871-JANUARY					2.00		50.00		1.42		46.90	1.23	46.26		2.42		47.20		7.21		31.60		7.11		24.60		4.80		1.60				
" FEBRUARY					47.50		2.12		52.90		1.93	49.20	1.42	45.70		1.84		45.40		2.41		23.20		8.00		23.30		4.22		50.10		1.21	
" MARCH					54.10		.27		57.50		.30	57.00	.47	54.10		.98		51.60		1.85		3.60		2.60		32.00		3.18		01.80		.20	
" APRIL					54.00		.82		59.30		1.25	60.10	.52	57.90		1.05		55.80		3.57		30.70		3.25		39.20		2.00		67.20		.53	
" MAY					53.00		.20		63.20		.13	64.00	.24	63.10		.56		61.00		2.00		44.80		2.56		44.20		.28		66.00		1.00	
" JUNE					63.00				75.90			74.40		71.40				74.50				56.00				77.90				70.90		.04	
Total					12.60		7.45		6.15		4.00		8.45		17.50		32.90		17.00		6.65		2.25										
1871-JULY					62.00		79.00		73.50		71.20		77.90		73.10		70.30		82.00		79.50												
" AUGUST					64.80		77.90		74.70		75.30		79.20		67.00		67.10		83.90														
" SEPTEMBER					77.30		80.20		70.70		66.80		77.40		58.40		44		61.20		70.40												
" OCTOBER					65.50		62.30		.05		68.40		63.50		20		64.40		.02		66.00		.69		65.73								
" NOVEMBER					52.00		2.47		54.20		1.56	52.70	1.13	49.70		1.24		50.95		2.80		34.92		6.78		32.82		4.99		54.50		.72	
" DECEMBER					53.00		11.54		51.60		11.91	49.60	11.60	49.20		10.37		43.00		13.55		32.10		28.39		27.10		16.23		52.30		8.08	
1872-JANUARY					50.00		4.03		51.60		2.15	48.70	2.15	49.10		2.40		46.00		3.49		45.10		6.80		30.20		3.78		23.60		3.20	
" FEBRUARY					54.20		5.92		51.70		4.32	54.50	2.69	54.10		3.41		51.20		4.34		48.60		9.35		30.30		13.58		25.10		10.49	
" MARCH					53.70		1.63		54.20		1.30	52.30	.70	56.60		1.35		53.80		1.74		61.40		3.69		30.60		4.20		28.50		3.63	
" APRIL					53.70		1.14		54.90		.94	54.70	.43	57.30		.57		57.60		.01		51.80		2.69		30.60		6.69		25.70		4.11	
" MAY					56.30		.01		61.10		.01	61.90	.07	67.70		.10		67.00		.28		63.50		.65		43.70		1.13		37.60		.60	
" JUNE					59.00		.19		60.30		.27	65.20	.32	72.00		.05		69.20		.01		69.50		.22		56.00		1.03		49.00		.30	
Total					27.64		22.50		10.20		20.60		22.40		40.10		71.80		43.99		21.60		12.00		26.6		31.50		9.50		32.10		
1872-JULY					58.00		.01		60.10		.62	62.20	.75	60.00		.72		70.50				84.10											
" AUGUST					50.40		.07		71.00		.70	71.10	.75	70.30		.62		62.00				82.90											
" SEPTEMBER					58.70		.04		64.30		.71	61.20	.71	61.20		.55		55.10				53.00											
" OCTOBER					65.50		.17		59.50		.11	60.20	.64	60.20		.64		60.40		.02		60.00		.69		65.73							
" NOVEMBER					52.00		2.47		54.20		1.56	52.70	1.13	49.70		1.24		50.95		2.80		34.92		6.78		32.82		4.99		54.50		.72	
" DECEMBER					53.00		11.54		51.60		11.91	49.60	11.60	49.20		10.37		43.00		13.55		32.10		28.39		27.10		16.23		52.30		8.08	
1873-JANUARY					50.00		4.03		51.60		2.15	48.70	2.15	49.10		2.40		46.00		3.49		45.10		6.80		30.20		3.78		23.60		3.20	
" FEBRUARY					54.20		5.92		51.70		4.32	54.50	2.69	54.10		3.41		51.20		4.34		48.60		9.35		30.30		13.58		25.10		10.49	
" MARCH					53.70		1.63		54.20		1.30	52.30	.70	56.60		1.35		53.80		1.74		61.40		3.69		30.60		4.20		28.50		3.63	
" APRIL					53.70		1.14		54.90		.94	54.70	.43	57.30		.57		57.60		.01		51.80		2.69		30.60		6.69		25.70		4.11	
" MAY					56.30		.01		61.10		.01	61.90	.07	67.70		.10		67.00		.28		63.50		.65		43.70		1.13		37.60		.60	
" JUNE					59.00		.19		60.30		.27	65.20	.32	72.00		.05		69.20		.01		69.50		.22		56.00		1.03		49.00		.30	
Total					27.64		22.50		10.20		20.60		22.40		40.10		71.80		43.99		21.60		12.00		26.6		31.50		9.50		32.10		
1873-JULY					58.00		.01		60.10		.62	62.20	.75	60.00		.72		70.50				84.10											
" AUGUST																																	

evident that the discussion of the subject of the climate of California in the abstract, and without going into meteorological details, leads to no practical results. With such a large extent of territory and so many varying conditions, deductions drawn from records at one place are of no value when applied to the climatic conditions of other places.

In speaking of the climate of the whole State, we judge of the natural conditions existing within certain specified artificial boundaries—arbitrary, and to a certain extent imaginary. Nature had nothing to do with the boundary lines of any part of California, except its coast. If the State were divided into three—Northern, Central and Southern California—and each State Government prepared a pamphlet, analyzing and describing the climate of the section, how different would be the conclusions reached.

It has been customary, however, to praise without stint our glorious climate, and we have almost forgotten that discrimination is necessary. In fact it is only of late years that we have held reliable data which would furnish a basis of comparison. The Central Pacific and Southern Pacific Railroad Companies have taken considerable trouble to keep the meteorological records of the various localities on their lines. From these records we have compiled the extended and comprehensive table accompanying this article. This is the only complete detailed record of the kind ever made here, and is of immense value to the State. The railroad officials deserve great credit for their thoughtfulness and public spirit, in thus carrying out a work no others would have the facilities of doing.

Some of these records, it will be seen, have extended over a period of ten years, while

others have not been kept as long. This is due to the fact that as the road is extended and stations established, the records are required to be kept, and the oldest stations have the longest records. Some stations were established after the commencement of the season, and are therefore incomplete.

The records of daily observation for so many stations and for so many years make an array of figures that few people would care to "wade into" for the purpose of finding totals and means. Yet it is only when reduced, and means and totals obtained, that they are of much value. Our tables give the totals for rainfall and the mean temperature. All the figures for temperature are the means of the time specified, all the work of figuring having been done. In a few instances it has been necessary to estimate the figures, where records have been faulty, but generally the figures are from actual observation.

It has been a difficult task to prepare such a statement, and costly to publish it; but where it costs us dollars it will benefit the public thousands.

The following will show the positions of the stations with respect to the railroad lines: San Francisco, Oakland, Niles, Livermore, Stockton, Sacramento, Auburn, Cisco and Truckee are on the main line of the C. P. R. R.; Marysville, Red Bluff and Redding are on the Oregon branch of the C. P. R. R.; Modesto, Merced and Fresno are on the Visalia Branch, C. P. R. R.; Martinez and Williams are on the N. R. R.; Napa, Fairfield and Woodland are on the Cal. P. R. R. and branches; San Mateo, San Jose, Gilroy, Pajaro, Salinas and Soledad are on the Northern Division of the S. P. R. R.; Tulare, Delano, Sumner, Caliente, Mojave, Los Angeles and Colton are on the main line S. P. R. R.; Ione is on the Amador Branch Railroad; Anaheim is on the San Diego branch S. P. R. R.; Petaluma is on San Francisco and N. P. R. R. line; and Santa Cruz is on the Bay and Coast Railroad line.

A careful study of the figures given in these tables will show those points which are the most favorable for certain diseases. The relative conditions of different localities have been considered by our State Board of Health with this object in view. The Secretary, Dr. F. W.

Hatch, divides the State into four regions, more or less distinct, in regard to climate.

First, the coast and the valleys bordering thereon; second, the interior valleys, as the Sacramento and San Joaquin; third, the Coast Range mountains; fourth, the Sierra Nevada mountains. Beginning with the climate of the coast and the coast valleys, Dr. Hatch starts at San Francisco with a mean annual temperature of 55.23° Fahr., and follows the coast to San Diego with a mean temperature of 62.11° Fahr., including a narrow belt of country extending along the coast for a distance of 479 miles. The climate of this extensive district presents certain features in common, though varying in degree—a winter season mild and agreeable, a certain amount of fog, and cool wet winds in the summer. Taking San Francisco as an extreme, we find some modifications in each of these extremes as we go southward. The number of foggy days may be said to become less, the severity of the summer winds is subdued, the temperature somewhat higher and more equable, the rainy season shorter and the rainfall less abundant; and intervening between these two seasons of summer and winter, a short season representing spring, which becomes more and more attractive, inviting by the mildness of its temperature, the purity of its atmosphere, the early freshness and beauty of the vegetation, and combining all these qualities which have given to this region its popular reputation as a resort for health.

Of the climate of the great central valleys, the Sacramento and San Joaquin, an extensive district, stretching from the 35th to the 41st parallel, with an average width of 50 or 60 miles, it is said: The meteorology of this vast region presents certain features common to every part. As compared with the coast region, the atmosphere may be said, in a general way, to be warmer and drier during the summer, not much subject to fogs, a high temperature during the day, with a considerable reduction at night. Although giving this region of our State full credit for its many charms and excellencies, Dr. Hatch concludes that "in the prolonged high temperature, the sudden changes which occur in places subject to the influence of the ocean winds (which sweep through the Straits of Carquinez and diverge north and south), the comparatively greater humidity of the atmosphere, and the presence of malaria, is found a combination of circumstances which would seem to render this interior valley region ineligible as summer residence for the consumptive."

Concerning our mountain climate, both of the Coast Range and the Sierra Nevada, Dr. Hatch speaks at length and with definiteness. We have space only for his general comparisons. As compared with the great valleys, the mountain climates, as a whole, possess a less prolonged season of high temperature, a lower relative humidity and comparative exemption from malarial influences. As compared with the coast region, the mountain climates have a lower relative humidity, a greater exemption from winds and fogs, the advantages of altitude and a more invigorating atmosphere. These points of comparison refer to climates in the different regions during the summer months.

And in speaking of comparisons in summer and winter months, there are certain other facts

worthy of note in this connection. Prof. John Le Conte states that the coldest place in the United States, during mid-summer (except high mountain ranges and peaks), is just outside the Golden Gate, where we have a mean temperature of 52°, which appears nowhere else during this season. In a corresponding latitude on the Atlantic coast the summer temperature is some 18° higher. In winter, however, there is a different kind of contrast. Here the winter isotherm is 52°, while at Chesapeake bay (corresponding latitude) it is 42°. The range of mean temperature of the extreme regions here is 4°, and 33° on the Atlantic.

Prof. Le Conte considers that the existence of a comparatively warm ocean surface north of latitude 41°, and of a comparatively cool ocean surface south of the same parallel of latitude, combined with the direction of the prevailing winds, serve to explain the peculiar and most remarkable feature of the coast climate of the Pacific slope. For between the Coast Ranges and the sea shore the thermal element of climate is governed by the temperature of the adjacent oceans. As to the seeming anomalies in the distribution of the rainfall on this coast, he thinks they may nearly all be explained by means of the following fundamental principles: (1) The temperature of the adjacent ocean, which determines the tension of the aqueous vapor contained in the air resting on it. (2) The direction of the prevailing vapor-bearing winds which waft the moisture to places of condensation or otherwise. (3) The temperature of contiguous lands, which renders them efficient agents of condensation or the opposite.

There is no country in the world where the temperature of the summer increases so much as we go from the coast to the interior as on the Pacific slope of North America, from Alaska to Lower California. The extremes are such that the city man in summer longs to go to the interior to get warm. While the residents of interior towns come to the coast to get cool.

Notwithstanding that it is generally considered that the climate of California is peculiar, and shows some abnormal features, those persons who have given the subject close attention deny that this is so, and think that the laws controlling climate apply here with the same force as elsewhere. That California is controlled by the same universal laws which control climate in other places. When the laws are carefully considered and applied to the records of our temperature, rainfall, prevailing wind, etc., it will be seen that the climate of any given section of the State is not exceptional, but just such as these laws show it should be.

Mr. B. B. Redding, of the Central Pacific Railroad Company, has probably given as much intelligent attention to questions connected with the peculiarities of our climate as any citizen of the State. A very exhaustive paper on "The Climate of California" was read by him before the California Academy of Sciences, and published in the PRESS of January 26th, 1878. In that paper the subject was fully set forth, and we refer our readers to it for much information that we cannot give space to repeat. The conclusions therein reached are based on deductions drawn from the same tables we now use, except that, of course, we have continued them three years.

In regard to the rainfall, Mr. Redding finds reason to conclude, and facts bear out the conclusion, that the northern part of the State should by natural laws, receive more rain than the southern. The Sacramento, San Joaquin and Tulare valleys, in fact, constitute one great valley. All of it has the Sierra Nevada on the east, and the Coast Range mountains on the west. A line drawn through its center, in the line of the rain-bearing wind, south-southeast from Fort Redding to Sumner, would at all

S. Jose. Gilroy. Pajaro Salinas. Soledad

TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.
47.38	2.82	45.98	6.57	46.32	7.07	51.51	4.65	48.36	2.06
46.79	2.61	46.52	5.22	47.87	4.77	50.95	2.92	46.84	1.62
49.33	77.46	5.2	2.04	46.71	1.45	49.71	1.26	47.64	.32
51.80	2.83	48.96	3.15	47.85	3.14	51.49	2.18	48.94	1.73
58.80	87.57	29	95.52	91	1.66	57.24	70.55	43	.40
67.06	21.60	83	16.54	28	40.62	32	35.66	45	.23
76.07	72.4	1	57.30	1	64.21	1	72.44	1	1
10.11	18.09	18.49	13.61	6.35					

71.11	71.09	55.54	63.71	76.99					
68.73	68.43	57.31	64.60	68.84					
1.03	10.66	27	55.28	64.95					
64.26	1.81	57.63	3.55	54.94	2.83	60.96	1.83	66.33	.15
56.82	1.91	51.16	2.09	51.70	3.00	54.19	.88	51.06	.13
51.88	09.39	82	04.43	22	46.11	42.37	47.30	.75	
49.76	2.75	43.23	7.70	47.13	4.88	47.77	4.50	45.51	.62
53.30	41.45	23	75.50	21	20.56	40	15.20	54.40	.16
54.43	39.48	42	69.51	46	88.50	58	69.52	54	1.41
62.07	83.66	54.60	03.54	94	57.53	04.68	40	51.40	.01
66.66	75.52	61.19	09	69.4	71.90	14.76	40	73.62	.07
68.53	45.70	18	30.61	30	71.20	28.79	40	76.47	.50
7.9	15.12	12.41	8.05	5.01	8.92	.07	3.32	12.79	

08.87	77.29	58.63	63.71	76.99					
70.11	68.55	58.13	64.66	68.84					
64.72	68.33	56.03	60.22	67.20					
65.54	63.33	55.27	58.39	67.95					
53.10	52.27	11.75	56.01	7.16	54.44	4.19	58.12	2.89	53.32
42.16	4.08	43.16	6.75	48.38	7.89	47.18	5.85	43.69	5.96
49.61	3.41	46.00	3.97	53.01	4.13	51.08	3.14	49.83	3.45
51.75	3.11	29.90	5.93	53.03	4.72	49.24	4.23	58.41	3.24
57.92	41.60	82	76.57	02	23.56	86	59.92	57.79	1.77
59.24	25.63	63	58.87	59.72	67.07	77.30	65.00	2.90	71.11
69.57	68.90	63.61	63.09	77.30	79.52	70.81	33	87.54	
12.77	31.04	26.17	19.16	15.34	58.15	6.01	5.00	21.93	4.51

65.23	63.40	63.81	63.91	70.67	81.19	63.80	39	91.18	83.30	85.20
66.11	67.10	58.08	61.76	64.55	77.32	65.85	09	77.70	77.70	84.00
65.21	65.81	58.19	62.41	68.89	72.60	1.20	84.00	77.05	70.71	78.52
64.00	1.35	61.83	1.25	67.91	1.69	59.75	80.57	75.75	67.33	78.52
55.49	02.54	72	59.47	52.83	47.97	58.53	40.62	88	52.58	62.35
47.63	43.83	50.88	49.99	50.85	20.50	27	58.67	45.99	58.85	59.75
50.63	2.23	51.32	3.75	52.70	2.83	54.09	2.28	43.03	87.49	56.22
51.43	48.54	70	66.35	22.56	98	74.65	25.52	85	3.76	60.89
55.79	75.59	12	82.59	77	73.77	66	62.55	40	28.57	24
55.12	59.01	27	60.17	16.54	99	09.55	78	1.05	57.76	57.61
57.20	06.31	33	44.58	96	59.39	11.58	17	65.27	1.41	70.40
68.04	69.37	64.19	65.12	61.17	79.73	75.79	74	83.89	78.46	82.11
4.99	6.53	5.53	3.90	2.65	26.01	4.15	2.85	4.61	9.25	8.00

67.40	71.08	64.00	64.31	64.69	83.34	78.80	88.20	74.33	87.08	90.90
64.87	67.69	64.65	61.84	66.91	81.06	07.85	24	88.54	81.96	83.80
63.91	69.49	60.78	64.43	60.43	80.32	81.57	80.05	71.62	79.11	77.35
58.23	37.58	04	10.58	32	30.55	04	63.78	63.36	86.66	28
54.05	85.52	49	1.14	27	36.50	06	95.52	01	7.76	58
51.93	1.87	47	86	1.56	53.31	1.95	51.31	2.39	41.82	1.42
52.61	5.54	49	28	9.36	33	10.27	61	7.06	44.71	3.69
53.61	6.94	49	80	11.45	51.84	10.26	52	8.58	43.70	4.63
54.05	2.25	54	3.24	54.40	3.57	44.02	2.87	49.36	73.52	74
54.84	1.48	57	41	1.62	55.19	1.70	55.80	1.69	51.73	74
50.08	02.62	85	53.28	58.43	59.54	63.02	98	81.59	05.34	85
64.77	64.14	59.67	58.78	62.98	81.59	05.34	85	79.18	67.02	82.95
19.28	28.12	29.01	23.75	12.16	59.99	7.09	7.98	17.24	17.35	6.62

64.79	66.26	58.98	60.26	64.65	85.16	83.98	85.67	71.02	85.80	83.62
65.73	66.42	59.41	59.57	68.75	86.42	86.22	82.87	71.51	87.15	84.63
62.22	03.65	58	20.58	93	06.60	78.50	1.32	82.06	74.97	72.04
58.40	20.61	89	88.58	21	98.13	63	59.40	06.67	94	2.15
52.73	27.53	93	70.54	40	20.54	74	20.51	56	05.57	00
16.07	38.45	34	42.47	76	30.50	28	29.44	98	1.44	46
16.88	2.11	44.61	3.80	47.59	3.99	48.18	2.18	47.80	6.45	44
52.84	1.47	53.17	4.02	52.66	4.73	53.31	2.37	55.78	34.51	51
55.89	1.89	56.34	3.95	55.22	3.84	56.41	1.52	59.70	1.04	55
56.53	1.34	58.50	1.47	54.55	1.47	57.53	1.39	60.53	59.60	14
57.82	73.60	64	1.34	54.49	1.28	57.51	64.20	59.80	3.56	65
66.07	06.66	43	15.60	11	06.57	83	08.64	89	76.38	48
8.48	16.90	17.37	9.32	4.15	37.06	1.41	1.28	8.18	3.16	2.57

66.31	66.39	59.07	57.62	62.30	85.06	03.89	78	84.90	89.06	84.62
76.03	68.12	61.62	60.23	66.62	87.22	11.92	33	87.15	72.81	89.41
64.00	65.79	61.22	60.24	64.10	79.45	84.02	79.37	71.23	80.82	83.93
59.50	87.60	85	1.00	58.55	97.56	54	92.63	45	64.39	75
52.40	1.79	50.59	1.68	52.13	1.68	51.72	1.01	61.02	47.52	81
46.50	2.99	44.98	3.68	48.06	2.88	49	2.15	47.04	1.57	43
45.00	1.48	43.60	2.38	43.96	1.43	46.69	1.50	46.02	73.42	49
45.65	1.35	44.10	1.74	44.50	1.43	47.07	1.02	49.91	1.05	46
43.98	96.46	80	1.84	47.05	1.79	48.44	1.51	51.61	87	46
52.88	3.66	53.72	9.48	52.06	6.00	53.91	3.74	57.70	2.19	54
59.01	67.60	21	65.66	06	36.58	47	37.64	41	23.67	16
2.10	63.47	57	57.08	55.93	64.12	82.00	78.51	81.90	86.77	80.61
13.77	22.40	16.54	12.28	7.56	36.63	8.78	5.60	13.03	15.17	7.91

Redding Delano. Sumner Lang's Caliente

TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.	TEM.	RAIN.
47.38	2.82	45.98	6.57	46.32	7.07	51.51	4.65	48.36	2.06

points be about an equal distance from the ocean and also an equal distance from the Nevada desert. All the stations relatively to their surroundings are therefore similarly situated, and general laws have full operation, free from local disturbance. Commencing at the north end of the valley, the record is as follows:

Rainfall at North End of Valley of California.

Stations.	Latitude.	Longitude.	Height above ocean—feet.	Extent of series.	Annual mean of rain in inches.
Fort Reading.....	40° 30'	122° 05'	647	1852-56	29.11
Red Bluff.....	40° 10'	122° 15'	307	1872-77	18.41
Tehama.....	40°	122° 08'	222	1870-77	16.30
Chico.....	39° 40'	121° 50'	193	1871-77	21.99
Marysville.....	39° 21'	121° 30'	67	1871-77	17.46
Sacramento.....	38° 34'	121° 25'	30	1849-77	18.75
Stockton.....	37° 57'	121° 17'	23	1854-57	13.23
Modesto.....	37° 40'	120° 55'	91	1871-77	9.60
Merced.....	37° 20'	120° 26'	171	1871-77	9.36
Borden.....	36° 55'	120°	274	1875-77	3.32
Tulare.....	36° 14'	119° 18'	282	1875-77	4.83
Delano.....	35° 43'	119° 12'	313	1875-77	4.03
Sumner.....	35° 23'	118° 58'	415	1875-77	3.92

The proposition that the mountains should receive more rain than the valleys is also confirmed by the following exhibit, wherein have been selected successive stations on a line as nearly as possible east from San Francisco, thereby avoiding any increase of precipitation due to increase of latitude. The law, as stated by Guyot, deduced from experiment and observation, is that an elevation of 350 ft. is sufficient to diminish the mean temperature of a given place by 1° of Fahrenheit; that is to say, the effect is the same as if the place were situated 70 miles farther north.

Commencing near the center of the Sacramento valley, at the lowest elevation above the sea, the following results are shown:

Stations.	Latitude.	Longitude.	Height above the sea—feet.	Extent of series.	Annual mean of rain in inches.
Stockton.....	37° 57'	121° 17'	23	1854-57	13.23
Sacramento.....	38° 34'	121° 25'	30	1849-77	18.75
Rocklin.....	38° 45'	121° 12'	249	1870-77	17.30
Auburn.....	38° 52'	121° 02'	1363	1870-77	29.79
Colfax.....	39° 06'	120° 55'	2421	1870-77	42.72
Alta.....	39° 12'	120° 52'	3612	1870-77	47.32
Emigrant Gap.....	39° 18'	120° 35'	5230	1870-77	51.49
Cisco.....	39° 19'	120° 28'	5939	1870-77	55.32
Summit.....	39° 20'	120° 15'	7017	1870-77	68.48

That the least rain should be in the deserts, is confirmed by the records kept at various stations.

Commencing south and proceeding north, the following statement is shown:

Stations.	Latitude.	Longitude.	Height above the sea—feet.	Extent of series.	Annual mean of rain in inches.
Fort Yuma.....	32° 44'	114° 36'	206	1855-67	3.06
Fort Mohave.....	35° 06'	114° 35'	604	1859-66	2.65
Wadsworth.....	39° 42'	119° 15'	4077	1870-77	3.21
Hot Springs.....	39° 51'	119° 02'	4070	1870-77	3.90
Brown's.....	40° 00'	118° 35'	3925	1870-77	3.53

To exhibit the fact that the rainfall is more on the coast than in the Sacramento and San Joaquin valleys, in the same latitudes, a series of stations near the coast, south of this city, was located.

Stations.	Latitude.	Longitude.	Height above ocean—feet.	Extent of series.	Annual mean of rain in inches.
San Mateo.....	37° 34'	122° 18'	30	1873-77	15.74
San Jose.....	37° 20'	121° 52'	94	1873-77	10.24
Gilroy.....	37°	121° 31'	201	1873-77	16.45
Hollister.....	36° 50'	121° 23'	292	1873-77	9.66
Pajaro.....	36° 55'	121° 43'	31	1873-77	15.46
Salinas.....	36° 35'	121° 46'	52	1873-77	10.74
Monterey.....	36° 36'	121° 52'	42	1860-66	15.29
Soledad.....	36° 15'	121° 21'	188	1873-77	8.07

San Mateo and Modesto are nearly in the same latitude. Modesto has an annual mean of 9.60 inches of rain, while San Mateo has 15.74. San Jose and Merced are in the same latitude; the former has 10.24 inches, the latter 9.36 inches. As we go farther south the discrepancy between the coast and interior valleys is still more marked. Soledad and Tulare have the same latitude. Soledad gets a mean of 8.07 inches; Tulare, 4.83 inches.

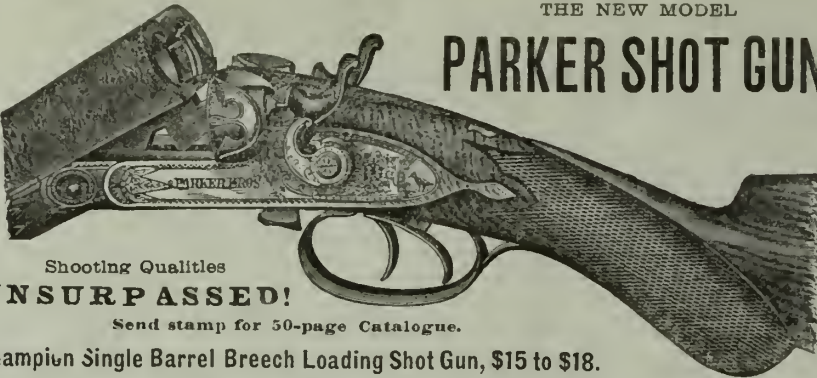
The influence of the prevailing wind is very great. Coming south through the center of the Sacramento valley, from Redding on the north to Sumner on the extreme south, the mean temperatures of the various successive stations show the effect of the radiation of heat in this valley and the influence of the wind from the cool gulf stream where it flows through the Golden Gate and up the Sacramento river.

The following is the mean annual temperature of

Redding.....	64.14°	Modesto.....	63.65°
Red Bluff.....	62.25°	Merced.....	63.10°
Chico.....	62.46°	Borden.....	64.87°
Marysville.....	63.62°	Tulare.....	64.09°
Sacramento.....	60.48°	Delano.....	63.64°
Stockton.....	61.99°	Sumner.....	68.29°

THE NEW MODEL

PARKER SHOT GUN.



Shooting Qualities
UNSURPASSED!

Send stamp for 50-page Catalogue.

Champion Single Barrel Breech Loading Shot Gun, \$15 to \$18.

Single and Double Guns, Rifles, Revolvers, Equipments, Ammunition, etc. Circulars and price list on application

E. T. ALLEN, Agent for the Pacific Coast,

NO. 416 MARKET STREET, - - - - - SAN FRANCISCO, CAL

C. D. Ladd,

821 Kearny Street, San Francisco Cal.,

C. D. LADD & CO., Branch House, 49 First Street, Portland, Or.



Sole Agents for the Pacific Coast
FOR THE
BALLARD RIFLE.

Full line of Winchester, Burgess and Kennedy Magazine Rifles. Sharps and Remington. Complete Assortment of Breech and Muzzle Loading Shot Guns of all Makers. Pistols of all Descriptions. Ammunition of all Kinds, Wholesale and Retail.

SEND FOR 1880 PRICE LIST.

LAUTZ BRO'S & CO.'S SOAPS.

Stearine, Marseilles, Cotton Oil and Acme.

NIAGARA STARCH.

THESE GOODS ARE THE BEST IN THE MARKET. ASK YOUR GROCER FOR THEM AND TAKE NO OTHERS.

D. L. BECK & SONS, Agents Pacific Coast, No. 309 Sacramento Street, S. F.

Baling
Fencing
Telegraph
Telephone
Galvanized

WIRE

Barbed Fence Wire.

All kinds of Wire—iron, steel, Bessemer, spring, copper, brass and galvanized—on hand or Made to Order.

Note the Trademark.

A. S. HALLIDIE

Wire Mills.

Office, No. 6 California St.

SAN FRANCISCO.

WIRE ROPE and CORDAGE

Of every kind on hand or Made to Order.

AMERICAN EXCHANGE HOTEL.

Sansome Street, (Opposite Wells, Fargo & Co's Express), San Francisco.

This Hotel, under the management of CHAS. MONT GOMERY, has been thoroughly renovated, and being in the very center of all the Banks, Insurance Offices and Commission Merchants, it offers special inducements to Merchants from the Interior and Farmers.

Board, with Room, \$1, \$1.25 and \$1.50 per day. Special rates by the week or month.

FREE COACH from BOATS and CARS to HOTEL.

JOSEPH F. HILL,

MANUFACTURER OF FIRST-CLASS

Buggies, Farm & Freight Wagons.

OF ALL DESCRIPTIONS

Cor. Thirteenth and J Sts., Sacramento, Cal.

Repairing promptly attended to

126 PERCHERON-NORMAN HORSES

IMPORTED IN 12 MONTHS,



—BY—

M. W. DUNHAM,

Wayne, DuPage County, Illinois,

25 MORE ARE ON THE WAY,

Being MORE than the TOTAL IMPORTATIONS of ANY OTHER MAN or FIRM during their entire business career. 100 page Catalogue, 41 Illustrations, free on application.

TRADE MARK.

LITTLE'S CHEMICAL FLUID.

The New Non-Poisonous Sheep Dip and Disinfectant. Price reduced to \$1.60 per gallon. For directions and testimonials apply to FALKNER, BELL & CO., Sole Agents, 430 California Street, S. F.

Mission Rock Dock and Grain Warehouse.

San Francisco, Cal.

40,000 tons capacity. Storage at lowest rates.

CHAS. H. SINCLAIR, Supt.

CALIFORNIA DRY DOCK CO. - - - Proprietors.

Office—318 California Street, Room 2.

GUNS

Lowest prices ever known on Breech Loaders, Rifles, and Revolvers.

OUR \$15 SHOT-GUN

at greatly reduced price. Send stamp for our New Illustrated Catalogue (B) P. POWELL & SON, 235 Main Street, CINCINNATI, O.

HOPE FOR THE DEAF

Garnore's Artificial Ear Drums

RESTORE THE HEARING and perform the work of the Natural Drum. Remain in position without aid, and are not observable. All conversation and even whispers heard distinctly. We refer to those using them. Send for descriptive circular. Address: CARMORE & CO., S. W. Corner 5th & Race Sts., Cincinnati, O.

RUSBY & MERY'S

IMPROVED FEED MILL,

Using the Benoit Corrugated Rollers.

More durable, crushes more grain. No danger of grain heating. It is used by the leading grain raisers in preference to feed ground with burs. Sole Agents and Manufacturers for the Pacific Coast, Chico, Cal.

JOHN JENNINGS.

Hooper's South End Grain Warehouses,

Cor. Japan and Townsend Sts., S. F.

First-class Fire-proof Brick Building. Capacity, 10,000 tons. Goods taken from the Dock and the Cars of the C. P. R. R. and S. P. R. R. free of charge. Storage at Current Rates. Advances and Insurance effected.

IMPROVED MACHINES

FOR LAYING

Asbestine Sub-Irrigation Pipe

For sale at Davisville, Yolo County, Cal.

Apply to L. A. GOULD.

CLARK'S

Grain Grader and Seed Cleaner.

It is an attachment that can be used on all grain cleaner mills, large or small. Took First Premium at State Fair and Stockton Fair. With Nash & Cutts' No. 3 Grain Cleaner, its capacity is from 30 to 60 sacks per hour. Farm rights and other rights for sale. Address: LEWIS CLARK, Sacramento, Cal.

Wilz Patent Pruning Shears.

Simple, Cheap, Durable and Efficient.

One man can do more work than two with any other kind. Ladders and steps dispensed with. The smallest twig up to branches two inches in diameter cut with ease. State, County or individual rights for sale. Agents wanted. Address: JOHN WILZ, Santa Cruz, Cal.

Zimmerman

Fruit and Vegetable

DRIER AND BAKER.

Best and only Galvanized Iron Portable Fire Proof Machine for the purpose. It has no superior. Send for Circulars and read description and testimonials! LINFORTH, RICE & CO., General Agents for Pacific Coast, 323 & 325 Market St., S. F.

RUHL'S

PATENT LIFT and SUCTION PUMP.

On hand the following sizes Suction Pumps, 3, 4, 5, 6, 7, 8 and 10 inches in diameter for shallow wells for irrigating purposes. Lift Pumps for deep wells, 3, 4, 5, 6 and 7 inches in diameter, warranted to draw water up to 200 feet. Half-Lift Pumps, 3 and 4 inches in diameter. All the above Pumps can be converted into a force-pump by attaching cast-iron air chamber, which makes the best one for filling tanks. Address: FRED. A. RUHL, Stockton, Cal.

Valves for the above Pumps can be had of the principal houses in San Francisco.

COMBINED

Pantry Dresser & Side-Board.

The most unique and useful article for the housekeeper. The Flour Bin can be cleaned from the bottom. Call and examine or send for circular and price.

L. O. HUDSON, Stockton, Cal.

VETERINARY HOMOEOPATHY!

Every Farmer and Stock Raiser should have a Veterinary Homoeopathic Manual and Medicine Chest. Send for Veterinary Index (mailed free on application).

BOERICKE & TAFEL,

Homoeopathic Pharmacy, 234 Sutter St., S. F.

AUZERAIS HOUSE,

Santa Clara Street, San Jose, Cal.

CHAS. E. PEARSON, Proprietor.

Strictly First-Class and Moderate Charges.

Auzerais House Coach and Carriages in attendance on arrival of Trains.

The New Beekeepers' Text Book.

By A. J. KING. The latest work on the Apiaary, embodying accounts of all the newest methods and appliances. Fully illustrated. Sent by mail, post-paid, for \$1. DEWEY & CO., 202 Sansome Street, S. F.

A KEY THAT WINDS ANY WATCH AND NOT SOLD

by Watchmakers. By mail, 30 cts. Circulars FREE. J. S. BIRCH & CO., 25 De St., N. Y.

Dewey & Co. { 202 San- } Patent Agts
some St.

The Dried Beet Problem.

[CONTINUED FROM PAGE 416.]

plete. This, however, requires so much time that not only is there risk of a change in the first portions of the extract by fermentation, but the lengthy treatment also carries into solution a larger amount of "non-sugar," or impurities, than would be the case on a manufacturing scale and thus vitiates (depresses) the purity-co-efficient.

After a number of experiments, the following general method was determined upon and adhered to:

Thirty grams of the dried beets were finely hashed and then allowed to soak, over night, in an amount of water sufficient to swell them to their natural bulk, and cover them over. In the morning the swelled beets were placed in a displacement apparatus, and water kept at 50° centigrade was allowed to pass through slowly, so as to amount to 600 cubic centimeters, more or less, by three o'clock in the afternoon, by which time the extract had ceased to show any sugar in the polarizer. The residue was then pressed for the last portions of the juice, and the extract immediately treated in accordance with the usual methods pursued in the case of fresh juice.

The results given in the table, with the exceptions noted, were obtained according to this process. In judging of the variations it must also be kept in mind that the amount of moisture contained in the sample at the time the test was made, was not in every case determined. The average commercially assumed is about 10%; but in small samples exposed to the air it may vary from about seven to twelve and more. This, of course, produces an apparent variation in the sugar percentage, which, however, is unimportant for the present purpose.

No. 1. Sliced and dried beets received from E. Th. Gennert, Los Angeles, September 29, 1880. Grayish-white, uniform, brittle. Under the microscope, show on the surface abundant brownish crystals of cane sugar. Taste, that of fresh beets. Color of the extract, do.

No. 2. Sliced and dried beets, received from the hand of R. Nadeau, of Los Angeles, October 5th. Aspect, color, etc., about same as in No. 1; color of extract, do; sugar crystals on surface not quite so abundant.

No. 3. Two fresh beets, sent from Alvarado sugar factory; said to come from R. Nadeau, Los Angeles, and presumed to represent the quality of beets dried by him; slightly wilted when received, October 31st, but otherwise in good condition. Each was separately assayed.

	Specific Gravity of Juice or Extract.	Solid Contents in Juice or Extract.	Percentage of Cane Sugar.	Purity Co-efficient.	Molasses.
No. 1.					
Dried Beets from E. Th. Gennert.....					
A.....	1.0105	2.69	51.33	11.2	
B.....	1.0105	2.69	50.90		
C.....	1.0105	2.69	56.34	79.92	
No. 2.					
Dried Beets from R. Nadeau.....					
A.....	1.010	2.56	46.05	63.40	10.2
B.....	1.0106	2.77	46.87	69.9	
Fresh Beets from R. Nadeau.....					
A.....	1.070	17.14	12.9	74.9	
B.....	1.071	17.14	1.3	71.5	

Determinations A and B, No. 1, were made before the regular process above detailed had been adopted, and are affected by incomplete extractions as well as by a high percentage of moisture. The same is true of A, No. 2. The last determination in each case I consider the true standard of comparison, the others being simply corroborative and minimal.

It will be seen that in the case of Nadeau's beets, the fresh and the dried beets accord in regard to purity-co-efficient, quite as nearly as is commonly the case with different samples of fresh beets. If there has been any lowering of this important factor by the drying process, it has been insignificant. Moreover, the percentage of sugar in the dried sample is almost precisely what it should be in the accepted proportion of four parts by weight of green beets to one of dried.

The conclusion is, that green beets of proper grade for sugar making do not lose their usefulness for this purpose, in any sensible degree, by a carefully conducted process of sun-drying in the climate of Los Angeles.

This is abundantly corroborated by the results obtained from the sample furnished by Mr. Gennert, evidently made from a beet of higher sugar percentage than the average, which seems to be about 12%; and also of high purity-co-efficient. No sugar-maker could desire a finer material to work upon.

In the face of these facts, or which only confirm the reasonable supposition of any one familiar with the subject and with the climatic conditions of southern California, the statement, somewhat industriously circulated, that the whole scheme is a failure, appears rather premature. There certainly has been a failure of success in treating the sun-dried beets like those dried at a higher temperature; and it is greatly to be regretted that this important point was not ascertained before heavy investments in beet-drying were made. In addition, there has been a failure to manage the drying process so as to secure a uniformly good product. And this, as might be expected, has carried with it a failure to produce from the resulting material such average of sugar as might have been justly expected from the quality of green beets, as well as from the assays above reported.

My attention was drawn to this fact by a communication from Mr. E. H. Dyer, superintendent of the Alvarado sugar factory. He stated that the sugar obtained from the working of five tons of Mr. Nadeau's dried beets had yielded only 20% of manufactured sugar; and sent at the same time a sample of dried beets, stated to be similar in quality to the lot

used in the experimental manufacture. The fresh beets furnished by Mr. Nadeau, and reported above, came in the same package.

This sample of dried beets differed very obviously in appearance from those furnished by Mr. Gennert and Mr. Nadeau. Its aspect was darker, and inspection as well as microscopic examination, showed it to consist largely to the extent of about one-half by bulk, of brown, soft shreds, with but few sugar crystals on their surface. Some of these showed on the cross-cut a white center streak within the brown covering. The lack of sweetness and the difference of taste was noticeable at once. The different portions of the sample, moreover, differed in the proportion of the sound white fragments intermixed with the brown.

The first sample assayed, A, was taken from the surface of the hatch as it came, and treated in the usual manner. The extract was very dark and brownish, and obviously very impure. Its sugar percentage, given under A in the following table, was found so low as to render it superfluous to determine its purity-co-efficient, as it obviously could not be used in sugar manufacture.

The sample for B was taken from the bottom

the conclusion is inevitable that said lot was badly mixed, and that in taking a handful at "random," instead of sampling carefully at many different points and averaging, the sampler at one time happened upon a batch that was properly dried, while at another he hit the opposite extreme. What was the real average condition of the five tons worked; and what is that of remaining portion of a 50-ton lot sent to Alvarado by Mr. Nadeau, I can only conjecture. In the interest of a promising industry, however, it would be very desirable that the causes of this unsatisfactory condition of a portion of Mr. Nadeau's beets should be fully investigated. It seems most probable that exposure to damp air, fog or drizzle, after drying and packing away, without previous drying-off, caused the damage, and that these damaged lots were carelessly intermingled with the rest.

Such, in my estimation, is the extent and amount of the reported failure of the beet-drying experiment. It is not unusual that such mistakes are made in the infancy of a new industry or improvement, or that manufacturers and others having their regular routine and established interests, should assume a negative attitude toward it. It may, even for a time, be

University Lands Still Available.

We would call the attention of those desiring to purchase lands for agricultural, grazing, or timber purposes, to the advertisement offering for sale some 11,000 acres, under the agricultural grant made to the University of California. On the 3d of March, 1871, Congress passed a supplemental act granting special privileges under this grant. Namely, that the University should have the right to make selections "from any lands within its limits, subject (i. e., the limits of the State) to pre-emption, settlement, entry, sale, or location, under any laws of the United States;" thus permitting selections to be made of 40 acres or as much more as desired. But the most important provision of the act was the following: "That where lands sought to be selected for the Agricultural College are unsurveyed, the proper authorities of the State" (i. e., the land agent of the University,) "shall file a statement to that effect, with the Register of the United States Land Office, describing the land by township and range, and shall make application to the U. S. Surveyor-General

Wheat Prices in Liverpool and Ocean Freight Rates from San Francisco, from 1868 to 1880.

[Compiled by A. MONTPELLIER, Cashier and Manager Grangers' Bank of California.]

MONTHS.	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
JANUARY.....	Highest 16 0 Lowest 15 10 Average 15 11 Freight 2 10 0	12 0 11 6 11 9 2 12 6	9 9 9 1 9 5 2 8 6	12 2 11 7 11 10 1/2 2 0 0	13 0 12 4 12 8 2 11 6	12 10 12 5 12 7 1/2 2 0 0	14 0 13 7 13 9 1/2 2 0 0	10 0 9 5 9 8 1/2 2 17 6	10 7 10 2 10 4 1/2 2 5 0	11 8 10 7 11 1 2 11 7	13 3 12 5 12 10 2 3 0	9 5 8 10 9 3 2 15 9	11 2 10 6 10 10 3 0 6
FEBRUARY.....	Highest 16 2 Lowest 15 6 Average 15 10 Freight 2 7 6	11 6 10 9 11 4 1/2 2 12 6	9 2 8 10 9 0 2 5 0	12 2 11 8 11 11 2 0 0	12 6 12 4 12 5 2 10 0	12 4 11 9 12 0 1/2 2 6	13 6 12 7 13 0 1/2 2 1 0	9 5 9 0 9 2 1/2 2 7 6	10 4 10 1 10 2 1/2 2 6	11 4 10 5 10 10 2 4 5	13 11 10 12 5 2 9 6	9 5 8 11 9 3 2 17 6	11 6 10 4 10 11 2 10 6
MARCH.....	Highest 16 0 Lowest 15 10 Average 15 11 Freight 2 7 6	11 0 9 10 10 5 2 5 0	9 6 9 1 9 3 1/2 2 6	12 0 11 10 11 11 1/2 2 6	12 3 11 6 11 10 1/2 2 6	12 0 11 7 11 9 1/2 2 6	12 7 12 0 12 3 1/2 2 6	9 5 9 1 9 3 2 6	10 10 9 10 9 3 2 5 0	11 3 10 5 10 9 2 5	12 3 11 1 11 5 2 5 0	9 9 8 9 8 6 2 3	11 6 10 6 11 0 2 0 4
APRIL.....	Highest 16 2 Lowest 15 10 Average 16 0 Freight 2 10 0	9 4 9 1 9 2 1/2 2 5 0	9 4 9 0 9 2 2 6	12 6 12 0 12 3 2 6	12 4 11 8 12 0 2 6	11 11 11 7 11 9 2 6	12 11 12 4 12 7 1/2 2 6	9 5 9 0 9 2 1/2 2 0 0	10 8 9 6 10 1 2 10 0	13 10 9 11 10 2 6	12 6 11 11 9 2 6	9 5 8 10 9 3 2 4 5	11 0 10 2 10 7 2 0 8
MAY.....	Highest 16 2 Lowest 14 3 Average 15 2 1/2 Freight 2 17 6	9 7 9 3 9 5 2 7 6	9 11 9 5 9 8 2 5 0	12 6 12 0 12 3 Onr's Act	13 0 12 8 12 10 3 5 0	12 4 11 10 12 1 3 13 6	12 10 12 6 12 9 2 15 0	9 1 9 0 9 0 1/2 2 6	9 9 9 6 9 7 1/2 2 15 6	14 11 2 12 7 2 0	12 4 10 8 11 6 2 7 6	9 5 8 6 8 11 2 5 9	10 6 9 10 10 4 2 10 6
JUNE.....	Highest 14 3 Lowest 13 6 Average 13 10 1/2 Freight Onr's Act	10 3 9 6 9 10 1/2 2 10 0	10 11 9 11 10 5 2 17 6	12 3 11 8 11 11 1/2 Onr's Act	13 0 12 8 12 10 3 16 0	12 4 11 11 12 1 1/2 2 10 0	12 10 12 5 12 7 1/2 3 13 0	9 2 8 9 8 11 1/2 2 7 6	10 9 9 8 10 2 1/2 3 6 0	13 2 12 4 12 9 2 9 9	11 3 10 4 10 9 2 5 9	9 5 8 4 8 10 2 5 0	10 4 9 6 9 11 2 14 6
JULY.....	Highest 13 3 Lowest 12 6 Average 12 10 1/2 Freight 3 5 0	10 5 9 7 10 1 1/2 2 12 6	12 3 10 3 11 3 2 6	11 9 11 4 11 6 1/2 2 7 6	12 6 11 10 12 2 2 1 6	12 0 11 9 11 10 1/2 2 15 6	12 4 11 2 11 9 2 4 6	11 0 9 7 10 3 1/2 2 4 6	10 5 9 1 9 9 2 4 4 1/2	13 6 11 10 12 8 2 3 9	10 3 9 11 10 3 2 11 3	9 10 8 6 9 2 2 6 3	10 4 9 6 9 11 2 17 4
AUGUST.....	Highest 12 10 Lowest 12 0 Average 12 5 Freight 3 6 6	11 4 10 8 11 0 2 6	11 6 10 6 11 0 2 6	12 0 11 7 11 9 1/2 2 1 6	12 5 12 8 12 0 1/2 2 12 6	12 8 11 9 12 2 1/2 2 17 6	11 4 10 1 10 3 1/2 2 5 6	11 11 10 9 11 4 2 5 6	10 9 9 3 10 0 2 17 6	13 2 12 10 12 7 2 6 3	10 9 9 6 10 4 2 11 2	9 10 8 6 9 2 2 9 3	10 4 9 6 9 11 2 13 6
SEPTEMBER.....	Highest 13 0 Lowest 12 10 Average 12 11 Freight 3 4 0	11 4 10 5 11 0 3 11 6	10 6 9 9 10 1 1/2 2 10 0	12 11 11 11 12 5 2 0 0	13 6 12 8 13 1 3 13 6	13 1 12 7 12 10 3 2 6	10 6 10 0 10 3 3 5 6	11 4 10 9 11 0 1/2 2 10 0	10 1 9 4 9 8 2 6	13 3 12 6 12 10 2 0 6	10 3 9 9 10 2 2 3 6	10 6 8 6 9 6 2 7 6	9 11 8 6 9 3 3 4 6
OCTOBER.....	Highest 12 7 Lowest 12 1 Average 12 4 Freight 3 0 0	10 5 10 4 10 6 3 4 6	11 2 9 11 10 6 1/2 2 6	13 2 13 0 13 1 2 0 0	12 9 12 8 13 0 2 6	13 4 12 5 12 7 1/2 2 1 6	12 10 9 9 9 11 1/2 2 11 6	11 3 11 2 11 2 1/2 2 11 6	11 9 9 10 4 3 0 0	13 6 12 4 12 11 2 18 9	10 4 9 7 9 11 2 3 9	12 6 9 10 11 2 2 5 10	10 2 9 5 9 9 3 6
NOVEMBER.....	Highest 12 7 Lowest 12 1 Average 12 4 Freight 2 17 6	10 6 9 5 9 11 1/2 2 8 6	11 7 10 10 11 2 1/2 2 5 0	13 0 12 10 12 11 2 0 0	12 9 12 6 12 7 1/2 2 5 0	13 5 12 10 13 1 1/2 2 6	9 9 9 9 9 9 2 15 0	11 0 10 11 10 11 1/2 2 13 6	11 11 9 6 10 8 2 17 6	13 4 12 7 12 11 2 1 0	10 2 9 6 9 6 2 5 7 1/2	12 10 3 11 4 2 5 0	10 4 9 6 9 11 3 10 4
DECEMBER.....	Highest 12 4 Lowest 12 0 Average 12 2 Freight 2 12 6	9 11 9 6 9 8 1/2 2 10 0	11 7 11 4 11 5 1/2 2 5 0	12 9 12 6 12 7 1/2 2 5 6	13 8 13 4 13 6 2 6	13 9 13 4 13 6 1/2 2 7 6	10 2 10 1 10 1 1/2 3 0 0	12 0 10 8 11 4 2 11 6	11 8 10 9 11 2 2 16 3	13 3 12 7 12 11 2 1 3	10 2 9 1 9 7 2 15 0	11 8 9 10 10 9 3 1 6	10 4 9 10 9 11 3 11 0
Wheat.													
Average per year in Sterling	13 9 1/2	10 4	10 2 1/2	12 1/2	12 4	12 11	11 7 1/2	10 1 1/2	10 3	12 2	10 11	9 6	
do do in Dollars and Cents	83 36	62 53	62 48	82 96	82 16	82 4	82 68	82 53	82 53	82 06	82 70	82 36	
Freight													
Average per year in Sterling	2 16 0	2 11 5	2 0 5 1/2	2 1 1/2	2 0 1/2	2 1 1/2	2 7 0	2 5 2	2 5 2	2 7 0	2 5 0	2 5 0	
do do in Dollars and Cents	813 71	813 53	807 75	813 90	817 10	818	811 30	812 55	812 55	817 90	811 72	812 00	

of the original sample, the latter having been turned out of the box containing it. The extract was not so dark as in the preceding sample.

For determination C, the entire contents of the box were thoroughly mixed by hand; then half of it taken and finely hashed so as to be sure of a fair average of the whole. The depression of the purity-co-efficient in this assay is partly due to longer extraction.

	Specific Gravity of Juice or Extract.	Solid Contents in Juice or Extract.	Percentage of Cane Sugar.	Purity Co-efficient.	Molasses.
A.....	1.012	3.09	34.15	51.46	11.5
B.....	1.0005	1.66	23.24	47.6	

A comparison of these results with the those recorded in the previous table, shows an enormous difference, not only in the sugar percentage nearly two to one, but also a depression of the co-efficient of purity, which renders the material altogether unfit for the purposes of the sugar-maker. Not even the 20% actually produced from the five tons, as stated by Mr. Dyer, could be worked out of such half-spoiled stock. It appears from a subsequent statement of Mr. Dyer, that the sample sent was "taken at random;" and, as claimed out of the same "lot" as the sample brought by Mr. Nadeau,

dropped altogether; but if intrinsically sound, as I fully believe the beet-drying industry will prove to be, it will, in time, find its place among the recognized branches of California agriculture.

THE "CALIFORNIAN."—This highly praised California magazine has completed its second volume, and begins Vol. III with the January number. The publication certainly shows high merit, and deserves the fullest success. The first paper in the January issue is a sprightly colloquy, entitled the "American Imitation of England," by Octave Thanet, who has recently won such extended recognition by her contributions to the prominent Eastern magazines. John H. Durst has a carefully considered article on the debris question, which is of great interest to the people of California. Kate Heath relates the weird experiences of "A Child's Journey through Arizona and New Mexico." Joaquin Miller writes a charming tribute to "Old Californians," adding another to his pleasant prose articles in *The Californian*. W. W. Crane, Jr., gives his impressions while traveling "Up the Moselle and Around Metz." Prof. E. R. Sill has a plea, well worthy of perusal, for "The Best Use of Wealth." Chas. H. Phelps contributes a Christmas sketch with excellent character painting and power. In addition, there are stories, poems, essays, humorous articles, science, art and dramatic reviews, all making up a complete and fascinating number.

for a survey of the same, * * * and lands) so surveyed and returned shall, for 30 days after the filing of the plats in the U. S. Land Office, be held exclusively for locations for the Agricultural College." The right to unsurveyed lands, attaches at the date of filing the first notice in the land office—provided the law is complied with in other respects.

The advantage to those locating under this grant is, that residence or improvements on the lands sought for are not required, as under pre-emption or homestead locations—neither is there a restriction as to the number of acres that can be located by one person. Thus settlers who have exhausted their preemption can secure additional lands. Those wishing to make locations under this grant will be furnished with full information and the necessary printed blanks, free of charge, by applying in person or by letter to the land agent of the University.

To correct an impression held by many, that the University has already selected all the land to which it was entitled, we would state that the Commissioner has adjusted the grant and finds that the University is entitled to select 11,400 acres more land. The land agent merely acts as the locating agent for those who have found the lands they wish to purchase. Parties desiring to purchase should be able, if the lands are surveyed, to describe by township, range and section, or, if unsurveyed, to give township and range.

BREEDERS' DIRECTORY.

PURCHASERS OF STOCK WILL FIND IN THIS DIRECTORY THE NAMES OF SOME OF THE MOST RELIABLE BREEDERS. OUR RATES.—Six lines or less inserted in this Directory at 50 cents a line per month, payable quarterly.

CATTLE.

HENRY PIERCE, 723 Montgomery Street, S. F. Jersey Cattle, bred from importation direct from Jersey Island, and winners of most of the prizes at Oakland, Stockton and the State Fairs. "Victor of Yerba Buena," of noted butter strains on the island, and known to be the best Bull ever imported to this coast, now stands at the head of this famous herd. "King of Scituate," son of the famous 705 pound butter Cow, Jersey Belle, of Scituate, which now stands at the head of Mr. Pierce's noted herd, at Scituate, Mass., will soon be brought here.

PETER SAXE & SON, Lick House, S. F. Importers and breeders of all varieties of Thoroughbred Cattle, Sheep, Horses, and Berkshire Swine. All animals fully pedigreed.

PAGE BROTHERS, 213 Clay street, San Francisco, (or Cotate Ranch, near Petaluma, Sonoma Co.) Breeders of Short Horns and Spanish Merino Sheep.

C. CLARK, Milpitas, Santa Clara Co. Importer and Breeder of Short-Horn Cattle. Has a herd of 14 Cows and Bulls, among which are one Gwynne-Princess Bull, by Imported Grand Prince of Lightburne, and cows of the Dutchess of York family; heifers being by the Imported Bull Sheriff, a Seraphina Bull and Kirklevington Duke 21, a pure Bates Bull. The whole herd for sale or single animals if desired.

JESSE D. CARR, Salinas City, Monterey Co., Cal., Proprietor of Gabilan Herd. The foundation of the Gabilan Herd was secured by importations of the best attainable representatives of the most popular families. The herd includes groups of the time-honored Louan and Hope families; also representatives of the pure Bates, Oxford, Duchesses, Young Marys and Roses of Sharon. Fine Trotting Horses, Thoroughbred and Graded Merino Bucks, also Thoroughbred and Cross Bred Shropshire-down Bucks always on hand and for sale at reasonable prices.

M. WICK, Oroville, Butte County, Cal. Breeder of Thoroughbred Cattle, Short-Horns. Young Bulls and Heifers for sale at all times of the year.

GEORGE BEMENT, Redwood City, San Mateo County, Cal. Breeder of Ayrshire Cattle and South-Down Sheep. Stock of each kind for sale.

COL. C. YOUNGER, Forest Home Herd, San Jose, Cal. Breeder of Short-Horn Durhams, and pure bred Cotswold Sheep. Young Bulls and Bucks always for sale.

HORSES.

HENRY MILLER, San Francisco, Cal. Breeder of Thoroughbred Norman Horses of the Stock Imported by Mr. Perry, of Illinois, took First Premium at San Jose Fair, 1880.

W. W. CAMRON, Breeder of Fine Carriage Horses. Address, Oakland Cal.

R. J. MERKELEY, Sacramento, Cal., Breeder of Normau-Percheron Horses and Short-Horn Durhams. My stock is all registered. Took three first-class premiums on Horses at State Fair, 1880.

SHEEP AND GOATS.

JOHN S. HARRIS, Hollister, Cal. Breeder of Thoroughbred registered Goats. Took Eight Premiums at the State Fair of 1880. I had one Buck at the State Fair with staple 16 inches long. Correspondence solicited.

L. U. SHIPPEE, Stockton, Cal. Importer and Breeder of Spanish Merino Sheep, Durham Cattle, Essex and Berkshire Swine.

J. B. HOYT, Bird's Landing, Solano Co., Cal. Breeder and Importer of Shropshire Sheep. Rams and Ewes for sale. Also, cross-bred Merino and Shropshire.

E. W. WOOLSEY & SON, Fulton, Sonoma Co., Cal. Importers and Breeders of choice Thoroughbred Spanish Merino Sheep. City office, No. 418 California St., S. F.

POULTRY.

ALBERT BURBANK, 43 California Market, S. F. Importer and Breeder of Thoroughbred Poultry, Dogs, etc. Eggs for hatching. Send for price list.

WILLIAM NILES, Los Angeles, Cal. Importer and Breeder of Thoroughbred Poultry. Berkshire and Magie Poland-China Swine.

MRS. L. J. WATKINS, San Jose, Cal. Premium Fowls, White and Brown Leghorns, Plymouth Rocks, Pekin Ducks, etc.

A. O. RIX, Washington, Alameda County, California. Breeder of Thoroughbred Poultry. Send for Circular.

MRS. L. E. McMAHAN, Dixon, Solano Co., Cal. Importer and Breeder of Thoroughbred Poultry. Eggs for Hatching. Send for price list.

T. D. MORRIS, Sonoma, Sonoma County, Cal. Breeder and Importer of all the varieties of Land and Water Fowls. Eggs for hatching sent any distance with safety. Satisfaction guaranteed. Send for price list.

SWINE.

ALFRED PARKER, Bellota, San Joaquin Co., Cal. Importer, Breeder and Shipper of Pure Berkshire Swine Agent for Dana's Cattle, Hog and Sheep Labels.

T. C. STARR, San Bernardino, Cal. Poland-China Swine and Black Cochius Chickens for sale.

JOHN RIDER, Sacramento, Cal. Breeder of Thoroughbred Berkshire Swine. My stock of Hogs are all recorded in the American Berkshire Record.

L. N. SCOTT, Lincoln, Placer County, Cal. Breeder of Pure Poland China Swine. My stock is shipped direct from Iowa and is the purest breed. Took first premium at State Fair, 1880.

ELIAS GALLUP, Hanford, Cal. Breeder of Pure Poland China Swine, with recorded pedigree. My stock is from the celebrated "McCreary Bismarck" breed, by D. M. McGee, Oxford, Ohio. Took five premiums at State Fair, 1880.

IRRIGATED LANDS FOR LEASE AND SALE.

THE GREAT COLORADO VALLEY LAND AND IRRIGATING CO.

Offer for Lease and Sale a large tract of land in small farms, on extra liberal terms to settlers.

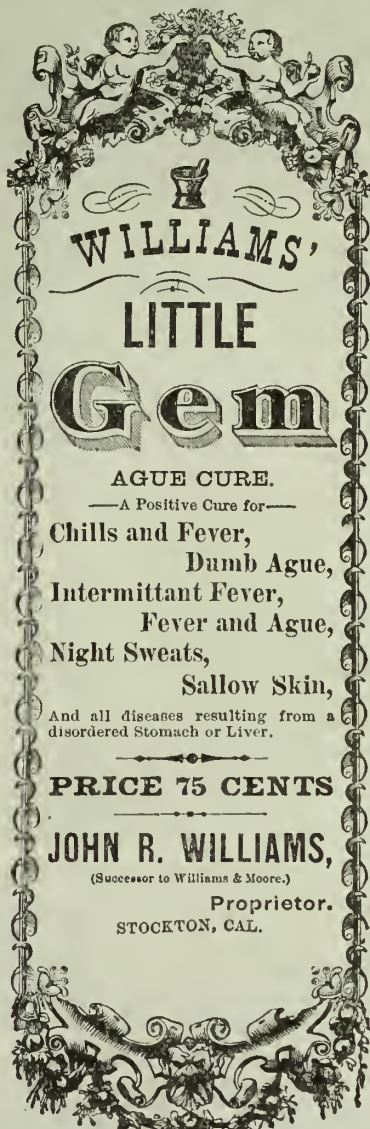
Adapted to the growing of Semi-Tropical and Deciduous Fruits, Fibrous Plants, Vines, Cereals, Etc.

Situated on the California side of the Colorado river, opposite the town of Enrenberg, and deriving its irrigating water by Canal from the Colorado river.

Full particulars, terms, etc., will be forwarded on application to

THOMAS H. BLYTHE, 724½ Market Street, San Francisco.

Or to GEORGE S. IRISH, Superintendent, (on the land).



WILLIAMS' LITTLE Gem

AGUE CURE.
—A Positive Cure for—
Chills and Fever,
Dumb Ague,
Intermittant Fever,
Fever and Ague,
Night Sweats,
Sallow Skin,
And all diseases resulting from a disordered Stomach or Liver.

PRICE 75 CENTS

JOHN R. WILLIAMS,
(Successor to Williams & Moore.)
Proprietor.
STOCKTON, CAL.

BEFORE BUYING OR RENTING AN ORGAN

Send for our LATEST ILLUSTRATED CATALOGUE (32 pp. 4to), with NEWEST STYLES, at \$51 and upward; or \$6.38 per quarter, and up. Sent free. MASON & HAMLIN ORGAN CO., 154 Tremont St., BOSTON; 46 E. 14th St., NEW YORK; 149 Wabash Av., CHICAGO.

Mason and Hamlin Organs.

Wholesale and Retail Agents

KOHLER & CHASE.

Post Street, near Dupont, - - - SAN FRANCISCO

100,000 BLUE AND RED GUMS.

200,000 Cypress, Pine and Acacia.

Very fine Stock and Cheap. Beautiful, Fresh and Finest Variety of Monterey Cypress Seed, \$3.00 per pound, pre-paid by mail. Blue Gum and Acacia Seeds. Postoffice address,

GEO. R. BAILEY, Oakland, Cal.

Nursery located at Dwightway Station, East Berkeley.

ANNUAL MEETING.

The Annual Meeting of the Stockholders of the Grangers' Bank of California will be held at the office of the Bank, in the city of San Francisco, State of California, on TUESDAY, the Eleventh (11) day of January, 1881, at one o'clock P. M., for the election of Directors for the ensuing year. FRANK McMULLEN, Sec'y ALBERT MONTELLIER, Cashier and Manager. San Francisco, Dec. 13, 1880.

DO

NOT FAIL to send for our Price List for 1880. Fans to any address upon application. Containing descriptions of everything required for personal or family use. We sell all goods at wholesale prices in quantities to suit the purchaser. The only institution in America who make this their special business. Address, MONTGOMERY WADE & CO., 227 & 229 Wabash Ave., Chicago, Ill.

54 All Gold, Chromo and Lithograph Cards, no 2 alkis, name ou, 10 cts. C. P. Deuy, Syracuse, N. Y.

Poultry.

GEORGE TREFZER, NAPA CITY, CAL.,

BREEDER OF

Brown and White Leghorns,
Plymouth Rocks, Light Brahmas, Houdans and Pekin Ducks.

A from a very fine lot of Imported Stock. A fine lot of young stock for sale now at reasonable prices.

BROWN LEGHORN EGGS FOR SALE.

From selected birds. Also a few choice Fowls—Brown Leghorns, Spangled Hamburgs and Partridge Cochins. All yearlings or under.

HENRY PETERSON,
Near the University, Berkeley, Alameda Co., Cal.

GRANGERS' BANK

Of California,

SAN FRANCISCO, CAL.

Authorized Capital, - \$1,000,000,

In 10,000 Shares of \$100 each.

Capital Paid up in Gold Coin, \$400,000.

OFFICERS:

G. W. COLBY.....President
JOHN LEWELLING.....Vice-President
ALBERT MONTELLIER.....Cashier and Manager
FRANK McMULLEN.....Secretary

DIRECTORS:

G. W. COLBY.....Butte Co
JOHN LEWELLING.....Napa Co
J. V. WEBSTER.....Alameda Co
URAH WOOD.....San Benito Co
J. C. MERYFIELD.....Solano Co
THOMAS McCONNELL.....Sacramento Co
I. C. STEELE.....San Mateo Co
SOLOMON JEVETT.....Kern Co
C. J. CRESSEY.....Stanislaus Co
SENECA EWER.....Napa Co
A. D. LOGAN.....Colusa Co

The Bank was opened on the first of August, 1874, for the transaction of general banking business. CURRENT ACCOUNTS are opened and conducted in the usual way.

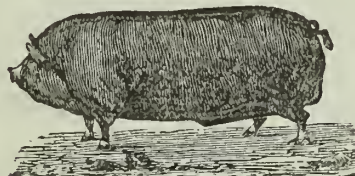
GOLD and SILVER deposits received. CERTIFICATES of DEPOSIT issued for Gold and Silver. TERM DEPOSITS are received and interest allowed as follows: 6% per annum if left for 3 months; 7% per annum if left for 6 months; 8% per annum if left for 12 months. EXCHANGE on the Atlantic States bought and sold.

ALBERT MONTELLIER,

Cashier and Manager

San Francisco, Oct. 15th, 1879.

BERKSHIRES A SPECIALTY.



My Berkshires are Thoroughbred, and selected with great care from the best herds of imported stock in the United States and Canada, and for individual merit cannot be excelled. My breeding stock are recorded in the "American Berkshire Record," where none but pure bred Hogs are admitted. Pigs sold at reasonable rates. Correspondence solicited.

JOHN RIDER,

18th and A Streets, Sacramento City, Cal.

THE DINGEE & CONARD CO'S

BEAUTIFUL EVER-BLOOMING

ROSES

We deliver STRONG POT ROSES for Winter Bloom and Fall Planting, safely by mail, at all post-offices. Five Splendid Varieties, your choice, all labeled, for \$1; 12 for \$2; 19 for \$3; 26 for \$4; 35 for \$5; 75 for \$10; 100 for \$13. Send for our New Guide to Rose Culture, and choose from over 500 Finest Sorts. Our Great Specialty is growing and distributing Roses. THE DINGEE & CONARD CO., Rose-Growers, WEST GROVE, CHESTER CO., PA.

GILLES H. GRAY.

JAMES M. HAYEN.

GRAY & HAVEN,

Attorneys and Counsellors-at-Law,

530 California St., - SAN FRANCISCO

THE CINCINNATI WEEKLY TIMES.

THE BANNER WEEKLY OF THE WEST.

An Eight-page paper, only One Dollar a year, and a magnificent engraving "two feet wide and almost three feet long" free, and postage paid to every subscriber. Address

WEEKLY TIMES, Cincinnati, O.

Lands for Sale and to Let.

A GOOD HOME

For sale, very cheap, in the very pleasant and healthy village of Soquel, Santa Cruz, Cal., near the famous watering place

CAMP CAPITOLA.

Also a well patronized

BLACKSMITH SHOP,

Together or separate. For particulars inquire of

C. H. HALL,

Soquel, Cal.

FOR SALE.

215 ACRES OF GOOD GRAIN, GRASS and Fruit Land.

Two miles from the Soquel Wharf and Railroad Depot. Price, \$3,500. Four Good Springs and

20 Acres of Heavy Timber

On it. Also, 100 acres, one mile from the Railroad, cheap. For particulars, inquire of

J. PARRISH,

Soquel, Cal.

FARMING LAND

For Sale in large or small tracts, on easy terms, in the best parts of the State.

McAFEE BROTHERS,

202 Sansome Street, San Francisco, Cal.

FRUIT AND GRAIN FARM FOR SALE,

Near Sacramento, Cal.

Eighty acres of choice land, two miles from city limits; half mile east upper Stockton road; 800 Fruit trees, one acre Grapevines, two acres Blackberries. Sixty-five acres in Grain will be sold with or without crop. Good House and Out Buildings. Farm well fenced; five Windmills and Horse Power; Fish Pond; three-quarters of a mile from good School. This property will be sold cheap. Terms cash. Apply at the ranch. J. K. HOUSTON.

SANTA CRUZ COUNTY.

Good Crops every Season without Irrigation.

Farms, Stock Ranches, Dairy Farms, Fruit Farms, Vineyards, Chicken Ranches, and Homesteads of every class and description in this and adjoining counties for sale and rent on reasonable terms. State requirements and obtain suitable particulars from the Real Estate

EXCHANGE & MART,

Santa Cruz, Cal.

HOTEL DE REDWOOD.

100 ACRES OF LAND,

At the summit of the Santa Cruz Mountains, near the Southern Pacific Railroad, comprising the famous HOTEL De REDWOOD, one of the most popular resorts in the country, everything in order for boarders and

FOR SALE CHEAP.

One half the land is first quality GRAPE AND ORCHARD LAND, and the rest TIMBER AND PASTURE. Inquire of

M. P. OWEN,

Soquel, Cal.

Santa Cruz Homes.

365 Acres of Timber, Grass, Grain and Fruit Land, 2 Miles from Santa Cruz, at \$30 per acre.

Well watered and pleasantly situated to make three good homes or one good

DAIRY FARM.

It is all fenced, and good buildings on it. I offer at a bargain, to go into other business. G. H. SMITH. Address

M. P. OWEN, Soquel, Cal.

H. S. SARGENT,

Importer, Breeder and Shipper of

Thoroughbred Stock.

Poland China or Magie Pigs from Imported Stock.

Thoroughbred Jersey Bull.

Also two Jersey Bull Calves,

Strictly thoroughbred, for sale cheap.

Bronze Turkeys for sale, bred from

Imported stock.

Address H. S. SARGENT, Stockton, Cal., (Care Grangers' Union.)

Elegant Christmas Cards.

We acknowledge the receipt of a box of elegant Christmas cards from L. Prang & Co., of Boston. These cards are all beautiful and chaste in design, and executed in the highest style of the art. In addition to a large number of smaller ones of lesser note, we notice four large size cards, which are reproductions of the designs for Christmas cards, which received the prizes in the competition last spring held under the auspices of the American gallery in New York.

The first of these four designs is by Miss Rosina Emmet, who received therefor the award of \$1,000. Upon this card is a panel upon which is represented five boyish choristers chanting the praises of the "New-born Child." This panel stands out upon the back ground of a larger and more dimly outlined picture, suitably embellished with figures and flowers, and verses.

The other three designs are also elaborate and artistic efforts, the authors of which were rewarded respectively with the sums of \$500, \$300 and \$200.

It is marvelous to notice, from the samples before us, the advance which has been made in this particular line of chromo-lithography, since Prang & Co., a few years ago, gave us their first attempts in the art, which consisted of nothing better than a stem of currants, a twig of the red berries of the barberry bush, a bunch of apple blossoms, or something of a similar kind, in one corner of a white or tinted card.

This improvement has grown out of the popular enthusiasm for decorative art, which has of late taken such a hold upon the masses everywhere, and which is doing so much to elevate and refine our people. It is to this firm, more than to any one other, that the public is indebted for this growing taste for art, and which is doing so much to create and perpetuate a warm-hearted feeling of good-fellowship between man and man. Let those who desire to cultivate this taste in their families and among their friends, unite in the time-honored observance of "Merrie Christmas" by a free circulation of these elegant greetings, which may be had in endless variety of Mr. J. H. Dorety, at 527 Commercial street.

The Great Egg Producer.

There is an urgent need in California for an artificial supply of egg-producing feed for laying hens, as also for bone, muscle and feather-producing matter for moulting fowls and growing chicks, much more so here than in most other States, the natural supply being very limited even when birds have unlimited range, and entirely cut off when they are in any way confined.

The moulting season, which here is so long and exhausting to our poultry, is chiefly so owing to their not being in proper condition when it sets in, but being in a more or less exhausted condition after the work of the laying season.

Young chicks thrive well until the start they get from the eggs is spent, or until they begin to develop in earnest, when they drop off, simply because they lack the wherewithal to build upon.

In meeting these wants exactly, and at a time when all other means fail, lies the great value of the

Imperial Egg Food.

Which is prepared expressly to, and does supply all the needed materials for the formation of the egg, as also for bone, muscle and feathers, and, by its gentle tonic effect, strengthens the digestive organs, and lays the foundation for vigorous, healthy and, therefore, profitable fowls, fitting them for the market a month earlier than by common means, and making poultry the most profitable stock on the farm.

It is safe to estimate that in this State, at least one-half of the chicks, and probably over two-thirds of the turkeys hatched die before reaching maturity. A proper use of Imperial Egg Food will greatly lessen this proportion of "untimely deaths," for sick and drooping chicks are never seen where it is used according to directions.

The Imperial Egg Food has proved of the greatest assistance, for several years past, to poultry raisers all over the States, and is too well known to need an introduction now.

Its immediate and unqualified success and subsequent popularity, led to several cheap and worthless imitations, which consist, for the most part, of oyster shell and Cayenne pepper; all very good in their way, but failing entirely to produce the material of the egg itself, or anything toward keeping the fowls in good health. In glossy plumage, with bright red combs, or in bringing forward the chicks rapidly and warding off disease.

The Imperial Egg Food, and none other, is constructed on purely scientific and physiological principles, first conceived by Mr. C. R. Alley, an analytical chemist of a large Eastern drug house, who, being quite a fancier himself, set about making an analysis of an egg, thereby discovering that it was possible to make a preparation containing all the material necessary to its production. The Imperial Egg Food, the result of that discovery, will then accomplish all that is herein claimed for it.

No farmer or poultry raiser can afford to be without his means, now placed within easy reach of all, of improving the condition of his domestic fowls, increasing their egg production and making them doubly profitable. Now that eggs and birds are increasing so rapidly in market value as the holidays approach, furnish your poultry that which they need so badly, and you will never regret the investment. Send your order at once, for a small quantity at least, and be convinced of its great value.

A full supply of fresh, accurately-packed food now ready for shipment from San Francisco, at Eastern prices, as follows:

Prices—One-pound trial packages, 50 cents, \$4 per dozen;

two and one-half-pound large packages, \$1, \$8 per dozen; six-pound boxes, \$2, \$16 per dozen; twenty-five-pound kegs, \$9.25, \$60 per dozen. Address Geo. G. Wickson, Gen'l Agent Pacific Coast, 319 Market Street, San Francisco.

[com.]

Vaccination for Scab in Sheep.

EDITORS PRESS:—I desire to announce to your readers that I have discovered a method of protecting sheep from the scab disease by vaccination. The principle is identical with that involved in vaccination to prevent smallpox in the human species. I do not claim that my method of vaccinating sheep will prove an absolute prevention of skin disease, but it will either prevent it or reduce the disease to a milder form, as vaccination in human kind reduces smallpox to varioloid. In the case of sheep there may, in some cases, be a slight surface irritation of the skin which can be easily removed, but there will be no attack of the scab in its well-known virulent and penetrating forms. Anyone desirous of inquiring into this new method of meeting the scab disease may address me at the Baldwin Hotel, San Francisco.

S. F. KENNEDY, San Francisco, Dec. 8th.
P. S.—Address, after January 15, 1881, Omaha, Nebraska.

Quinine and Arsenic

Form the basis of many of the Ague Remedies in the market, and are the last resort of physicians and people who know no better medicine to employ for this distressing complaint. The effects of either of these drugs are destructive to the system, producing headache, intestinal disorders, vertigo, dizziness, ringing in the ears, and depression of the constitutional health. AYER'S AGUE CURE is a vegetable discovery, containing neither quinine, arsenic, nor any deleterious ingredient, and is an infallible and rapid cure for every form of Fever and Ague. Its effects are permanent, certain, and no injury can result from its use. Besides being a positive cure for Fever and ague in all its forms, it is also a superior remedy for Liver Complaints. It is an excellent tonic and preventive as well as cure, of all complaints peculiar to malarious, marshy and miasmatic districts. By direct action on the liver and biliary apparatus, it stimulates the system to a vigorous, healthy condition.

FOR SALE BY ALL DEALERS

Fearless Threshing Machine.

We call the attention of farmers and threshermen to the advertisement of the celebrated Fearless Threshing Machine, elsewhere in this paper. Unparalleled honors have been bestowed upon this machine, at fairs and exhibitions, State, National and International; and, if universal victory at trials is evidence of superiority, then most assuredly was an ex-President of the New York State Agricultural Society correct, in saying of the Harder Machines, "they are the best ever made." And, as equally good and reliable testimony has been borne time without number, persons desirous to purchase will do well to consult the manufacturer of the Fearless, Minard Harder, Cobleskill, N.Y.

THE FREE LABOR EXCHANGE, established by voluntary donations, for the special object of providing work for the needy and destitute, free of charge to all, continues its benevolent designs and operations. Employers of all classes of help, male or female, are earnestly requested to patronize this institution, and send their orders to the Free Labor Exchange, No. 33 O'Farrell St., San Francisco, Cal., G. W. Schroeder, Manager.

WE desire to call special attention to the advertisement of D. M. Perry & Co., Detroit, Mich., which appears in our columns. They are one of the largest and most reliable firms engaged in the seed business in the United States, and their seeds have justly earned great popularity by always being fresh and just as represented. Our readers will do well to avail themselves of their offer to send their beautiful Seed Annual free to all wishing to purchase seeds.

SAN JOSE NURSERIES—These splendid nurseries have been so often fully described in the RURAL PRESS that I feel it would be altogether superfluous to give any extended description of them at this time. As the season of planting advances I may, however, have something more definite to say of them. It always affords me great pleasure to recommend our nurserymen to dealers and planters as altogether worthy of their confidence and patronage. Please see their advertisements in this paper.—G. W. M., Los Gatos, Cal., December 10, 1880.

Santa Cruz Homes.

EDITORS PRESS.—In consequence of my having taken some pains to inform myself with regard to the many real advantages that Santa Cruz county offers for pleasant homes, I have been requested by some persons to sell their places for them, as they wish to change business, and, being well acquainted with the two places advertised today under the heading of Santa Cruz Homes, I can recommend them as advertised.—M. P. OWEN, Soquel, Cal.

Attend to This.

Our subscribers will find the date they have paid to printed on the label of their paper. If it is not correct (or if the paper should ever come beyond the time desired), be sure to notify the publishers by letter or postal card. If we are not notified within a reasonable time we cannot be responsible for the errors or omission of agents.

SAMPLE COPIES—Occasionally we send copies of our paper to persons who we believe would be benefited by subscribing for it, or willing to assist us in extending its circulation. We call the attention of such to our prospectus and terms of subscription, and request that they circulate the copy sent.

FIRST CLASS IN EVERY RESPECT.—When you visit Stockton stop at the Mansion House. Free Coach to the house. J. H. CROSS, Proprietor.

THE YOSEMITE is strictly first class and the leading hotel of Stockton. Prices moderate. JAS. CAVES, Prop.

Pay Cash in advance—\$3 a year for the Rural Press. Credit rates, \$4.

EXTRA COPIES can usually be had of each issue of this paper, if ordered early. Price, 10 cents, postpaid.

Population of California.

We have received from the Census Office in Washington, a report giving partial returns of the population of this State. Each county named in the table below is complete (except the Chinamen and Indians); but as a number of counties are not named, there is no attempt to calculate the population of the State. Each county item will be of interest in itself, and of value by showing the relative population of the counties named. The full returns of the State will, of course, come in due time.

COUNTIES.	Total.	Males.	Females.	Native.	Foreign.	White.	Colored.
Alpine.....	533	333	156	314	225	621	18
Amador.....	11,386	7,218	4,168	7,429	3,957	9,942	1,434
Calaveras.....	9,094	5,955	3,139	5,745	3,349	7,833	1,261
Colusa.....	13,116	8,513	4,603	10,197	2,921	11,703	1,415
Contra Costa.....	12,525	7,603	4,922	8,135	4,390	11,712	813
El Dorado.....	10,685	7,068	3,597	6,973	3,712	8,678	1,807
Inyo.....	2,928	1,863	1,065	2,247	681	2,198	730
Kern.....	5,601	3,708	1,893	3,761	1,837	4,553	1,048
Lake.....	6,596	3,832	2,764	5,557	1,039	5,340	1,256
Lassen.....	3,340	2,002	1,338	2,969	371	2,958	382
Marin.....	11,325	7,910	3,415	6,318	5,007	9,793	1,532
Mariposa.....	4,339	3,009	1,330	2,505	1,831	3,397	942
Mendocino.....	12,600	7,530	5,070	10,393	2,207	11,157	1,613
Merced.....	5,656	3,800	1,856	3,538	1,918	5,021	635
Modoc.....	4,339	2,611	1,728	4,000	359	3,956	433
Monterey.....	11,302	6,556	4,746	8,637	2,665	10,643	654
Placer.....	14,226	9,515	4,711	9,015	5,211	11,871	2,355
San Benito.....	5,584	3,279	2,305	4,252	1,332	5,256	328
San Bernardino.....	7,786	4,351	3,435	6,699	1,087	6,990	796
San Diego.....	8,618	5,053	3,565	6,728	1,890	6,677	1,941
San Joaquin.....	24,344	14,800	9,544	17,187	7,157	21,999	2,355
San Luis Obispo.....	9,142	5,413	3,729	7,173	1,969	8,765	1,357
San Mateo.....	8,609	5,318	3,291	5,135	3,473	8,002	637
Santa Barbara.....	9,522	5,212	4,310	8,124	1,398	9,144	378
Santa Cruz.....	12,801	7,218	5,583	9,638	3,163	12,084	717
Shasta.....	9,492	6,066	3,426	7,238	2,254	7,066	2,426
Sierra.....	6,623	4,740	1,883	3,457	3,166	5,338	1,285
Siskiyou.....	6,610	5,571	2,739	5,620	950	6,466	2,144
Solano.....	15,475	10,335	5,140	12,364	3,111	17,331	1,684
Sonoma.....	25,926	14,611	11,315	19,832	6,094	24,628	1,306
Stanislaus.....	8,751	5,665	3,086	6,725	2,026	8,186	565
Sutter.....	5,159	3,263	2,096	4,201	958	4,845	314
Tehama.....	9,302	5,901	3,401	7,558	1,744	8,231	1,071
Tulare.....	11,281	6,542	4,739	9,491	1,790	10,757	524
Tuolumne.....	7,848	5,073	2,775	4,354	3,494	6,612	1,236
Ventura.....	5,073	2,865	2,208	4,153	820	4,830	223
Yolo.....	11,772	7,155	4,617	9,093	2,679	11,017	755

PHYLOXERA-PROOF VINES.—In our advertising columns this week, Leonard Coates announces phylloxera-resisting vines, the propagation of which he makes a specialty. Mr. Coates is known to us as a careful and painstaking horticulturist, and his announcements are worthy of attention.

The showing of the electric light, between Fourteenth and Twenty-eighth streets, on Broadway, New York, one lamp per block, was a great success, making everything clear and bright. The experiment will be continued two or three weeks, the illuminations being from 5:30 P. M. till daylight.

S. F. MARKET REPORT.

NOTE.—Our quotations are for Wednesday, not Saturday the date which the paper bears.

Weekly Market Review.

DOMESTIC PRODUCE, ETC.

SAN FRANCISCO, Wednesday, Dec. 22, 1880.

The heavy and continuous rains have taken the starch out of trade somewhat, and, excepting Santa Claus goods, which are immediate, there is not much activity discernible. The storms have also restricted the shipments of dairy and vegetable products to some extent, and there is a temporary scarcity in some lines. Poultry has taken the usual holiday step upward. Fuller items will be given below.

The grain market is very quiet and the feeling rather weak. To-day's dispatch from Liverpool to the Produce Exchange is as follows:

Good to choice California Wheat, 6s 8d@10s. The market is weaker, in consequence of advances from New York. There is a decline of 1d @ ctn on spot lots, and 6d and 1s @ quarter on cargo lots, which are quotable at 45s 6d@46s 6d. French country markets are firm.

The Foreign Review.

LONDON, Dec. 20.—The *Mark Lane Express*, reviewing the British Grain trade for the past week, says: "In complete wheat sowings are now mostly confined to land from which root crops have been removed. Late-sown wheats are coming up well under favorable and mild weather, while early-sown wheats are everywhere strong and healthy. Trade in all descriptions of British Grain has been limited, and prices are unchanged, both at London and in the Provinces. Although the demand at the close is rather better, wheat and flour are in smaller supply, the spot trade on Friday being no better than that of Monday. Supplies for this time of the year, are very moderate. Foreign trade has been sensitive and dull. The small spot supplies at the beginning of the week prevented any serious fall in prices, which the great bulk on the passage and the increase in the American supply would have occasioned. Toward the close, spot supplies increased, but buyers were very shy, and the position of sellers is materially unchanged. Nevertheless, holders succeeded in arresting the imminent downward tendency. The prospective supplies are ample. While American importers are holding off, supplies are increasing for Australia, India and Russia. Millers, therefore, wait, and it is not likely they will relinquish their hand-to-mouth policy while prices are at the present level. The deliveries of English and Scotch Barleys have increased, but trade has ruled in favor of buyers. Foreign was in small demand, and prices the same as the previous week. In oats the best sample readily sold in most provincial markets, but prices are unchanged; foreign is more plentiful on the spot. The closing of the Baltic ports has put Swedish up 6d. Maize in all positions has receded, and trade is dull. Sales of English Wheat during the week were 42,500 quarters, at 44s @ quarter, against 41,787 quarters, at 46s 6d @ quarter, for the corresponding week last year. Imports into the United Kingdom, for the week ending Dec. 11th, were 932,324 cwt of wheat, and 323,452 cwt of flour.

Eastern Wool Markets.

NEW YORK, Dec. 18.—Wool has met a fair demand, principally from manufacturers. California Wools have been a little slow, but holders are firm in their views. Sale of 6,000 lbs Spring, private.

PHILADELPHIA, Dec. 17.—The wool market continues quiet, and trade is dull. Oregon fine is quoted at 30@35c; medium, 36@40c; coarse, 33@35c. New Mexican and Colorado fine, 20@30c; medium, 25@25c; coarse carpet wool, 20@22c.

Boston, Dec. 17.—Transactions of the week have been large, amounting to 2,000,000 lbs of all kinds, but about 1/2 of this was California, for other kinds of wool the market being comparatively quiet, as is usual at this season of the year; but prices are steady, and holders are confident of a better and more active market on an early day. Some slight concessions have been made on fine fleeces, with sales of 100,000 lbs of Ohio and Pennsylvania XX at 47c, but most of the XX on the market is held at 45@46c, and a 1/4 of XXX sold at 52c. Quite a number of buyers are trying to pick up cheap lots of wool for prompt cash, but there is very little that is available except at full current rates. Michigan and Wisconsin fleeces are in demand at 44@45c for X.

New York Dried Fruit Markets.

NEW YORK, Dec. 18.—Foreign fruits are dull. Raisins slow and prices weak; layers, 82@2.05; London layers, 82.40@2.50; Valencia, 83@84. Prunes are dull; other fruits are in light demand. Dried Apples of all kinds are in good demand and firm.

Eastern Grain and Provision Markets.

NEW YORK, Dec. 18.—Wheat is dull and heavy, and shippers keep out of market, except for small shipments from day to day, or to fill old contracts which are being made occasionally on firm offers made at the close of business each day, but the foreign markets are still below any legitimate export basis. Barley, although not active, is firmly held at \$1.30@1.35 for No. 1 Bright. Provisions are demoralized and again lower.

CHICAGO, Dec. 18.—The week's transactions in wheat show a decidedly weak feeling, which has reduced prices from the opening nearly 5 cents. It has not been a steady decline, but a fluctuating one, with a prevalent weakness apparent through all the uncertainties that operate to depress prices. All other grains have been in sympathy with wheat except barley, and here heavy purchases and stories of short crops have operated to put this cereal to a dizzy height, \$1.20 for the nearest future, and \$1.17 for cash. It settled back somewhat toward the close, the price then being \$1.11@1.13, according to locality and desirability of receipts. Provisions have been decidedly weaker most of the seven days, but toward the close, when the receipts of hogs dropped, there was a sudden upward turn which took the breath away from the shorts. Provisions seem to have an unwonted strength, and to yield very reluctantly to the weight of the bears who are trying to crowd them down. Sales were made during the week as follows: For January wheat, \$1.05@1.05 1/2; Corn, 33@34; Oats, 30@31 1/2; Pork, \$12@13 1/2; Lard, \$8.27@8.67 1/2. Closing January prices for wheat were, \$1 1/2; Corn, 33 1/2; Oats, 30 1/2; Pork, \$13.10@13.13; Lard, \$8.57@8.60. Closing cash prices for wheat were, 99 1/2@101; Corn, 33 1/2; Oats, 30 1/2; Pork, \$12; Lard, \$8.55.

CHICAGO, Dec. 21.—Prices on 'Change took another decline today, wheat declining nearly 2c, Corn 1c, Oats 1/2c, Rye 1/2c, Barley 3c, Pork 15@20c, and Lard 5@10c. This heavy and determined break coming on the top of yesterday's decline, and the steady fall of the past two weeks, caused considerable nervousness, and at times the feeling was quite panicky. There were scores of rumors afloat affecting the standing of some of the smaller commission firms, but most of them are without foundation, as far as known at present. The only firms which have suspended are Garnor, Stone & Co. and J. P. Taylor. Their statements cannot be obtained, but friends say they will settle up in full or part, and continue business. Liabilities are probably small in both cases.

BAGS—There is no change.

BARLEY—There has been no little interest during the week, and prices take a higher range than at our last report, but to-day the market is quiet and transactions few. We note sales: 1,500 sbs Bay Brewing, \$1 1/2; 500 do poor Coast do, \$1 1/2; 400 do Coast Chevalier, \$1.10; 600 do do \$1.02 1/2; 150 do Feed, 92c; and 200 do do, 90c.

CORN—The offerings of Corn are considerable, and the demand just at present is rather light. We note sales: 150 sbs Small Round Yellow at \$1.05; and 335 do Large do at 93 1/2 @ ctn.

DAIRY PRODUCE—The supplies are cut off, and there is a temporary scarcity, which has advanced prices about 2 1/2 @ lb. Cheese is unchanged.

EGGS—Eggs dropped after our report last Wednesday, but have since recovered, and are now at the same mark given in our previous report.

FEED—Bran, Middlings and Oil Cake Meal have all been reduced, as shown in our table. Hay is unchanged.

FRESH MEAT—Supplies are still ample, and prices unchanged.

FRUIT—Apples have done better, the best selected now bringing \$1.25; the advance on the lower grades is about 10c @ box. Mexican Oranges are now outselling California, but the tables will soon be turned as better fruit comes along.

HOPEY—The market is quiet and unchanged.

HOPS—No change is reported this week. Emmet Wells, in his circular of Dec. 10th, speaks of the New York trade as follows:

There is a big falling off in the export traffic, the shipments to London this week reaching only 1,824 bales, against 3,793 bales last week. The demand from brewers has also been comparatively light; those who are in the habit of keeping at least a 60 days' supply on hand being determined not to buy any more until after the new year, except in instances where real bargains are offered. Any brewer who can now lay in his season's supply of good hops at, or under 20c @ lb, will be doing well enough, for there is every reason to believe that exporters will be willing to pay at least this figure, after this holiday, for all the good hops offered; and, should orders come in very freely from London, it would not be surprising to see higher prices than now quoted. We renew our quotations this week without change, except as to choice Californians and Oregonians, which are 1c dearer. Quotations—New Yorks, crop 1880, choice, 22@23c @ lb; do do, medium, 20 @21c; do do, low to fair, 19@19c; Eastern, crop 1880, 18 @22c; Wisconsin, crop 1880, 18@22c; yearlings, crop 1879, 16@23c; olds, all growths, 4@12c; Pacific Coast, new, 20 @24c; Bavarians, 30@35c; Bohemians, 35@40c @ lb.

OATS—There is little doing. A lot of Humboldt milling Oats sold at \$1 35 @ ctn.

ONIONS—The rate is a little lower than a week ago, but the tendency is now upward, as the price was lower on Monday than now.

POULTRY AND GAME—Hens, Roosters and Broilers are all doing better this week. The advance, as a rule, has been about 50c @ doz. Ducks have advanced \$1 @ doz, and the whole list of game Ducks is put forward, as the weather has been good for Ducks, but not for hunters. Turkeys are firm, and choice dressed Turkeys have sold as high as 13c @ lb.

PROVISIONS—Trade is good, but there is no marked change in values.

VEGETABLES—Turnips are now plenty, and have dropped to 60@65c @ ctn. Other Vegetables are unchanged.

WHEAT—There is a decline of 2 1/2c on the best Milling and Shipping Warrants, and 5c on inferior grades. The trade is slow and sales few. We note sales: 200 tons gilt-edged Milling, \$1.52 1/2; 40 tons No 1, \$1.45; 150 do No. 2, \$1.42 1/2; 200 do do, \$1.40; and 35 do off grade, \$1.00c.

WOOL—There is nothing new this week. Prices are as last reported. Next week we may have the Wool received for the year.

DOMESTIC PRODUCE.

(WHOLESALE.)

WEDNESDAY M., Dec. 22, 1880.

BEANS & PEAS.		BROOM CORN.	
Bayo, cti.	1 20 @ 25	Southern.	3 @ 34
Butter.	1 50 @ 75	Northern.	4 @ 36
Castor.	3 25 @ 50	CHICORY.	
Peas.	1 20 @ 25	California.	4 @ 43
Red.	1 20 @ 25	German.	5 @ 43
Pink.	1 00 @ 15	DAILY PRODUCE, ETC.	
Sm'l White.	1 40 @ 70	BUTTER.	
Lima.	1 00 @ 15	Cal. Fresh Roll.	35 @ 37 1/2
Field Peas, b'l eye	25 @ 37 1/2	do Fancy Brands.	37 1/2 @ 40
do, green.	1 10 @ 15	Pickle Roll.	30 @ 32 1/2
ONIONS.		Firkin, new.	30 @ 32 1/2
" Kidney.	2 @ 20	Western.	20 @ 26
" Peachblow.	2 @ 25	New York.	20 @ 26
" Jersey Blue.	1 @ 10	EGGS.	
" Cutley Cove.	1 @ 10	Cheese, Cal. lb.	14 @ 15
" Early Rose, new.	50 @ 55	N. Y. State.	13 @ 20
" H'l M'n Bay, Chile	50 @ 55	EGGS.	
" River, red.	40 @ 50	Cal. fresh, doz.	30 @ 34
" Sweet.	50 @ 60	do, poor to good.	30 @ 34
POTATOES.		Ducks.	27 @ 30
Petaluma, cti.	70 @ 80	Oregon.	27 @ 30
Tomatoes.	70 @ 80	Eastern, by express.	27 @ 30
Humboldt.	20 @ 25	Picked here.	27 @ 30
" " "	20 @ 25	Utah.	27 @ 30
" " "	20 @ 25	FEED.	
" " "	20 @ 25	Brn, ton.	14 @ 10
" " "	20 @ 25	Corn Meal.	10 @ 15
" " "	20 @ 25	Hay.	10 @ 15
" " "	20 @ 25	Middlings.	10 @ 15
" " "	20 @ 25	Oil Cake Meal.	25 @ 45
" " "	20 @ 25	Straw, bale.	40 @ 45
" " "	20 @ 25	FLOUR.	
" " "	20 @ 25	Extra, City Mills.	12 @ 25
" " "	20 @ 25	do, Country Mills.	12 @ 25
" " "	20 @ 25	do, Oregon Mills.	12 @ 25
" " "	20 @ 25	do, Walla Walla.	12 @ 25
" " "	20 @ 25	Superfine.	12 @ 25
" " "	20 @ 25	FRESH MEAT.	
" " "	20 @ 25	Beef, 1st qual'y.	5 @ 54
" " "	20 @ 25	Second.	4 @ 54
" " "	20 @ 25	Third.	3 @ 54
" " "	20 @ 25	Mutton.	3 @ 34
" " "	20 @ 25	Spring Lamb.	4 @ 44
" " "	20 @ 25	Pork, unpressed.	4 @ 44
" " "	20 @ 25	Dressed.	4 @ 44
" " "	20 @ 25	Veal.	6 @ 64
" " "	20 @ 25	Milk Calves.	6 @ 64
" " "	20 @ 25	do, choice.	7 @ 74
" " "	20 @ 25	GRAIN, ETC.	
" " "	20 @ 25	Barley, feed, cti.	90 @ 100
" " "	20 @ 25	do, Brewing.	115 @ 130
" " "	20 @ 25	Chevalier.	115 @ 125
" " "	20 @ 25	do, Coast.	100 @ 110
" " "	20 @ 25	Buckwheat.	140 @ 145
" " "	20 @ 25	Corn, White.	97 @ 100
" " "	20 @ 25	Yellow.	97 @ 100
" " "	20 @ 25	Small Round.	105 @ 110
" " "	20 @ 25	Oats.	120 @ 130
" " "	20 @ 25	Milling.	140 @ 150
" " "	20 @ 25	Rye.	155 @ 165
" " "	20 @ 25	Wheat, No. 1.	45 @ 50
" " "	20 @ 25	do, No. 2.	40 @ 42 1/2
" " "	20 @ 25	do, No. 3.	12 @ 15
" " "	20 @ 25	Choice Milling.	41 @ 52 1/2
" " "	20 @ 25	HIDES.	
" " "	20 @ 25	Hides, dry.	18 @ 18 1/2
" " "	20 @ 25	Wet salted.	9 1/2 @ 10
" " "	20 @ 25	HONEY, ETC.	
" " "	20 @ 25	Beeswax, lb.	22 1/2 @ 25
" " "	20 @ 25	Honey in comb.	12 1/2 @ 15
" " "	20 @ 25	do, No. 2.	12 @ 15
" " "	20 @ 25	Dark.	5 1/2 @ 6 1/2
" " "	20 @ 25	Extracted.	7 @ 8
" " "	20 @ 25	HOPS.	
" " "	20 @ 25	Oregon.	16 @ 18
" " "	20 @ 25	California, new.	18 @ 21
" " "	20 @ 25	Wash. Ter.	17 @ 20
" " "	20 @ 25	Old Hops.	17 @ 20
" " "	20 @ 25	NUTS—Jobbing.	
" " "	20 @ 25	Walnuts, Cal.	9 @ 10
" " "	20 @ 25	do, Chile.	7 1/2 @ 8
" " "	20 @ 25	Almonds, hd shd lb	8 @ 10
" " "	20 @ 25	Soft shd lb.	14 @ 15

FRUITS AND VEGETABLES.

(WHOLESALE.)

FRUIT MARKET.		WEDNESDAY M., Dec. 22, 1880.	
Apples, box.	50 @ 25	do, loose.	4 @ 6
Bananas, bunch.	2 00 @ 4 00	Peaches.	18 @ 10
Cocoanuts, 100.	7 00 @ 8 00	Pears, sliced.	9 @ 10
Cranberries, bbl.	14 @ 17 00	do, peeled.	9 @ 11
Grapes.	50 @ 75	Plums.	5 @ 6
Limes, Mex.	8 00 @ 10 00	Pitted.	14 @ 16
do, Cal. box.	8 00 @ 10 00	Prunes.	15 @ 17 1/2
Lemons, Cal. bx.	4 00 @ 6 00	Raisins, Cal. bx.	2 00 @ 2 25
Sicily, box.	8 00 @ 8 50	do, halves.	2 25 @ 2 50
Australian.	7 50 @ 8 00	do, quarters.	2 50 @ 2 75
Oranges, Cal. M. 25.	35 @ 40	Eightths.	2 75 @ 3 00
do, Tahiti.	35 @ 40	Zante Currants.	8 @ 10
do, Mexican 25.	35 @ 40	VEGETABLES.	
Pears, box.	1 00 @ 2 50	Beets, cti.	1 @ 1 00
Pineapples, doz.	8 00 @ 9 00	Beans, String.	7 @ 8
Plums, bx.	50 @ 1 25	do, Lima.	7 @ 8
Prunes, German.	75 @ 1 00	Cabbage, 100 lbs.	30 @ 60
Quinces, bx.	75 @ 1 00	Carrots, sk.	30 @ 50
Raspberries, ch't.	12 @ 14	Cauliflower, doz.	1 25 @ 1 50
Strawberries, ch't.	10 @ 10	Garlic, New, lb.	3 @ 3 1/2
Sugar Cane, bbl.	2 50 @ 3 00	Green Peas, lb.	2 1/2 @ 3
DRY FRUIT.		Lettuce, doz.	10 @ 12
Apples, sliced, lb.	7 @ 8	Mushrooms, lb.	1 @ 1
do, quartered.	6 @ 7	Parasips, lb.	1 @ 1
Apricots.	20 @ 25	Peas, fresh.	1 @ 1
Blackberries.	15 @ 20	Squash, Marrow.	1 @ 1
Clitron.	28 @ 30	fat, tn.	8 00 @ 10 00
Dates.	9 @ 10	Turnips, cti.	60 @ 65
Figs, pressed.	7 @ 8		

Signal Service Meteorological Report.

SAN FRANCISCO.—Week ending Dec. 21, 1880.

HIGHEST AND LOWEST BAROMETER.

Dec. 15	Dec. 16	Dec. 17	Dec. 18	Dec. 19	Dec. 20	Dec. 21
29.801	29.808	29.807	29.875	29.867	29.819	29.872
29.496	29.586	29.541	29.862	29.711	29.711	29.810
MAXIMUM AND MINIMUM THERMOMETER.						
60	52	54	56	60	59	57
49	47	47	49	42	54	52
MEAN DAILY HUMIDITY.						
71.7	75	73.7	85.3	61.7	64.3	85.3
PREVAILING WIND.						
W	SE	N	S	SE	S	N
314	239	302	116	372	373	174
WIND—MILES TRAVELED.						
Fair	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy
36	26	43	25	1.66	79	1
Total rain during the season, from July 1, 1880, 10.00 in.						

Gold, Legal Tenders, Exchange, Etc.

[Corrected Weekly by SUTRO & Co.]

SAN FRANCISCO, Dec. 22, 3 P. M.

SILVER, 1
GOLD BARS, \$300.00. SILVER BARS, 100 @ 18 1/2 cent. is
count.
EXCHANGE on New York, 12 1/2 @ 15, on London bankers, 4 1/2 @
49 1/2. Commercial, 50; Paris, 1 franc 50 cent; Mexican
dollars, 8 1/2 @ 90.
LONDON Consols, 98 5/16; Bonds (4 1/2), 117 1/2.
QUOTATIONS in S. F., by the Bank, @ 4 1/2 @ 4 5/8, lb.

Commission Merchants.

EUGENE AVY,
SHEEP and WOOL Commission Merchant,
320 Sansome Street, San Francisco.
Advances made on Consignments.

GEO. T. COFFIN & CO.,
Commission Merchants,

NO. 13 PINE STREET.

UNION BLOCK, SAN FRANCISCO.
Special attention given to Consignments of Grain and Fruit.

PAGE, MOORE & CO.,
WOOL and GRAIN
Commission Merchants.

NOS. 211 AND 213 CLAY STREET,
SAN FRANCISCO.

SHOOBERT & BEALE,
Commission Merchants,
FOR THE SALE OF

Wool and all Kinds of Live Stock.

405 & 407 Montgomery St., S. F.
ADVANCES MADE ON WOOL AND LIVE STOCK

DALTON & GRAY,
Commission Merchants

And Wholesale Dealers in all kinds of

Country Produce, Fruits, Etc.

404 and 406 Davis St.,

Bet. Washington and Jackson, SAN FRANCISCO.

CONSIGNMENTS SOLICITED.

SIMON SWEET & CO.,
Wholesale Commission Merchants,

GRAIN, POTATOES, FRUIT, BUTTER, EGGS, POUL-
TRY, GAME, WOOL, WOOL BAGS, HIDES,
PELTS, BEANS, TWINE, TALLOW, etc.,
and CALIFORNIA and OREGON
PRODUCE OF ALL KINDS.

206 Washington Street, San Francisco.

Consignments Solicited.



Liberal advances on consignments.
Wool Sacks, Twine, Shears, and Ranch Supplies furnished

DAVIS & SUTTON,

No. 75 Warren Street, New York.

Commission Merchants in Cal. Produce

REFERENCE.—Tradesmen's National Bank, N. Y.; Ed-
wanger & Barry, Rochester, N. Y.; C. W. Reed; Sacra-
mento, Cal.; A. Lusk & Co. San Francisco, Cal.

(Established in 1863.)

BRYANT & COOK,
Commission Merchants,

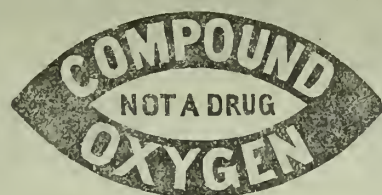
DEALERS IN GRAIN, FLOUR, ETC.

8 Davis St., near Market, S. F.



Is the only machine that received an award
on both Horse-power and Thresher and
Cleaner, at the Centennial Exhibition; was
awarded the two last Gold Medals given
by the New York State Agricultural Society
on Horse-powers and Threshers; and is the
only Thresher selected from the vast num-
ber built in the United States, for illustration
and description in "Appleton's Encyclopedia
of Applied Mechanics," recently published,
thus attesting it as the standard machine of
this country. Catalogue sent free. Address,
MINARD HAZARD, Colchester, N.Y.

Bee-Pavilionist.—Prof. M. Vogel, 344, 18th, S. F.
Starting and tending HOUSE-APARIES my specialty. EX-
PERT advice and PRACTICAL HELP to Bee-friends OFFERED.
MOST PLEASANT and profitable Bee-keeping TATTOO. EN-
GAGEMENT, or partner with good location WANTED, to do
on this Coast the HIGHEST and BEST in and for Apiculture.



A NEW TREATMENT

For Consumption, Asthma, Bronchitis, Dys-
pepsia, Catarrh, Headache, Debility, Rheum-
atism, Neuralgia and all Chronic and Nervous Dis-
orders. It is taken

BY INHALATION,

And acts directly upon the great nervous and organic cen-
ters, and cures by a natural process of revitali-
zation.

SENT FREE:

A Treatise on Compound Oxygen, giving the history of
this new discovery, and a large record of most remarkable
cures. Write for it. Address the proprietors, DR. STAR-
KEY & TALEY, 1109 and 1111 Girard street, Philadelphia,
Pa., or H. E. MATHEWS, 606 Montgomery street, San
Francisco, Cal., from whom can be procured both informa-
tion and supplies.

People May Hear With
DEAF AUDIPHONES
OR WITH
EARPHONES.

Trial before purchase. Don't waste your money oth-
erwise. Send for free pamphlets. (Address H. E.
Mathews, as above.)



This Wonderful Improved SAW MACHINE

is warranted to saw a 2-foot log in three minutes,
and more cord wood or logs of any size in a day than
two men can chop or saw the old way. Every Farmer
and Lumberman needs one.

Agents Wanted—Circular and terms free.

SEND FOR CIRCULAR TO
LINFORTH, RICE & CO.,

General Agents for the Pacific Coast,
323 and 325 Market Street, San Francisco.

Phylloxera-Proof Grapevines

A SPECIALTY AT

Magnolia Farm Nurseries, Napa Valley.

Send for Catalogue of Fruit and Ornamental Trees.
All free from disease and grown without irrigation.
Address

LEONARD COATES,
Yountville, Napa County, Cal.

JOS. HANSEL,

Carriage and Wagon Manufacturer.

All kinds of Spring Wagons, Buggies, etc., constantly on
hand and for sale at the lowest rates, and guaranteed to
give satisfaction on. Blacksmithing and General Jobbing done
with neatness and dispatch. Also, on hand of my own make,
the Latest Improved Harrows and my Patent Buck Board
and Breaking Carts. Carriage Painting and Trimming
Neatly Done. HUNTER STREET, STOCKTON, Cal.
Adjoining the Baptist Church.

JAMES HANNAY'S NURSERY.

East San Jose, Cal.

I offer for sale, at low prices, a well assorted, healthy,
and well grown stock of one and two year old Nursery
Stock. Prompt attention given to all orders.
Address

JAMES HANNAY, San Jose.

FRUIT TREES FOR SALE.

Apple, Peach, Pear, Apricot, Plum, Prune, English
Walnut, Orange, and many other kinds of Fruit Trees,
Vines, Etc., for sale at the lowest cash prices. Send
for price list.

MILTON THOMAS,
Box 304, Los Angeles, Cal.

"NEW" HYDRAULIC RAM!

The only Horizontal Ram made. Will do
good work on light fall. Send for Circular

H. F. MORROW, Chester, Pa.

GRAPE CUTTINGS.

Orders for Malvoisie, Zinfandel, Muscat, Black Ham-
burg, Roe of Peru, Riesling and 100 other different va-
rieties of Grape Cuttings will be received at

EISEN VINEYARD, Fresno, Cal.

Engraving. Superior Wood and Metal Engrav-
ing, Electrotyping and Stereotyping done at the office of the MINING
AND SCIENTIFIC PRESS, San Francisco at favorable rates

50 All Lithographed Chromo Cards, no 2 alls, 10 cts.
Agts. big outfit, 10c. Globe Card Co., Northford, Ct.

Notice!

H. H. H.

Horse Medicine,

D. D. T. 1868.

THE GREAT POPULARITY OF OUR H. H. H. HORSE
MEDICINE, D. D. T. 1868 AS A

FAMILY LINIMENT

HAS INDUCED US TO PUT UP A SMALL SIZE.
THREE SIZES CAN NOW BE HAD AT EVERY
DRUG STORE AND NEARLY EVERY GRO-
CERY STORE ON THE PACIFIC COAST.

Price of Large Size, \$2.50.

Medium Size, \$1.00.

Small Size, 50 Cents.

Ask your Druggist for it and if he has not the size you
want, request him to send for it, either to the wholesale
Druggists of San Francisco; Portland, Oregon; or Sacra-
mento.
We recommend the largest sizes for use on horses
as it contains more Liniment for the money.

We Guarantee the Liniment to Have Ex-
actly the Same Strength in
all Three Sizes.

Stockton, February 4, 1880, H. H. Moore & Son, having
this day purchased the right, title and interest of Wil-
liam & Moore, in the H. H. H. Horse Medicine, will con-
tinue its manufacture as sole proprietors.

H. H. MOORE & SONS, Druggists,
Sole Proprietors. - - - Stockton, Cal.

AGRICULTURAL GRANT.

150,000 ACRES.

UNIVERSITY OF CALIFORNIA.

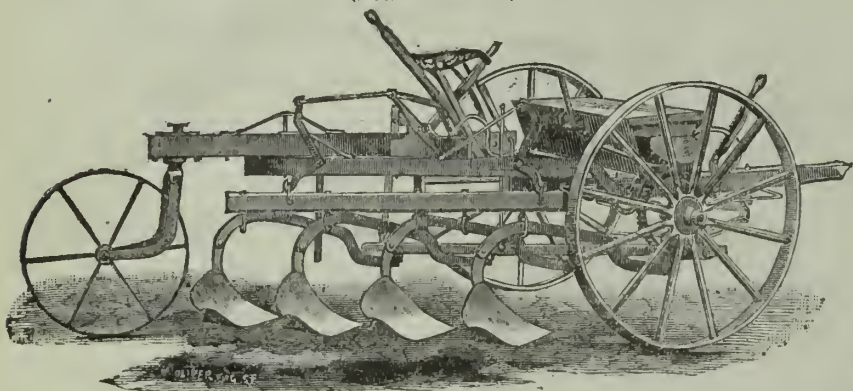
By a recent order of the Hon. Commissioner of the
General Land Office, the Regents of the University of Cal-
ifornia are authorized to receive applications for land un-
der the COLLEGE GRANT, not to exceed 11,400 acres.

TERMS OF SALE.

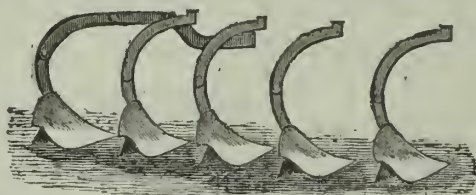
For Lands Outside of Railroad Grants, \$5 00
For Lands Within a Railroad Grant, \$6.25

SHERRILL GANG PLOW!

(PATENTED.)



Four 10-Inch Plows in One Gang, and Fitted for Attachment of Five 8-Inch Plows.



Five 8-Inch Plows for Crossing and Seeding.

Combined Plow, Cultivator and Seeder.

The Construction admits of its Working on Side Hill or Level, and Plowing to an Uniform Depth on Rolling or Uneven Ground.

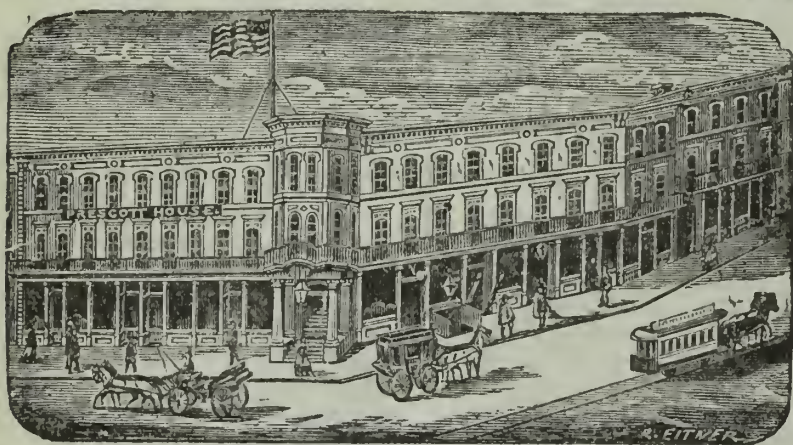
The Draft is 50 Per Cent. Less than any other Gang Plow Made.

Send for Circular and Information to

Office and Factory, PERRY STREET,

Between Fourth and Fifth Street, San Francisco.

PRESCOTT HOUSE.



S. W. Corner Kearny and Montgomery Ave., San Francisco.

Free Coach to the House.

O. F. BECKER, Proprietor.

Nathaniel Curry & Bro.,

113 Sansome Street. San Francisco,



Sole Agents for the

Sharps Rifle Co., of Bridgeport, Conn.

FOR CALIFORNIA, OREGON, ARIZONA, NEVADA, WASHINGTON TERRITORY AND IDAHO.

Also Agents for W. W. GREENER'S Celebrated Wedgefast, Chokebore, Breech-loading DOUBLE GUNS; and all kinds of GUNS, RIFLES and PISTOLS made by the Leading Manufacturers of England and America. AMMUNITION of all kinds in quantities to suit.

To Fish Raisers.

I am now ready to sell Carp which were imported from Germany in 1872, in lots to suit. Address

J. A. POPPE, Sonoma, Cal.

A. AITKEN.

AITKEN & FISH,

Premium Pioneer Marble Works,

617 K St., Bet Sixth & Seventh, - SACRAMENTO, CAL.

F. N. FISH.

FIREMANS FUND

INSURANCE COMPANY.

ASSETS OVER ONE MILLION DOLLARS.

The FIREMANS FUND INSURANCE COMPANY bases its claims to the best patronage upon its sound financial condition, reinforced by its accession of capital, giving it over a million dollars in assets; its extensive system of Agencies, insuring it a large premium income, without the necessity of heavy concentration of lines; its adherence to the best principles and practices of Underwriting; by open, fair, and clearly expressed contracts, and prompt and equitable adjustment and payment of legitimate losses.

D. J. STAPLES, President.

ALPHEUS BULL, Vice-President.

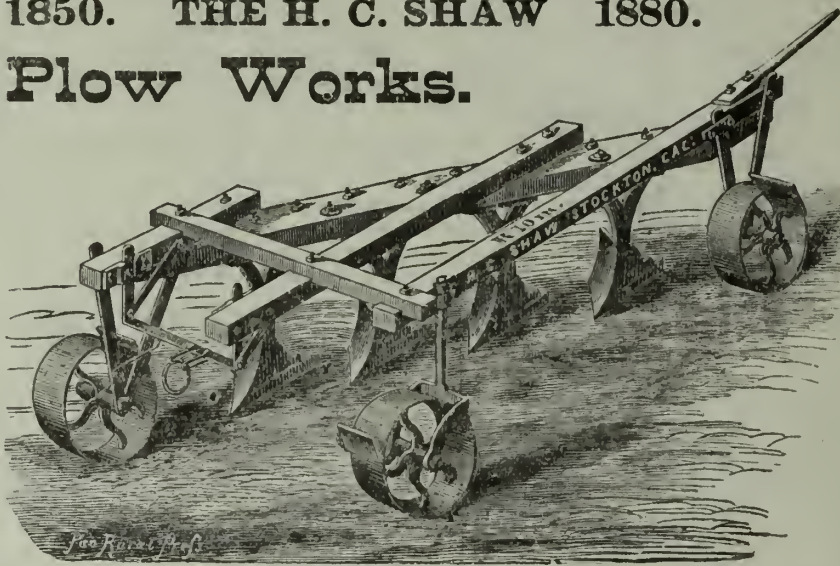
GEO. D. DORNIN, Secretary.

W. J. DUTTON, Asst. Secretary.

AGENTS IN ALL PRINCIPAL LOCALITIES.

1850. THE H. C. SHAW 1880.

Plow Works.



GANG PLOWS AND EXTRAS.

No. 201 and 203 El Dorado Street, - - - - - Stockton.

THE STOCKTON GANG PLOW,

Over 2,000 of H. C. Shaw's Improved Patent Stockton Gang Plows Sold in Five Years.

Cahoon and Gem Seed Sowers, Harrows, Etc. Buckeye Mower Extras, and Extras for all Plows and Machines I have sold for the past TWENTY YEARS in this valley. Send for Circular and price list. Always on hand a full stock of Single Plows.

E. DETRICK.

J. H. NICHOLSON

E. DETRICK & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE CELEBRATED

DETRICK "E W" 22x36 GRAIN BAG.

CALCUTTA, DUNDEE and PACIFIC JUTE HAND-SEWED BAGS always on hand. OUR No. 1, No. 2 and No. 3 SECOND-HAND GRAIN BAGS selected and graded with care.

TWINES. 3, 4 and 5-ply for Grain Bags, 6 and 8-ply for Potato Gummies, 3-ply EXTRA FINE for Flour Bags, made expressly for our trade and QUALITY GUARANTEED.

FLOUR BAGS printed to order WITHOUT EXTRA CHARGE. **POTATO GUMMIES**, Wool, Bean, Ore and Salt and Seamless Cotton Bags.

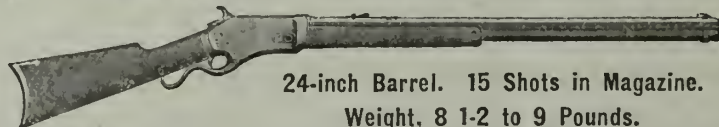
Sole agents west of the Rocky Mountains for Russell Manufacturing Company's

Patent Solid Cotton Belting,

CHEAPER THAN LEATHER OR RUBBER, AND BETTER THAN EITHER.

119, 121 and 124 Clay St., and 118 and 120 Commercial St., San Francisco

THE KENNEDY REPEATING RIFLE.



24-inch Barrel. 15 Shots in Magazine.

Weight, 8 1-2 to 9 Pounds.

USES THE WINCHESTER MODEL 1873 CARTRIDGE, 44 CALIBRE, 40 GRAINS, CENTER FIRE. Out of 500 Glass Balls thrown from a trap, 479 were broken with this Rifle. Prices Low. Circulars on application to

E. T. ALLEN, Pacific Coast Agent,

416 Market St., San Francisco.

LEA AND PERRINS' SAUCE,

Which are calculated to deceive the Public, Lea and Perrins have adopted A NEW LABEL, bearing their Signature, thus,

Lea & Perrins

Which is placed on every bottle of WORCESTERSHIRE SAUCE, and without which none is genuine.

Ask for LEA & PERRINS' Sauce, and See Name on Wrapper, Label, Bottle and Stopper. Wholesale and for Export by the Proprietors, Worcester; Crosse and Blackwell, London, &c., &c.; and by Grocers and Oilmen throughout the World.

50 New Style Cards. Lithographed in bright colors, 10c. 50 All Gold, Chromo and Lithograph Cards, (No 2 allike,) Name on, 10c. Clinton Bros., Clintonville, Con.

Seeds, Plants, Etc.



My Annual Catalogue of Vegetable and Flower Seed for 1881, rich in engravings from photographs of the originals, will be sent FREE to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Full directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refund the order gratis. The original introducer of the Hubbard Squash, Pinner's Melon, Marblehead Cabbage, Mexican Corn, and scores of other vegetables, I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true, and of the very best strain.

NEW VEGETABLES A SPECIALTY.
JAMES J. H. GREGORY, Marblehead, Mass.

R. J. TRUMBULL & CO.,
Growers, Importers, Wholesale and Retail Dealers in



FLOWERING PLANTS, BULBS, FRUIT AND ORNAMENTAL TREES, ETC. FANCY WIRE DESIGNS, GARDEN TRELLISES, SYRINGES, GARDEN HARDWARE, ETC.

FREE TO APPLICANTS.—Our Descriptive Illustrated Catalogue of Seeds, Trees, Plants, Etc.

R. J. TRUMBULL & CO.,
419 and 421 Sansome Street, S. F.

STRAWBERRY PLANTS.

Choicest Varieties for Home Use & Market

SHARPLESS, CAPTAIN JACK, FOREST ROSE, CUMBERLAND TRIUMPH, GLENDALE, SETH BOYDEN, "MINER'S GREAT PROLIFIC," PRESIDENT LINCOLN, PRESIDENT WILDER, HUDDLESTON'S FAVORITE, MARVIN, LONGFELLOW, WARREN, AND MANY OTHERS NEW AND OLD.

"CUTHBERT RASPBERRY"
And 16 other Varieties, New and Old.

Plants Large, Stocky, Healthy and carefully selected. A few thousand vines of Table Grapes, well rooted, one and two year old, \$20 to \$30 per 1,000. Send for circular giving honest descriptions and accurate illustrations. Address

C. M. SILVA & SON,
Newcastle, Placer County, Cal.

1,000,000

Strawberry, Raspberry and Cranberry PLANTS FOR SALE.

	Per Dozen	100	1,000
Strawberry Plants—Pres. Wilder.....	\$ 0.50	\$ 1.50	\$ 5.00
N. J. Scarlet, Sterling, Great American.....	0.60	1.75	6.00
Pres. Lincoln, Triumphant de Gand.....	0.50	1.50	5.00
Wilson Albany, Charles Downing.....	0.50	1.50	5.00
Essex Beauty Early, Centennial.....	0.60	1.75	6.00
Monarch of the West, Cinderella.....	1.00	2.00	10.00
Raspberry Plants—Cuthbert Early.....	1.80	5.00	35.00
Pride of the Hudson, Brandywine.....	1.50	4.00	30.00
Herstine, Clark, Philadelphia Red.....	1.25	4.00	25.00
Henrietta, Hornet, Early Prolific.....	1.25	4.00	25.00
Blackberry Plants—Deering Seedling.....	1.25	4.00	25.00
Mammoth Cluster, Vina Seedling.....	1.00	3.00	20.00
Kittatinny, Dorchester, Early Cluster.....	1.00	3.00	20.00
Grape Vines—Bk Hamburg, Bk Prince.....	2.00	8.00	50.00

Cranberry Vines I do not sell less than 10,000 vines in one order, at \$10 per 1,000. If sent by mail add 20 cts. per dozen, and 50 cts. per hundred. Postoffice address.

H. NYLAND, Bouldin Island, San Joaquin Co.

Vitis Californica.

Fresh seeds of the *Vitis Californica*, collected from selected vigorous and prolific wild vines in Lake county, near Harbin's Springs, furnished by mail in packages of one pound and upwards, on receipt of \$1 per pound in postage stamps, paper currency or coin, to any address in the United States. Address

C. MATTIER,
Middletown, Lake Co., Cal.

Refers by permission to Chas. A. Wetmore, member of the State Viticultural Commission, at whose suggestion the seeds have been carefully collected.

Grape Cuttings Wanted.

In order to be able to fill orders that are coming in for grape cuttings, I desire to know from reliable vine-growers what qualities they can agree to furnish—stating place where grown, varieties guaranteed and named, length of cutting and lowest prices delivered at some railway station for shipment, and time when they will be ready to deliver. No cuttings accepted from diseased vines.

CHAS. A. WETMORE,
Viticultural Colonization Agency
No 111 Leidesdorff Street, S. F.

CEO. F. SILVESTER,
IMPORTER, WHOLESALE AND RETAIL DEALER IN

SEEDS,

Fruit and Evergreen Trees, Plants, Etc.
ALFALFA, GRASS AND CLOVER SEEDS
In Large Quantities and Offered in Lots to Suit Purchasers.
Hedge Shears, Pruning and Budding Knives, Green House Syringes, Etc.
Seed Warehouse, 317 Washington St., San Francisco.

SEEDS.

ALBERT DICKINSON,
Dealer in Timothy, Clover, Flax, Hungarian, Millet, Red Top, Blue Grass, Lawn Grass, Orchard Grass, Bird Seeds, Etc.
POP CORN.
115, 117 and 119 Kinzie Street, CHICAGO, ILLINOIS.

SEVIN VINCENT & CO.,
Importers, growers of, wholesale and retail dealers in



Field, Grass, Flower and Tree Seeds.
CLOVER, ALFALFA,
BULBS, FRUIT, ORNAMENTAL TREES, ETC.
We call the attention of farmers and country merchants to our unusually low prices. Trade price list on application.

We issue the most complete guide to the Vegetable and Flower Garden ever issued upon this coast. It is handsomely illustrated, and contains full descriptions of Vegetables, Flowers, Grasses, Trees, etc., with full instructions as to their culture; mailed free on application.

SEVIN VINCENT & CO.,
607 Sansome Street, S. F.

J. P. SWEENEY & CO.,
SEEDSMEN,
Nos. 409 and 411 Davis Street, between Washington and Jackson, S. F.

Having on hand the largest stock of Seeds of any house on the Pacific Coast, consisting in part, the following varieties, which we will offer in quantities to suit purchasers at reduced rates:

- 20,000 Pounds Alfalfa Clover Seed.
- 4,000 Pounds Red Clover Seed.
- 5,000 Pounds Australian Rye Grass Seed.
- 4,000 Pounds Extra Clean Kentucky Blue Grass Seed.
- 4,000 Pounds Red Top Seed.
- 10,000 Pounds Timothy Grass Seed.
- 5,000 Pounds Mesquit Grass Seed.
- 10,000 Pounds Canary Seed.
- 10,000 Pounds Rape and Hemp Seed.
- 4,000 Pounds Mangel Wurtzel Beet Seed.
- 1,000 Pounds Assorted Table Beet Seeds.
- 1,000 Pounds Assorted Onion Seeds.
- 1,000 Pounds Assorted Turnip Seeds.

AND A FULL SUPPLY OF

GARDEN, VEGETABLE & FLOWER SEEDS.
Also, a large assortment of California Conifer and Forest Tree Seeds. Fruit Trees in any quantity at Nursery prices.

J. P. SWEENEY & CO.

GARDEN SEEDS.

Thos. Meherin,
Importer, Wholesale and Retail Dealer in
Seeds, Trees & Plants.

Alfalfa, Red and White Clover, Australian Rye Grass, Timothy and Orchard Grass, Kentucky Blue Grass, Hungarian Millet Grass, Red Top, Etc.
Also, a Large and Choice Collection of FRUIT and ORNAMENTAL TREES, Bulbs, Roses, Magnolias, Palms, Etc., at reduced prices.
Budding and Pruning Knives, Green House Syringes, Hedge and Pole Shears.

THOS. MEHERIN, 516 Battery St.
San Francisco, Cal.
Send for Price List.

Agt. for B. S. Fox's Nursery.

B. K. BLISS & SONS,
HAND BOOK.
A COMPLETE GUIDE FOR THE GARDEN & FARM.
SEEDS, PLANTS, BULBS, SMALL FRUITS.
GARDEN REQUISITES. 300 ILLUSTRATIONS.
150 PAGES. PRICE 10 CTS.
34 BARCLAY ST. NEW YORK.

SANTA CLARA VALLEY NURSERIES, San Jose, Cal.

I offer for sale the coming season a large and well selected general assortment of NURSERY STOCK, consisting of

Fruit Trees, Small Fruits, Ornamental Trees and Shrubs.

EVERGREENS, GREENHOUSE PLANTS,
ROSES, DAHLIAS, PELARGONIUMS, Etc.

—ALSO—

Pear, Apple and Mahaleb Cherry Seedlings.

I desire to call particular attention to my LARGE STOCK of

CHERRY and PEAR TREES,
At reduced rates in Large Quantities.

I have also on hand a Fine lot of Grafted ORANGES, which, being transplanted constantly, are sure to grow. Catalogues free on application.

B. S. FOX, Proprietor,
SAN JOSE, CALIFORNIA.

THOS. MEHERIN, Agent, 516 Battery St.
San Francisco.

HANNAY'S NURSERY.

SAN JOSE, CAL.

I OFFER FOR SALE THIS SEASON, A LARGE AND WELL ASSORTED STOCK OF

FRUIT, SHADE & ORNAMENTAL TREES.

MY TREES ARE WELL GROWN, AND HEALTHY, AND OF THE

Best Known Varieties.

JOHN HANNAY,
(Successor to Hannay Bros.), San Jose, Cal.

PEPPER'S NURSERIES,

Established in 1858.

For sale, all kinds of Fruit Trees, Vines and Fruiting Shrubs raised without irrigation. Also, a general assortment of Evergreen Trees and Shrubs, deciduous Flowering Shrubs, Roses, in assortment. Conservatory and Bedding Plants in great variety. Send for Catalogue and List of Prices. Address

W. H. PEPPER,
Petaluma, Sonoma Co., Cal.

LOS GATOS NURSERIES.

I offer the trade this season a LARGE and GENERAL ASSORTMENT of

FRUIT TREES AND SMALL FRUITS.

My trees are healthy, stalky and well grown. Prices low down. Address
S. NEWHALL,
San Jose, Cal.

GRAPE CUTTINGS.

B. Burgundy, Zinfandel, Charboneau, Mataro, B. Hamburg, B. Malvasia, Johannisberg, Riesling, Berger, Golden Chasselas, Seedless Sultanina, Franklin Riesling. Price, \$5 per M. Inquire of

H. W. CRABB,
Oakville, Napa Co., Cal.

MUSICAL CHRISTMAS GIFTS!

Most acceptable gifts to players or singers will be the following elegantly bound books.

Any one mailed, post free, for the price here mentioned

ROBERT FRANZ'S SONG ALBUM.

GEMS OF ENGLISH SONG.

HOME CIRCLE. Three Volumes.

WORLD OF SONG.

PIANO AT HOME. 4-hand collection.

OPERATIC PEARLS.

SHOWER OF PEARLS. Vocal Duets.

GEMS OF STRAUSS.

CREME DE LA CREME. 2 Volumes.

GEMS OF THE DANCE.

CLUSTER OF GEMS.

SUNSHINE OF SONG.

Each of the above in Cloth, \$2.50; Fine Gilt, \$3.00.

STUDENT'S LIFE IN SONG, \$1.50.

CURIOSITIES OF MUSIC, \$1.50.

BEETHOVEN. A Romance by Rau, \$1.50.

RHYMES AND TUNES. Christmas Offering, \$1.50.

SULLIVAN'S VOCAL ALBUM, \$1.50.

FAIRY FINGERS. For Piano, \$1.50.

OLIVER DITSON & CO., BOSTON.

C. H. Ditson & Co., 843 Broadway, N. Y.

A. W. LOCKHART,

N. W. Cor. 11th and J Sts, Sacramento, Cal.

Sole Manufacturer and Proprietor of
Lockhart's Patent Self-Feeder & Elevator.

Admitted by those who have used it, for Regularity of Feeding, Simplicity, Cheapness and Durability, to be unequalled by any other Feeder in use. Call and examine before purchasing elsewhere.

New! The Very Best! True to Name!

FELIX GILLET'S NURSERY.

Nevada City, California.

SPECIALTIES:

Nuts of all Kinds and Strawberries.

PREPARTURIENS WALNUT,

(Introduced in California in 1871, by Felix Gillet)



The most precious of all soft-shell varieties of Walnut, bearing even when three years old; hardy, a late bloomer, very productive. First bearing trees in California, at Felix Gillet's nursery, sixth crop 1880. Trees of that new and valuable variety, raised in Felix Gillet's nurseries, Nevada City, sent to any part of California and the United States by mail, free of charge, in packages of two feet; well packed in damp moss and oiled paper, and guaranteed to arrive in as "fresh" a condition as when leaving the nursery, at the following prices: \$1 per tree for less than half a dozen; \$10 per dozen. Larger trees sent by express or freight. See the catalogue and price list.

Improved Kinds of Chestnuts.

"Marron de Lyon" and "Marron Comble" (introduced in California in 1871 by Felix Gillet). Grafted trees, from 6 to 10 feet, \$12 per dozen.

Medlar (*Monstruosa*); Black Mulberry (*Noir de Spain*); Italian and Spanish Filberts; French Everbearing Raspberry; Wilson's Early Blackberry; 27 varieties of English Gooseberries; 42 varieties of grapes; 100 varieties of Peas, Plums, Peaches, Cherries, Apples, Walnuts and Chestnuts; the finest varieties of French, English and Dutch Strawberries.

SEND FOR DESCRIPTIVE CATALOGUE AND PRICE LIST.

FELIX GILLET,
Nevada City, Cal.

ROCK'S NURSERIES.

TREES! TREES!

The attention is called to my large and superior stock of

Fruit and Ornamental Trees,

SHRUBS, ROSES,

Grapevines and Small Fruits,

Of the most desirable varieties for general cultivation.

Also many new and rare varieties of

Japanese Plants,

Semi-Tropical Plants,

Greenhouse Plants,

Bedding Plants.

NEW VARIETIES OF

ORANGES AND LEMONS.

Italian Olives, Etc.

Descriptive Catalogue will be mailed to all applicants

JOHN ROCK, San Jose, Cal.

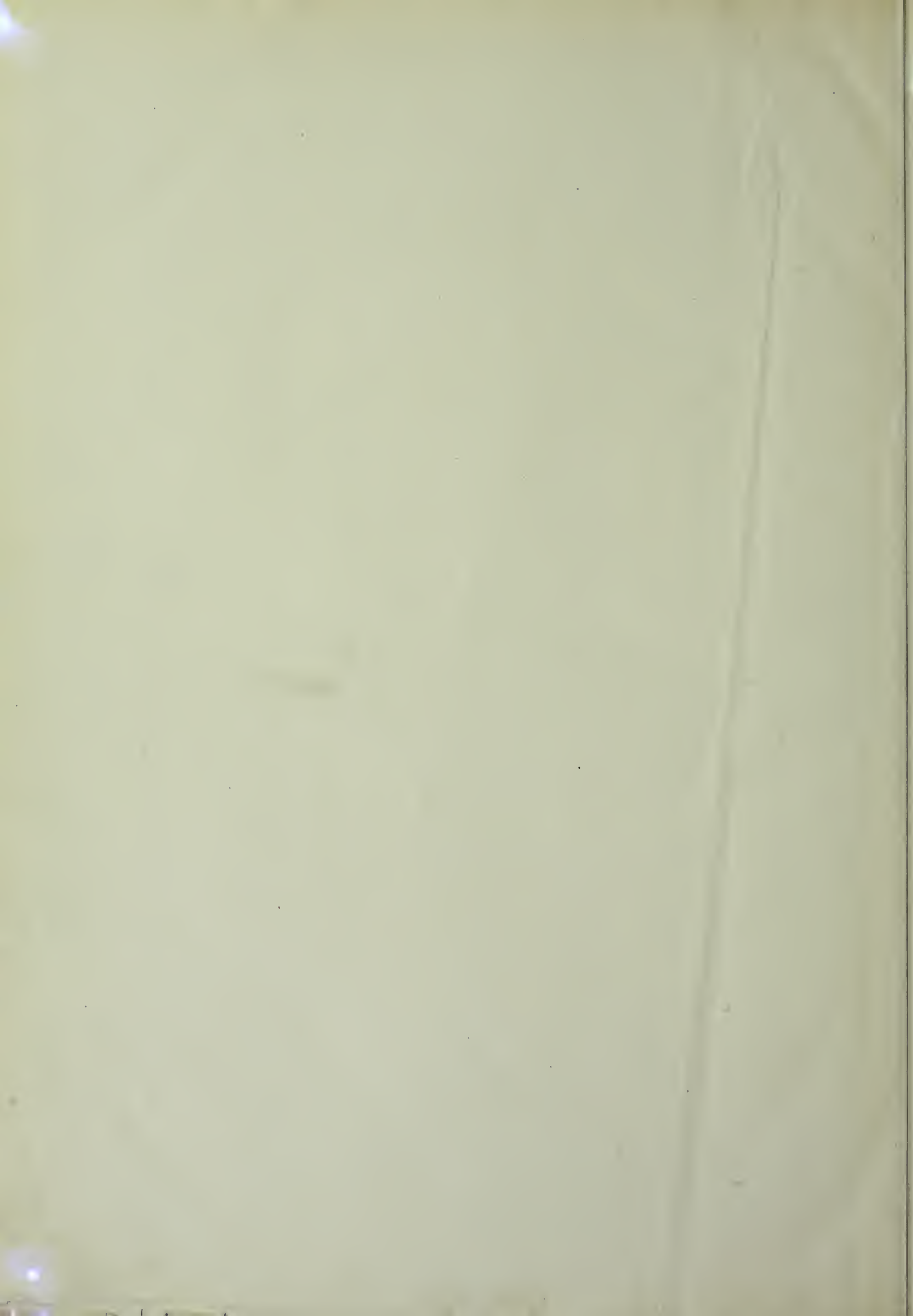
Adams' Patent Pillow Sham Holder

Prices reduced. Can be adjusted to any ordinary sized bed. The best in the market. Try one. Sent post paid by mail. Send for Illustrated Circular. **G. W. WAGGONER, 408 Tenth St, Oakland, Cal.,** Gen. Agt for Pacific Coast.

From July 1880, to December, 1880.

From July 1880, to December, 1880.

Abide with Us.....187	Acacia Farnesiana.....304	Acacia, Leaf Variation.....129	Acacia Springs.....129	Agricultural Education.....185	Agriculture, American.....185	Agriculture, Loss to.....49	Agiculture, Promoting.....185	Agiculture, Cal. State.....341	Alameda County.....20, 132, 143	Alaska Notes.....350	Alaska Views.....349	Alfalfa Dairying.....273	Alfalfa Hay.....400	Alfalfa, Old Plants.....384	Allegory, An.....311	Almonds, Crossing.....179, 329	Almonds, Bleaching.....281	Almonds in Santa Bar.....330	Amador Co.....52, 276	Anderson Springs.....104, 134	Ante, Friends or Foes?.....24	Aphis, Grain.....56	Apiary Products, Test of.....18	Apple, Mammoth.....245	Apricot, Jackson.....65	Apricot, Large Early.....58, 153	Apricots in California.....2, 9, 130, 153, 245	Apricots, Dried.....145, 197	Arctic Exploration.....397	Arctic Worm.....53	Artichoke for Hogs.....52	Artie's A. B. C.....263	Atmosphere, Height of.....163	Aurora Borealis.....429	Australian Meat Shipments.....17	Ayshire Cattle.....243	"Aztec Kams.....57	Baby Boys.....214	Baby's Bow-ties.....307	Baby's Wardrobe.....183, 255	Baden Farm, Visit to.....251	Bake Kings.....177	Baking Powder.....199	Bamboo, the.....305	Bananas.....20, 21	Barley, Cheap Crop of.....218	Barn, New.....319	Bathing, Hints on.....119, 247	Beans, Lima.....212, 306	Beef, Making Things.....187	Beefsteak to be.....115	Bees and Bedding.....115	Bees, Ratio for.....13, 151, 162	Beeking Notes.....50, 82, 201, 339	Bees in Cities.....81	Bees, Cyprian.....213	Bees in Fresno Co.....82	Bees to New Zealand.....340	Beet, The Dried.....42	Beggar L.....242	Berkley Improvement Society.....308	Bermuda Grass.....33, 83	Berry Basket.....92	Birds, Bulls for.....130	Birds, to Kill.....104	"Birds, West Coast Land.....341	Buddy, Plea for.....301	Blackberry Growing.....339	Blackberries, Cooking.....7	Blackberry, the.....38	"Black Knot" Fungus.....28	Blackie in Cattle.....200	Blood drinking.....71	Borers.....55	Botany for Young.....23	Boys in Horses.....152, 163, 216	Boys.....23, 37, 52, 55, 182, 70, 310	Bread Making in Spain.....71	Bread, Stale.....263	Breeding Farm Stock.....346, 347	Bride of Tamalpais, The.....304	Brush Fence.....229	Buckhead.....21	Birds, Long Keeping.....51	Buhach Mill.....53, 65	Burns, Robert.....70, 294	Buros, Cure for.....263	Bush, Stick to Your.....205	Business Key.....25	Butte Co.....20, 52, 54, 100, 132, 260, 303, 321, 339	Butter Aulterations.....248, 312	Butter, Fossil.....10	Butter Making.....131	Butter, Size of Rolls.....264	Cake Chest.....103	Cake Recipes.....7, 103, 119, 327, 853	Cakes, Batter.....183	Calaveras Co.....4, 164, 166	Calif. Distemper.....275	California Climate.....161, 166, 413	California Homes and Women.....22	California Meat Products.....321	California, Population of.....124	"Canal, Isthmus.....136, 217, 400	Carb and Spikes.....21	Carb Culture.....84, 108, 116, 132, 132, 133, 136, 165, 303, 401	"Casa Grande.....203	Cash and Credit.....106	Catfish.....290	Cattle Show, Chicago.....378	Cement, Gutta Percha.....411	Consensus Notes.....1, 12, 25, 164	Carrots, Growth of.....413	Ceres, Pomona and Flora.....38	Chafers.....201	Chapped Hands.....367	Channel Island Cattle.....243	Character.....246	Charcoal.....66	Chataqua Circle.....60	Cheese Curing.....40, 99, 101	Cheese Factories.....114, 212, 308, 306	Illustrations.....1	Poetry.....1
-----------------------	---------------------------	--------------------------------	------------------------	--------------------------------	-------------------------------	-----------------------------	-------------------------------	--------------------------------	---------------------------------	----------------------	----------------------	--------------------------	---------------------	-----------------------------	----------------------	--------------------------------	----------------------------	------------------------------	-----------------------	-------------------------------	-------------------------------	---------------------	---------------------------------	------------------------	-------------------------	----------------------------------	--	------------------------------	----------------------------	--------------------	---------------------------	-------------------------	-------------------------------	-------------------------	----------------------------------	------------------------	--------------------	-------------------	-------------------------	------------------------------	------------------------------	--------------------	-----------------------	---------------------	--------------------	-------------------------------	-------------------	--------------------------------	--------------------------	-----------------------------	-------------------------	--------------------------	----------------------------------	------------------------------------	-----------------------	-----------------------	--------------------------	-----------------------------	------------------------	------------------	-------------------------------------	--------------------------	---------------------	--------------------------	------------------------	---------------------------------	-------------------------	----------------------------	-----------------------------	------------------------	----------------------------	---------------------------	-----------------------	---------------	-------------------------	----------------------------------	---------------------------------------	------------------------------	----------------------	----------------------------------	---------------------------------	---------------------	-----------------	----------------------------	------------------------	---------------------------	-------------------------	-----------------------------	---------------------	---	----------------------------------	-----------------------	-----------------------	-------------------------------	--------------------	--	-----------------------	------------------------------	--------------------------	--------------------------------------	-----------------------------------	----------------------------------	-----------------------------------	-----------------------------------	------------------------	--	----------------------	-------------------------	-----------------	------------------------------	------------------------------	------------------------------------	----------------------------	--------------------------------	-----------------	-----------------------	-------------------------------	-------------------	-----------------	------------------------	-------------------------------	---	---------------------	--------------



32.566

CALIFORNIA

STATE LIBRARY.



Extract from the Political Code.

SECTION 2296. Books may be taken from the Library by the MEMBERS OF THE LEGISLATURE, DURING THE SESSIONS THEREOF, and by other State officers at any time.

SEC. 2298. The Controller, if notified by the Librarian that any officer has failed to return books taken by him within the time prescribed by the Rules, and after demand made, must not draw his warrant for the salary of such officer until the return is made, or three times the value of the books, or of any injuries thereto, has been paid to the Librarian.

SEC. 2299. Every person who injures or fails to return any book taken is liable to the Librarian in three times the value thereof.

No person shall take or detain from the General Library more than two volumes at any one time, or for a longer period than two weeks. Books or REPERMS shall not be TAKEN FROM THE LIBRARY AT ANY TIME.—[Extract from the Rules.]

40—The foregoing Regulations will be strictly enforced.

